

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

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## 1 Documentation overview for hyperref

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

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

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


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

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

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

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

Source code documentation:

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

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

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

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### 3 File hycheck.tex

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

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

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

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

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

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

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

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

`\HyC@checkPackage`

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

```

40 }%
41 }

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

`\HyC@noValue`

```

85 \def\HyC@noValue{NoValue}

```



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

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

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

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

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

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

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

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

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

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

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

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

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

```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

```

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

```

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

```

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

```

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

```

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

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

```

## 4 Package options and setup

### 4.1 Save catcodes

There are many packages that change the standard catcodes.

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

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

\Hy@SetCatcodes

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

\Hy@RestoreCatcodes

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

```

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

```

```

231 \Hy@SetCatcodes

```

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

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

```

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

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

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

```

```

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

```

## 4.2 Version check

\Hy@VersionChecked

```

276 \chardef\Hy@VersionChecked=0 %

```

\Hy@VersionCheck

```

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

```

\Hy@@VersionCheck

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

### 4.3 Checks with regular expressions

```
314 \ltx@ifundefined{pdfmatch}{%  
315 \let\Hy@Match\ltx@gobblefour  
316 }{%  
317 \def\Hy@Match#1#2{%  
318 \begingroup  
319 \edef\~{\ltx@backslashchar\string~}%  
320 \edef\.{\ltx@backslashchar.}%  
321 \edef\[\{\ltx@backslashchar[]%  
322 \edef\$\{\ltx@backslashchar$}%  
323 \edef\(\{\ltx@backslashchar(}%  
324 \edef\)\{\ltx@backslashchar)}%  
325 \edef\|\{\ltx@backslashchar|}%  
326 \edef\*\{\ltx@backslashchar*}%  
327 \edef\+\{\ltx@backslashchar+}%  
328 \edef\?\{\ltx@backslashchar?}%  
329 \edef\{\{\ltx@backslashchar\ltx@leftbracechar}%  
330 \edef\}\{\ltx@rightbracechar}%  
331 \edef\\{\ltx@backslashchar\ltx@backslashchar}%  
332 \let\ \ltx@space  
333 \ifcase\pdfmatch{#2}{#1} %  
334 \endgroup  
335 \expandafter\ltx@secondoftwo  
336 \or  
337 \endgroup  
338 \expandafter\ltx@firstoftwo  
339 \else  
340 \Hy@Warning{%  
341 Internal error: Wrong pattern!\MessageBreak  
342 --> #2 <--\MessageBreak  
343 Pattern check ignored%  
344 }%  
345 \endgroup  
346 \expandafter\ltx@firstoftwo  
347 \fi  
348 }%  
349 \ltx@ifpackagelater{ltxcmds}{2010/09/11}{%  
350 \begingroup  
351 \lccode'0='\{\relax  
352 \lowercase{\endgroup  
353 \def\ltx@leftbracechar{0}%  
354 }%  
355 \begingroup  
356 \lccode'0='\}\relax  
357 \lowercase{\endgroup  
358 \def\ltx@rightbracechar{0}%  
359 }%  
360 }%  
361 }
```

## 4.4 Compatibility with format dumps

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

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

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

`\Hy@AtBeginDocument` For the case that package ‘hyperref’ is loaded using `\AtBeginDocument`, we have to wrap the calls of `\AtBeginDocument`/`\AfterBeginDocument` in `\AtEndOfPackage`. However, packages must be loaded in `\AtEndOfPackage` *before* package ‘kvoptions’ has to perform its option cleanup. Therefore we use a hook.

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

`\Hy@AtEndOfPackage`

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

`\Hy@AtBeginDocumentHook`

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

`\Hy@AtEndOfPackageHook`

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

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

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

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

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

## 4.5 Switches

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

```

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

```

Defaults for the switches are now set.

```

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

```



```

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

```

## 5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

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

```

### 5.1 Macros for recursions

```

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

```

### 5.2 Babel's protection of shorthand characters

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

\Hy@safe@activesfalse

```

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

```

### 5.3 Coordinate transformations

At some places numbers in pdf units are expected (eg: FitBH, ...). The following macros perform the transformation from TeX units (pt) to PDF units (bp).

`\hypercalcbp` The user macro `\hypercalcbp` can be used, for example, inside option values:

```
pdfstartview={FitBH \hypercalcbp{\paperheight-\topmargin-1in}}
```

- It cannot be used inside `\usepackage`, because LaTeX expands the options before package `hyperref` is loaded and `\hypercalcbp` is defined.
- With e-TeX extensions an expandable implementation is very easy; `\hypercalcbp` can be used everywhere and is expanded at use.
- Without e-TeX's features `\hypercalcbp` cannot be implemented expandable (practically) and have to be supported by `\hypercalcbpdef`. Limitations:
  - Works only in options that use `\hypercalcbpdef` (currently only `pdfstartview`).
  - For calculations package `calc` has to be loaded.
  - The expansion of the argument is done at definition time.

Example (TeX):

```
\usepackage{calc}
\usepackage[...]{hyperref}
\hypersetup{
  pdfstartview={FitBH \hypercalcbp{\paperheight-\topmargin-1in
    -\headheight-\headsep}
}
```

`\hypercalcbp`

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

```

511 \setlength{\dimen@}{#1}%
512 \setlength{\dimen@}{0.99626401\dimen@}%
513 \edef\x{%
514   \toks@{%
515     \the\toks@
516     \strip@pt\dimen@
517   }%
518 } \x
519 \HyCal@scan#2\@nil
520 }%
521 \else
522 \def\hypercalcbp#1{%
523   \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
524 }%
525 \def\hypercalcbpdef{\def}%
526 \fi

```

## 6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

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

### 6.1 Description of PDF strings

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

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

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

### 6.2 Definition of `\pdfstringdef`

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

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

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

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

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

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

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

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

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

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

```
528 \begingroup
```

### 6.2.1 Preprocessing

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

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

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

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

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

```
530 \edef\0{\string\0}%
531 \edef\1{\string\1}%
532 \edef\2{\string\2}%
533 \edef\3{\string\3}%
```

**Setting font encoding.** The unicode encoding uses `\8` and `\9` as marker for the higher byte. `\8` is an abbreviation for the higher bytes 0 until 7 that can be expressed by one digit. `\8` will be converted to `\00`. However `\9` only marks the next three digits as higher byte and will be removed later.

The encoding is set by `\enc@update` for optimizing reasons.

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

```

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

```

**Internal encoding commands.** `\pdfstringdef` interpretes text strings which are not allowed to contain mathematical stuff. The text glyph commands will produce a warning, if called in math mode. But this warning disturbs while expanding. Therefore we check for math mode here, before `\@inmathwarn` will be disabled (see below).

```

546 \@inmathwarn\pdfstringdef

```

If a glyph is used, that isn't in the PD1/PU encoding there will be an infinite error loop, because the NFSS encoding stuff have to be expanded unprotected (`\edef`), so that the assignments of `\@changed@cmd` don't take place. To patch this behaviour I only found `\@inmathwarn` as a usable hook. While an `\edef` a warning message by `\@inmathwarn` or `\TextSymbolUnavailable` cannot be give out, so `\@inmathwarn` should be disabled. And with the help of it the assignments in `\@changed@cmd` can easily be caught (see below).

```

547 \let\@inmathwarn\HyPsd@inmathwarn

```

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

```

548 \let\add@accent\HyPsd@add@accent

```

**Commands that don't use NFSS directly.** There are several commands that prints characters in the printable ASCII area that don't obey the NFSS, so they have to be redefined here.

```

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

```

**Newline** `\newline` or `\\` do not work in bookmarks, in text annotations they should expand to `\r`. In pdf strings `\\` stands for a backslash. Therefore the commands are disabled now. The user can redefine them for a result what he want:

**backslash:** `\pdfstringdefDisableCommands{\let\\\textbackslash}`

**new line:** `\pdfstringdefDisableCommands{\let\\\textCR}`

**disabled:** `\pdfstringdefDisableCommands{\let\\\empty}`

At any case, however, the optional argument or the star cannot be scanned in a 100% sure manner.

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

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

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

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

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

```

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

```

### Package pifont.

```

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

```

### Environments.

```

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

```

### Package color.

```

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

```

### Upper- and lowercase.

```

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

```

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

```

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

```

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

```

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

```

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

**Package `german`.**

648 `\let\glqq\textglqq`  
649 `\let\grqq\textgrqq`  
650 `\let\glq\textglq`  
651 `\let\grq\textgrq`  
652 `\let\flqq\textflqq`  
653 `\let\frqq\textfrqq`  
654 `\let\flq\textflq`  
655 `\let\frq\textfrq`

**Package `french`.** The support is deferred, because it needs `\GenericError` to be disabled (see below).

**Package `FrenchPro`.** This package uses:

`\if@mid@expandable{not fully expandable code}{fully expandable code}`  
656 `\let\if@mid@expandable\@firstoftwo`

**AMS classes.**

657 `\HyPsd@AMSclassfix`

**Redefinition of `\hspace`** `\hspace` don't work in bookmarks, the following fix tries to set a space if the argument is a positive length.

658 `\let\hspace\HyPsd@hspace`

**Commands of referencing and indexing systems.** Some  $\text{\LaTeX}$  commands that are legal in `\section` commands have to be disabled here.

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

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

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

**Miscellaneous commands.**

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

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

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



### Patch for cjk bookmarks.

```
674 \HyPsd@CJKhook
```

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

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

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

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

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

### Package xspace.

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

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

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

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

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

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

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

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

Support for package 'args':

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

### 6.2.2 Expansion

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

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

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

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

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

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

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

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

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

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

```

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

```

### 6.2.3 Postprocessing

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

```

712 \ifx#1\@empty
713 \else

```

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

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

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

```

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

```

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

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

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

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

```

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

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

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

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

```

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

**Backslash.** The double backslash disturbs parsing octal sequences, for example in an string like `abc\\051` the sequence `\051` is detected although the second `\` belongs to the first backslash.

```
731 \HyPsd@StringSubst{\}{\textbackslash}#1%
```

**Spaces.** All spaces have already the form `\040`. The last postprocessing step will be an optimizing of the spaces, so we already introduce already the necessary command `\HyPsd@SPACEOPTI`. But first it is defined to be `\relax` in order to prevent a too early expansion by an `\edef`. Secondly a `\relax` serves as a marker for a token that is detected by `\xspace`.

The code of `frenchb.lda` can produce an additional space before `\guillemotright`, because `\lastskip` and `\unskip` do not work. Therefore it is removed here.

```

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

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

```

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

```

**Support for package `xspace`.** `\xspace` looks for the next token and decides if it expands to a space or not. Following tokens prevent its transformation to a space: Beginning and end of group, handled above by replacing by an italic correction, several punctuation marks, a closing parentheses, and several spaces.

Without package `xspace` there are tokens with catcode 11 and 12, `\HyPsd@empty` and `\HyPsd@SPACEOPTI`. With package `xspace` marker for the italic correction `\/` and `\xspace` come with. In the package `xspace` case the two markers are replaced by commands and an `\edef` performs the `\xspace` processing.

In the opposite of the original `\xspace` `\HyPsd@xspace` uses an argument instead of a `\futurelet`, so we have to provide such an argument, if `\HyPsd@xspace` comes last. Because `\HyPsd@Subst` with several equal tokens (`--`) needs a safe last token, in both cases the string gets an additional `\HyPsd@empty`.

```

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

```

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

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

```

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

```

```

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

```

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

```

771 \let\HyPsd@empty\@empty

```

**Left parentheses.** Left parentheses are now converted to safe forms to avoid problems with unmatched ones (`\(` with `PDFDocEncoding`, the octal sequence with `Unicode`).

An optimization is possible. Matched parentheses can be replaced by a `()` pair. But this code is removed to save `TeX` memory and time.

```

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

```

**Optimizing spaces.** Spaces are often used, but they have a very long form `\040`. They are converted back to real spaces, but not all, so that no space follows after another. In the bookmark case several spaces are written to the `.out` file, but if the entries are read back, several spaces are merged to a single one.

With `Unicode` the spaces are replaced by their octal sequences.

```

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

```

**Converting to Unicode.** At last the eight bit letters have to be converted to `Unicode`, the masks `\8` and `\9` are removed and the `Unicode` marker is added.

```

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

```

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

```

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

```

```

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

```

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

```

819   \pdfstringdefPostHook#1%
820 \endgroup
821 }

```

`\Hy@pdfstringdef`

```

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

```

## 6.3 Encodings

### 6.3.1 XeTeX

```

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

```

```

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

```

### 6.3.2 Workaround for package linguex

```

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

```



```

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

```

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

\Hy@SaveCatcodeSettings

```

918 \def\Hy@SaveCatcodeSettings#1{%
919 \expandafter\edef\csname Hy@cat@#1\endcsname{%
920 \endlinechar=\the\endlinechar\relax
921 \catcode32 \the\catcode32\relax % (space)
922 \catcode34 \the\catcode34\relax % "
923 \catcode35 \the\catcode35\relax % #
924 \catcode37 \the\catcode37\relax % (percent)
925 \catcode40 \the\catcode40\relax % (
926 \catcode41 \the\catcode41\relax % )
927 \catcode42 \the\catcode42\relax % *
928 \catcode46 \the\catcode46\relax % .
929 \catcode58 \the\catcode58\relax % :
930 \catcode60 \the\catcode60\relax % <
931 \catcode61 \the\catcode61\relax % =
932 \catcode62 \the\catcode62\relax % >
933 \catcode64 \the\catcode64\relax % @
934 \catcode91 \the\catcode91\relax % [
935 \catcode92 \the\catcode92\relax % \
936 \catcode93 \the\catcode93\relax % ]
937 \catcode123 \the\catcode123\relax % {
938 \catcode124 \the\catcode124\relax % |
939 \catcode125 \the\catcode125\relax % }
940 }%
941 \endlinechar=-1 %
942 \catcode32 10 % (space)
943 \catcode34 12 % "
944 \catcode35 6 % #
945 \catcode37 14 % (percent)
946 \catcode40 12 % (
947 \catcode41 12 % )
948 \catcode42 12 % *
949 \catcode46 12 % .
950 \catcode58 12 % :
951 \catcode60 12 % <
952 \catcode61 12 % =
953 \catcode62 12 % >
954 \catcode91 12 % [
955 \catcode92 0 % \
956 \catcode93 12 % ]
957 \catcode123 1 % {
958 \catcode124 12 % |

```

```

959 \catcode125 2 % }
960 \makeatletter
961 }

```

`\Hy@RestoreCatcodeSettings`

```

962 \def\Hy@RestoreCatcodeSettings#1{%
963   \csname Hy@cat@#1\endcsname
964   \expandafter\let\csname Hy@cat@#1\endcsname\relax
965 }

```

### 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.

```

966 \@ifundefined{T@PD1}{%
967   \Hy@SaveCatcodeSettings{pd1}%
968   \input{pd1enc.def}%
969   \Hy@RestoreCatcodeSettings{pd1}%
970   \HyLinguex@Restore
971 }{}
972 \DeclareFontFamily{PD1}{pdf}{}
973 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
974 \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`.

```

975 \def\HyPsd@LoadUnicode{%
976   \@ifundefined{T@PU}{%
977     \Hy@SaveCatcodeSettings{pu}%
978     \input{puenc.def}%
979     \Hy@RestoreCatcodeSettings{pu}%
980     \HyLinguex@Restore
981   }{}%
982   \DeclareFontFamily{PU}{pdf}{}%
983   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
984   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
985   \HyPsd@LoadExtra
986   \let\HyPsd@LoadUnicode\relax
987 }

```

`\HyPsd@LoadExtra`

```

988 \def\HyPsd@LoadExtra{%
989   \ifHy@psdextra
990     \ltx@iffileloaded{puenc.def}{%
991       \Hy@SaveCatcodeSettings{psdextra}%

```

```

992   \input{psdextra.def}%
993   \Hy@RestoreCatcodeSettings{psdextra}%
994   \let\HyPsd@LoadExtra\relax
995 }{}%
996 \fi
997 }

```

## 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.

```

998 \def\texorpdfstring{%
999   \ifHy@pdfstring
1000     \expandafter\@secondoftwo
1001   \else
1002     \expandafter\@firstoftwo
1003   \fi
1004 }

```

### 6.4.2 Hooks for `\pdfstringdef`

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

```

1005 \@ifundefined{pdfstringdefPreHook}{%
1006   \let\pdfstringdefPreHook\@empty
1007 }{}
1008 \@ifundefined{pdfstringdefPostHook}{%
1009   \let\pdfstringdefPostHook\@gobble
1010 }{}

```

`\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  $\LaTeX$  commands like `\@gobble` or `\@firstofone`.

```

1011 \def\pdfstringdefDisableCommands{%
1012   \begingroup
1013   \makeatletter
1014   \HyPsd@DisableCommands
1015 }

```

`\HyPsd@DisableCommands`

```
1016 \long\def\HyPsd@DisableCommands#1{%
1017   \ltx@GlobalAppendToMacro\pdfstringdefPreHook{#1}%
1018   \endgroup
1019 }
```

`\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`.

```
1020 \def\pdfstringdefWarn#1{%
1021   \expandafter\noexpand\csname<>-string#1\endcsname
1022 }
```

## 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.

```
1023 \begingroup
1024   \catcode0=12 %
1025   \def\x{\endgroup
1026     \def\HyPsd@ignorespaces{%
1027       \romannumeral\expandafter'\expandafter^^@%
1028       \romannumeral'^^@%
1029     }%
1030   }%
1031   \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`.

```
1032 \def\HyPsd@BabelPatch{%
1033   \let\HyOrg@languageshorthands\languageshorthands
1034   \let\languageshorthands\HyPsd@LanguageShorthands
1035 }
1036 \begingroup\expandafter\expandafter\expandafter\endgroup
1037 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
```

```

1038 \let\HyPsd@langshort@system@empty
1039 \def\HyPsd@LanguageShorthands#1{%
1040   \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
1041     \HyPsd@langshort@system
1042   \expandafter\@gobble
1043   \else
1044     \expandafter\@firstofone
1045   \fi
1046   {%
1047     \HyOrg@languageshorthands{#1}%
1048   }%
1049 }%
1050 \else
1051 \def\HyPsd@LanguageShorthands#1{%
1052   \ifnum\pdf@strcmp{#1}{system}=\z@
1053     \expandafter\@gobble
1054     \else
1055       \expandafter\@firstofone
1056     \fi
1057     {%
1058       \HyOrg@languageshorthands{#1}%
1059     }%
1060   }%
1061 \fi
1062 \def\Hy@temp{%
1063   \@ifpackageloaded{babel}{%
1064     \@ifpackagelater{babel}{2008/03/16}{%
1065       \let\Hy@temp@empty
1066     }{%
1067       \def\HyPsd@BabelPatch{%
1068         \let\HyOrg@languageshorthands\languageshorthands
1069       }%
1070     }%
1071   }{}%
1072 }
1073 \Hy@temp
1074 \expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}
1075 \newif\ifHy@next

  Nothing to do for english.
1076 \ltx@ifundefined{danish@sh@}{}{}%
1077 \def\HyPsd@babel@danish{%
1078   \declare@shorthand{danish}{"}{}%
1079   \declare@shorthand{danish}{"}~{}%
1080 }%
1081 }
1082 \ltx@ifundefined{dutch@sh@}{}{}%
1083 \def\HyPsd@babel@dutch{%
1084   \declare@shorthand{dutch}{"}{}%
1085   \declare@shorthand{dutch}{"}~{}%
1086 }%
1087 }
1088 \ltx@ifundefined{finnish@sh@}{}{}%
1089 \def\HyPsd@babel@finnish{%
1090   \declare@shorthand{finnish}{"}{}%
1091 }%
1092 }

```

```

1093 \ltx@ifundefined{french@sh@:@sel}{-}{-}%
1094 \def\HyPsd@babel@frenchb{%
1095   \def\guill@spacing{ }%
1096 }%
1097 }
1098 \ltx@ifundefined{german@sh@"@sel}{-}{-}%
1099 \def\HyPsd@babel@german{%
1100   \declare@shorthand{german}{"}{f}{f}%
1101   \declare@shorthand{german}{"}{|}{|}%
1102   \declare@shorthand{german}{"}~}{-}%
1103 }%
1104 }
1105 \ltx@ifundefined{macedonian@sh@"@sel}{-}{-}%
1106 \def\HyPsd@babel@macedonian{%
1107   \declare@shorthand{macedonian}{"}{|}{|}%
1108   \declare@shorthand{macedonian}{"}~}{-}%
1109 }%
1110 }{}
1111 \ltx@ifundefined{ngerman@sh@"@sel}{-}{-}%
1112 \def\HyPsd@babel@ngerman{%
1113   \declare@shorthand{ngerman}{"}{|}{|}%
1114   \declare@shorthand{ngerman}{"}~}{-}%
1115 }%
1116 }
1117 \ltx@ifundefined{portuges@sh@"@sel}{-}{-}%
1118 \def\HyPsd@babel@portuges{%
1119   \declare@shorthand{portuges}{"}{|}{|}%
1120 }%
1121 }
1122 \ltx@ifundefined{russian@sh@"@sel}{-}{-}%
1123 \def\HyPsd@babel@russian{%
1124   \declare@shorthand{russian}{"}{|}{|}%
1125   \declare@shorthand{russian}{"}~}{-}%
1126 }%
1127 }
1128 \ltx@ifundefined{slovene@sh@"@sel}{-}{-}%
1129 \def\HyPsd@babel@slovene{%
1130   \declare@shorthand{slovene}{"}{|}{|}%
1131 }%
1132 }

```

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

```

1133 \ltx@ifundefined{spanish@sh@>@sel}{-}{-}%
1134 \def\HyPsd@babel@spanish{%
1135   \declare@shorthand{spanish}{<<}{\guillemotleft}%
1136   \declare@shorthand{spanish}{>>}{\guillemotright}%
1137   \declare@shorthand{spanish}{"}={}{-}%
1138   \declare@shorthand{spanish}{"}~}{-}%
1139   \declare@shorthand{spanish}{"}!}{\textexclamdown}%
1140   \declare@shorthand{spanish}{"}?}{\textquestiondown}%
1141 }%
1142 }
1143 \ltx@ifundefined{swedish@sh@"@sel}{-}{-}%
1144 \def\HyPsd@babel@swedish{%
1145   \declare@shorthand{swedish}{"}{|}{|}%
1146   \declare@shorthand{swedish}{"}~}{-}%
1147 }%
1148 }

```

```

1149 \ltx@ifundefined{ukrainian@sh@"@sel}{-}{%
1150   \def\HyPsd@babel@ukrainian{%
1151     \declare@shorthand{ukrainian}{~}{-}%
1152     \declare@shorthand{ukrainian}{~}{-}%
1153   }%
1154 }
1155 \ltx@ifundefined{usorbian@sh@"@sel}{-}{%
1156   \def\HyPsd@babel@usorbian{%
1157     \declare@shorthand{usorbian}{~}{-}%
1158     \declare@shorthand{usorbian}{~}{-}%
1159   }%
1160 }

1161 \ltx@ifundefined{greek@sh@\string~@sel}{-}{%
1162   \let\HyPsd@GreekPatch\@empty
1163 }{%
1164   \def\HyPsd@GreekPatch{%
1165     \let\greeknumeral\HyPsd@greeknumeral
1166     \let\Greeknnumeral\HyPsd@Greeknnumeral
1167   }%
1168 }
1169 \def\HyPsd@greeknumeral#1{%
1170   \HyPsd@GreekNum\@firstoftwo{#1}%
1171 }
1172 \def\HyPsd@Greeknnumeral#1{%
1173   \HyPsd@GreekNum\@secondoftwo{#1}%
1174 }
1175 \def\HyPsd@GreekNum#1#2{%
1176   \ifHy@unicode
1177     \ifnum#2<\@one
1178       \@arabic{#2}%
1179     \else
1180       \ifnum#2<1000000 %
1181         \HyPsd@@GreekNum#1{#2}%
1182       \else
1183         \@arabic{#2}%
1184       \fi
1185     \fi
1186   \else
1187     \@arabic{#2}%
1188   \fi
1189 }
1190 \def\HyPsd@@GreekNum#1#2{%
1191   \ifnum#2<\@m
1192     \ifnum#2<10 %
1193       \expandafter\HyPsd@GreekNumI
1194       \expandafter\@gobble\expandafter#1\number#2%
1195     \else
1196       \ifnum#2<100 %
1197         \expandafter\HyPsd@GreekNumII
1198         \expandafter\@gobble\expandafter#1\number#2%
1199       \else
1200         \expandafter\HyPsd@GreekNumIII
1201         \expandafter\@gobble\expandafter#1\number#2%
1202       \fi
1203     \fi
1204   \ifnum#2>\z@
1205     \textnumeralsigngreek

```

```

1206 \fi
1207 \else
1208 \ifnum#2<\@M
1209 \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
1210 \else
1211 \ifnum#2<100000 %
1212 \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
1213 \else
1214 \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
1215 \fi
1216 \fi
1217 \fi
1218 }
1219 \def\HyPsd@GreekNumI#1#2#3{%
1220 #1{%
1221 \ifnum#3>\z@
1222 \textnumeralsignlowergreek
1223 \fi
1224 }%
1225 \expandafter#2%
1226 \ifcase#3 %
1227 {}{}%
1228 \or\textalpha\textAlpha
1229 \or\textbeta\textBeta
1230 \or\textgamma\textGamma
1231 \or\textdelta\textDelta
1232 \or\textepsilon\textEpsilon
1233 \or\textstigmagreek\textStigmagreek
1234 \or\textzeta\textZeta
1235 \or\texteta\textEta
1236 \or\texttheta\textTheta
1237 \else
1238 {}{}%
1239 \fi
1240 }
1241 \def\HyPsd@GreekNumII#1#2#3#4{%
1242 #1{%
1243 \ifnum#3>\z@
1244 \textnumeralsignlowergreek
1245 \fi
1246 }%
1247 \expandafter#2%
1248 \ifcase#3 %
1249 {}{}%
1250 \or\textiota\textIota
1251 \or\textkappa\textKappa
1252 \or\textlambda\textLambda
1253 \or\textmu\textMu
1254 \or\textnu\textNu
1255 \or\textxi\textXi
1256 \or\textomicron\textOmicron
1257 \or\textpi\textPi
1258 \or\textkoppagreek\textKoppagreek
1259 \else
1260 {}{}%
1261 \fi
1262 \HyPsd@GreekNumI#1#2#4%

```



```

1263 }
1264 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1265   #1{%
1266     \ifnum#3>\z@
1267       \textnumeralsignlowergreek
1268     \fi
1269   }%
1270   \expandafter#2%
1271   \ifcase#3 %
1272     {}{}%
1273   \or\textrho\textRho
1274   \or\textsigma\textSigma
1275   \or\texttau\textTau
1276   \or\textupsilon\textUpsilon
1277   \or\textphi\textPhi
1278   \or\textchi\textChi
1279   \or\textpsi\textPsi
1280   \or\textomega\textOmega
1281   \or\textsampigreek\textSampigreek
1282   \else
1283     {}{}%
1284   \fi
1285   \HyPsd@GreekNumII#1#2#4#5%
1286 }
1287 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1288   \HyPsd@GreekNumI\@firstofone#1#2%
1289   \HyPsd@@@GreekNum#1{#3#4#5}%
1290 }
1291 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1292   \HyPsd@GreekNumII\@firstofone#1#2#3%
1293   \HyPsd@@@GreekNum#1{#4#5#6}%
1294 }
1295 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1296   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1297   \HyPsd@@@GreekNum#1{#5#6#7}%
1298 }
1299 \def\HyPsd@SpanishPatch{%
1300   \ltx@ifundefined{es@save@dot}{%
1301     }{%
1302       \let\.\es@save@dot
1303     }%
1304 }

```

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

```

1305 \def\HyPsd@RussianPatch{%
1306   \ltx@ifundefined{russian@sh@"@-@}{%
1307     }{%
1308       \@namedef{russian@sh@"@-@}{-}%
1309     }%
1310 }

```

### 6.5.3 CJK patch

```

1311 \RequirePackage{intcalc}[2007/09/27]

```

\HyPsd@CJKhook

```

1312 \def\HyPsd@CJKhook{%
1313   \ltx@ifpackageloaded{CJK}{%
1314     \let\CJK@kern\relax
1315     \let\CJKkern\relax
1316     \let\CJK@CJK\relax
1317     \ifHy@CJKbookmarks
1318       \HyPsd@CJKhook@bookmarks
1319     \fi
1320     \HyPsd@CJKhook@unicode
1321   }{%
1322 }

```

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

```

1323 \begingroup
1324   \catcode"7F=\active
1325   \toks@{%
1326     \let\CJK@ignorespaces\empty
1327     \def\CJK@char#1{\@gobbletwo}%
1328     \let\CJK@charx\@gobblefour
1329     \let\CJK@punctchar\@gobblefour
1330     \def\CJK@punctcharx#1{\@gobblefour}%
1331     \catcode"7F=\active
1332     \def^^7f#1^^7f#2^^7f{%
1333       \string #1\HyPsd@DecimalToOctal{#2}%
1334     }%
1335     % ... ?
1336     \ifHy@unicode
1337       \def\Hy@cjkpu{\80}%
1338     \else
1339       \let\Hy@cjkpu\@empty
1340     \fi
1341     \HyPsd@CJKActiveChars
1342   }%
1343   \count@=127 %
1344   \@whilenum\count@<255 \do{%
1345     \advance\count@ by 1 %
1346     \lccode'\~=\count@
1347     \lowercase{%
1348       \toks@\expandafter{\the\toks@ ~}%
1349     }%
1350   }%
1351   \toks@\expandafter{\the\toks@ !}%
1352   \xdef\HyPsd@CJKhook@bookmarks{%
1353     \the\toks@
1354   }%
1355 \endgroup

```

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

```
1356 \def\HyPsd@CJKActiveChars#1{%
1357   \ifx#1!%
1358     \let\HyPsd@CJKActiveChars\relax
1359   \else
1360     \edef#1{\noexpand\Hy@cjkpu\string#1}%
1361   \fi
1362   \HyPsd@CJKActiveChars
1363 }
```

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

```
1364 \def\HyPsd@DecimalToOctal#1{%
1365   \ifcase #1 %
1366     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1367     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1368     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1369     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1370     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1371     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1372     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1373     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1374     \or @\or A\or B\or C\or D\or E\or F\or G%
1375     \or H\or I\or J\or K\or L\or M\or N\or O%
1376     \or P\or Q\or R\or S\or T\or U\or V\or W%
1377     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1378     \or \140\or a\or b\or c\or d\or e\or f\or g%
1379     \or h\or i\or j\or k\or l\or m\or n\or o%
1380     \or p\or q\or r\or s\or t\or u\or v\or w%
1381     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1382     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1383     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1384     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1385     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1386     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1387     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1388     \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1389     \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1390     \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1391     \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1392     \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1393     \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1394     \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1395     \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1396     \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1397     \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1398   \fi
1399 }
```

### 6.5.5 CJK unicode

`\HyPsd@CJKhook@unicode`

```
1400 \def\HyPsd@CJKhook@unicode{%
1401   \let\Unicode\HyPsd@CJK@Unicode
1402   \let\CJKnumber\HyPsd@CJKnumber
1403   \let\CJKdigits\HyPsd@CJKdigits
1404 }
```

\HyPsd@CJK@Unicode

```
1405 \def\HyPsd@CJK@Unicode#1#2{%
1406   \ifnum#1<256 %
1407     \HyPsd@DecimalToOctalFirst{#1}%
1408     \HyPsd@DecimalToOctalSecond{#2}%
1409   \else
1410     \933%
1411     \expandafter\expandafter\expandafter\HyPsd@HighA
1412     \intcalcDiv{#1}{4}!%
1413     \933%
1414     \ifcase\intcalcMod{#1}{4} %
1415       4\or 5\or 6\or 7%
1416     \fi
1417     \HyPsd@DecimalToOctalSecond{#2}%
1418   \fi
1419 }

1420 \def\HyPsd@HighA#1!{%
1421   \expandafter\expandafter\expandafter\HyPsd@HighB
1422   \IntCalcDiv#1!64!!%
1423   \expandafter\expandafter\expandafter\HyPsd@HighD
1424   \IntCalcMod#1!64!!%
1425 }

1426 \def\HyPsd@HighB#1!{%
1427   \expandafter\expandafter\expandafter\HyPsd@HighC
1428   \IntCalcDec#1!!%
1429 }

1430 \def\HyPsd@HighC#1!{%
1431   \IntCalcDiv#1!4!%
1432   \@backslashchar
1433   \IntCalcMod#1!4!%
1434 }

1435 \def\HyPsd@HighD#1!{%
1436   \ifcase\IntCalcDiv#1!8! %
1437     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1438   \fi
1439   \ifcase\IntCalcMod#1!8! %
1440     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1441   \fi
1442 }

1443 \def\HyPsd@DecimalToOctalFirst#1{%
1444   \9%
1445   \ifcase#1 %
1446     000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1447     \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1448     \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1449     \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1450     \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1451     \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1452     \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1453     \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1454     \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1455     \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1456     \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1457     \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1458     \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1459     \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1460     \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
```

```

1461 \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1462 \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1463 \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1464 \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1465 \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1466 \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1467 \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1468 \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1469 \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1470 \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1471 \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1472 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1473 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1474 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1475 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1476 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1477 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1478 \fi
1479 }
1480 \def\HyPsd@DecimalToOctalSecond#1{%
1481 \ifcase #1 %
1482 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1483 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1484 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1485 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1486 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1487 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1488 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1489 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1490 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1491 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1492 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1493 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1494 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1495 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1496 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1497 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1498 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1499 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1500 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1501 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1502 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1503 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1504 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1505 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1506 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1507 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1508 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1509 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1510 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1511 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1512 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1513 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1514 \fi
1515 }
1516 \def\HyPsd@CJKnumber#1{%
1517 \ifnum#1<\z@

```

```

1518 \CJK@minus
1519 \expandafter\HyPsd@@CJKnumber\expandafter{\number-\number#1}%
1520 \else
1521 \expandafter\HyPsd@@CJKnumber\expandafter{\number#1}%
1522 \fi
1523 }
1524 \def\HyPsd@@CJKnumber#1{%
1525 \ifcase#1 %
1526 \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1527 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1528 \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or
1529 \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1530 \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1531 \CJK@ten\CJK@nine
1532 \else
1533 \ifnum#1<10000 %
1534 \HyPsd@CJKnumberFour#1!\@empty{20}%
1535 \@empty
1536 \else
1537 \ifnum#1<100000000 %
1538 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1539 \IntCalcDiv#1!10000!%
1540 !\{20}%
1541 \CJK@tenthousand
1542 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1543 \IntCalcMod#1!10000!%
1544 !\CJK@zero{10}%
1545 \@empty
1546 \else
1547 \expandafter\HyPsd@CJKnumberLarge
1548 \number\IntCalcDiv#1!100000000!\expandafter!%
1549 \number\IntCalcMod#1!100000000!!%
1550 \fi
1551 \fi
1552 \fi
1553 }
1554 \def\HyPsd@CJKnumberLarge#1!#2!{%
1555 \HyPsd@CJKnumberFour#1!\{20}%
1556 \CJK@hundredmillion
1557 \ifnum#2=\z@
1558 \else
1559 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1560 \IntCalcDiv#2!10000!%
1561 !\CJK@zero{10}%
1562 \CJK@tenthousand
1563 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1564 \IntCalcMod#2!10000!%
1565 !\CJK@zero{10}%
1566 \@empty
1567 \fi
1568 }
1569 \def\HyPsd@CJKnumberFour#1!#2#3{%
1570 \ifnum#1=\z@
1571 \expandafter\@gobble
1572 \else
1573 \ifnum#1<1000 %
1574 #2%

```

```

1575 \HyPsd@CJKnumberThree#1!#{#3}%
1576 \else
1577 \HyPsd@@CJKnumber{\IntCalcDiv#1!1000!}%
1578 \CJK@thousand
1579 \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1580 \IntCalcMod#1!1000!%
1581 !\CJK@zero{10}%
1582 \fi
1583 \fi
1584 }
1585 \def\HyPsd@CJKnumberThree#1!#2#3{%
1586 \ifnum#1=\z@
1587 \else
1588 \ifnum#1<100 %
1589 #2%
1590 \HyPsd@CJKnumberTwo#1!#{#3}%
1591 \else
1592 \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1593 \CJK@hundred
1594 \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1595 \IntCalcMod#1!100!%
1596 !\CJK@zero{10}%
1597 \fi
1598 \fi
1599 }
1600 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1601 \ifnum#1=\z@
1602 \else
1603 \ifnum#1<#3 %
1604 #2%
1605 \HyPsd@@CJKnumber{#1}%
1606 \else
1607 \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1608 \CJK@ten
1609 \ifnum\IntCalcMod#1!10!=\z@
1610 \else
1611 \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1612 \fi
1613 \fi
1614 \fi
1615 }
1616 \def\HyPsd@CJKdigits#1{%
1617 \ifx*#1\relax
1618 \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1619 \else
1620 \HyPsd@@CJKdigits\CJK@null{#1}%
1621 \fi
1622 }
1623 \def\HyPsd@@CJKdigits#1#2{%
1624 \ifx\#2\%
1625 \else
1626 \HyPsd@@@CJKdigits#1#2\@nil
1627 \fi
1628 }%
1629 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1630 \HyPsd@CJKdigit#1{#2}%
1631 \ifx\#3\%

```

```

1632 \expandafter\@gobble
1633 \else
1634 \expandafter\@firstofone
1635 \fi
1636 {%
1637 \HyPsd@@@CJKdigits#1#3\@nil
1638 }%
1639 }
1640 \def\HyPsd@CJKdigit#1#2{%
1641 \ifcase#2 %
1642 #1\or
1643 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1644 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1645 \fi
1646 }

```

### 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<sub>ε</sub> versions [1998/06/01] and [1998/12/01]. I expect that versions below [1995/12/01] don't work.

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

```

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

```



```

\ifmmode
  \@latex@warning{Command \protect#1 invalid in math mode}%
\fi}

1647 \def\HyPsd@inmathwarn#1#2{%
1648   \ifx#2\expandafter
1649     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1650       \HyPsd@GLYPHERR
1651       \expandafter\@gobble\string#1%
1652       >%
1653       \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1654       \else
1655       \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1656       \fi
1657     \else
1658     \expandafter#2%
1659     \fi
1660 }
1661 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1662 \def\HyPsd@EndWithElse#1\else\else{}

\HyPsd@add@accent

1663 \def\HyPsd@add@accent#1#2{%
1664   \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1665   #2%
1666 }%

```

### 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`.

```

1667 \def\HyPsd@LetUnexpandableSpace#1{%
1668   \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1669 }

```

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

```

1670 \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.

```

1671 \edef\HyPsd@XSPACE{\string#\string X}
1672 \edef\HyPsd@ITALCORR{\string#\string I}
1673 \edef\HyPsd@GLYPHERR{\string#\string G}

```

### 6.5.9 \hspace fix

\HyPsd@hspace

```
1674 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1675 \def\HyPsd@@hspace#1*#2\END{%
1676   \ifx\#2\%
1677     \HyPsd@hspacetest{#1}%
1678   \else
1679     \expandafter\HyPsd@hspacetest
1680   \fi
1681 }
```

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

```
1682 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

### 6.5.10 Fix for AMS classes

```
1683 \ltx@ifundefined{tocsection}{%
1684   \let\HyPsd@AMSclassfix\relax
1685 }{%
1686   \def\HyPsd@AMSclassfix{%
1687     \let\tocpart\HyPsd@tocsection
1688     \let\tocchapter\HyPsd@tocsection
1689     \let\tocappendix\HyPsd@tocsection
1690     \let\tocsection\HyPsd@tocsection
1691     \let\tocsubsection\HyPsd@tocsection
1692     \let\tocsubsubsection\HyPsd@tocsection
1693     \let\tocparagraph\HyPsd@tocsection
1694   }%
1695   \def\HyPsd@tocsection#1#2#3{%
1696     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1697     #3%
1698   }%
1699 }
```

### 6.5.11 Reference commands

\HyPsd@href

```
1700 \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.

```
1701 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1702 \def\HyPsd@@ref#1*#2\END{%
1703   \ifx\#2\%
1704     \HyPsd@@@ref{#1}%
1705   \else
1706     \expandafter\HyPsd@@@ref
1707   \fi
1708 }
```

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

```
1709 \def\HyPsd@@@ref#1{%
1710   \expandafter\ifx\csname r@#1\endcsname\relax
1711     ??%
1712   \else
1713     \expandafter\expandafter\expandafter
1714     \@car\csname r@#1\endcsname\@nil
1715   \fi
1716 }
```

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

```
1717 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}
```

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

```
1718 \def\HyPsd@@pageref#1*#2\END{%
1719   \ifx\#2\%
1720     \HyPsd@@@pageref{#1}%
1721   \else
1722     \expandafter\HyPsd@@@pageref
1723   \fi
1724 }
```

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

```
1725 \def\HyPsd@@@pageref#1{%
1726   \expandafter\ifx\csname r@#1\endcsname\relax
1727     ??%
1728   \else
1729     \expandafter\expandafter\expandafter\expandafter
1730     \expandafter\expandafter\expandafter\@car
1731     \expandafter\expandafter\expandafter\@gobble
1732     \csname r@#1\endcsname{}\@nil
1733   \fi
1734 }
```

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

```
1735 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}
```

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

```
1736 \def\HyPsd@@nameref#1*#2\END{%
1737   \ifx\#2\%
1738     \HyPsd@@@nameref{#1}%
1739   \else
1740     \expandafter\HyPsd@@@nameref
1741   \fi
1742 }
```

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

```
1743 \def\HyPsd@@@nameref#1{%
1744   \expandafter\ifx\csname r@#1\endcsname\relax
1745     ??%
1746   \else
1747     \expandafter\expandafter\expandafter\expandafter
1748     \expandafter\expandafter\expandafter\@car
1749     \expandafter\expandafter\expandafter\@gobbletwo
```

```

1750 \csname r@#1\endcsname{}\}\@nil
1751 \fi
1752 }

```

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

```

1753 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1754 \def\HyPsd@@autoref#1*#2\END{%
1755 \ifx\#2\%
1756 \HyPsd@@@autoref{#1}%
1757 \else
1758 \expandafter\HyPsd@@@autoref
1759 \fi
1760 }

```

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

```

1761 \def\HyPsd@@@autoref#1{%
1762 \expandafter\ifx\csname r@#1\endcsname\relax
1763 ??%
1764 \else
1765 \expandafter\expandafter\expandafter\HyPsd@autorefname
1766 \csname r@#1\endcsname{}\}\}\@nil
1767 \expandafter\expandafter\expandafter
1768 \@car\csname r@#1\endcsname\@nil
1769 \fi
1770 }

```

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

```

1771 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1772 \ifx\#4\%
1773 \else
1774 \HyPsd@@autorefname#4.\@nil
1775 \fi
1776 }

```

`\HyPsd@@autorefname`

```

1777 \def\HyPsd@@autorefname#1.#2\@nil{%
1778 \ltx@IfUndefined{#1autorefname}{%
1779 \ltx@IfUndefined{#1name}{%
1780 }{%
1781 \csname#1name\endcsname\space
1782 }%
1783 }{%
1784 \csname#1autorefname\endcsname\space
1785 }%
1786 }

```

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

```

\HyPsd@DefCommand
\HyPsd@LetCommand
1787 \begingroup
1788 \def\x#1#2{%
1789 \endgroup
1790 \let#1\def
1791 \def\HyPsd@DefCommand##1##2###{%
1792 #1%
1793 \expandafter\noexpand
1794 \csname\expandafter\@gobble\string##1\@empty\endcsname
1795 \@gobble
1796 }%
1797 \let#2\let
1798 \def\HyPsd@@LetCommand##1{%
1799 \expandafter\ifx\csname##1\expandafter\endcsname
1800 \csname iftrue\endcsname
1801 \pdfstringdefWarn\let
1802 \expandafter\@gobble
1803 \else
1804 \expandafter\ifx\csname##1\expandafter\endcsname
1805 \csname iffalse\endcsname
1806 \pdfstringdefWarn\let
1807 \expandafter\expandafter\expandafter\@gobble
1808 \else
1809 #2%
1810 \expandafter\noexpand
1811 \csname##1\expandafter\expandafter\expandafter\endcsname
1812 \fi
1813 \fi
1814 }%
1815 }%
1816 \expandafter\x\csname <def>-command\expandafter\endcsname
1817 \csname <let>-command\endcsname

```

```

1818 \def\HyPsd@LetCommand#1{%
1819   \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1820   \expandafter\expandafter\expandafter{%
1821     \expandafter\@gobble\string#1\@empty
1822   }%
1823 }

```

### 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).

```

1824 \def\HyPsd@ifnextchar#1{%
1825   \pdfstringdefWarn#1%
1826   \expandafter\@gobbletwo\@gobble
1827 }

```

### 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`.

```

1828 \def\HyPsd@protected@testopt#1{%
1829   \pdfstringdefWarn#1%
1830   \@gobbletwo
1831 }

```

## 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:

```

1832 \def\HyPsd@Warning#1{%
1833   \begingroup
1834     \let\space\ltx@space
1835     \Hy@Warning{#1}%
1836   \endgroup
1837 }

```

### 6.6.2 Protecting spaces

```

1838 \RequirePackage{etexcmds}[2007/09/09]
1839 \ifetex@unexpanded
1840   \expandafter\@secondoftwo

```

```

1841 \else
1842 \expandafter\@firstoftwo
1843 \fi
1844 {%

```

`\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`.

```

1845 \def\HyPsd@ProtectSpaces#1{%
1846 \iftrue
1847 \expandafter\HyPsd@@ProtectSpacesFi
1848 \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1849 \fi
1850 }%

```

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

```

1851 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1852 \fi
1853 \ifx\scrollmode#2\scrollmode
1854 \HyPsd@RemoveMask#1\HyPsd@End#3%
1855 \else
1856 \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1857 \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1858 \fi
1859 }%

```

### 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.

```

1860 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1861 \toks@\expandafter{#1}%
1862 \xdef#2{\the\toks@}%
1863 }%

1864 }{%
1865 \let\HyPsd@fi\fi
1866 \def\HyPsd@ProtectSpaces#1{%
1867 \xdef#1{%
1868 \iftrue
1869 \expandafter\HyPsd@@ProtectSpacesFi
1870 \expandafter|\expandafter\@empty#1| %
1871 \HyPsd@fi
1872 }%
1873 \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1874 }%
1875 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1876 \fi
1877 \etex@unexpanded{#1}%
1878 \ifx\scrollmode#2\scrollmode
1879 \else
1880 \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1881 \HyPsd@fi

```

```

1882 }%
1883 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1884   \xdef#2{\etex@unexpanded\expandafter{#1}}%
1885 }%
1886 }

```

### 6.6.3 Remove grouping braces

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

```

1887 \def\HyPsd@RemoveBraces#1{%
1888   \ifx\scrollmode#1\scrollmode
1889   \else
1890     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1891   \fi
1892 }

```

`\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`.

```

1893 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1894   \fi
1895   \def\Hy@temp@A{#1#2}%
1896   \def\Hy@temp@B{#3}%
1897   \ifx\Hy@temp@A\Hy@temp@B
1898     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1899       \HyPsd@String#1%
1900     }%
1901     \ifx\scrollmode#2\scrollmode
1902     \else
1903       \Hy@ReturnAfterFiFiEnd{%
1904         \HyPsd@RemoveBraces{#2}%
1905       }%
1906     \fi
1907   \else
1908     \def\Hy@temp@A{#1}%
1909     \HyPsd@AppendItalcrr\HyPsd@String
1910     \ifx\Hy@temp@A\@empty
1911       \Hy@ReturnAfterElseFiFiEnd{%
1912         \HyPsd@RemoveBraces{#2}%
1913       }%
1914     \else
1915       \HyPsd@ProtectSpaces\Hy@temp@A
1916       \HyPsd@AppendItalcrr\Hy@temp@A
1917       \Hy@ReturnAfterFiFiEnd{%
1918         \expandafter\HyPsd@RemoveBraces\expandafter
1919         {\Hy@temp@A#2}%
1920       }%
1921     \fi

```



```

1922 \fi
1923 \Hy@ReturnEnd
1924 }

```

`\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`.

```

1925 \def\HyPsd@AppendItalcorr#1{%
1926 \expandafter\HyPsd@@AppendItalcorr\expandafter{\/}#1%
1927 }
1928 \def\HyPsd@@AppendItalcorr#1#2{%
1929 \expandafter\def\expandafter#2\expandafter{#2#1}%
1930 }

```

#### 6.6.4 Catcode check

Check catcodes.

`\HyPsd@CheckCatcodes` Because `\ifcat` expands its arguments, this is prevented by `\noexpand`. In case of command tokens and active characters `\ifcat` now sees a `\relax`. After protecting spaces and removing braces `#1` should be a single token, no group of several tokens, nor an empty group. (So the `\expandafter\relax` between `\ifcat` and `\noexpand` is only for safety and it should be possible to remove it.)

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

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`.

```

1931 \begingroup
1932 \catcode'\Q=\active
1933 \let Q\ltx@empty
1934 \gdef\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1935 \global\let\HyPsd@Rest\relax
1936 \ifcat\relax\noexpand#1\relax
1937 \ifx#1\protect
1938 \else
1939 \ifx#1\penalty
1940 \setbox\z@=\hbox{%
1941 \afterassignment\HyPsd@AfterCountRemove
1942 \count@=#2\HyPsd@End
1943 }%
1944 \else
1945 \ifx#1\kern
1946 \setbox\z@=\hbox{%
1947 \afterassignment\HyPsd@AfterDimenRemove
1948 \dimen@=#2\HyPsd@End
1949 }%
1950 \else
1951 \ifx#1\hskip
1952 \setbox\z@=\hbox{%
1953 \afterassignment\HyPsd@AfterSkipRemove
1954 \skip@=#2\HyPsd@End
1955 }%
1956 \else
1957 \HyPsd@CatcodeWarning{#1}%

```

```

1958         \fi
1959     \fi
1960 \fi
1961 \fi
1962 \else
1963 \ifcat\noexpand#1\noexpandQ% active character
1964 \expandafter\expandafter\expandafter\def
1965 \expandafter\expandafter\expandafter\HyPsd@String
1966 \expandafter\expandafter\expandafter{%
1967 \expandafter\HyPsd@String\string#1%
1968 }%
1969 \else
1970 \ifcat#1A% letter
1971 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1972 \HyPsd@String#1%
1973 }%
1974 \else
1975 \ifcat#1 % SPACE
1976 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1977 \HyPsd@String\HyPsd@SPACEOPTI
1978 }%
1979 \else
1980 \ifcat$#1%
1981 \HyPsd@CatcodeWarning{math shift}%
1982 \else
1983 \ifcat&#1%
1984 \HyPsd@CatcodeWarning{alignment tab}%
1985 \else
1986 \ifcat^#1%
1987 \HyPsd@CatcodeWarning{superscript}%
1988 \else
1989 \ifcat_#1%
1990 \HyPsd@CatcodeWarning{subscript}%
1991 \else
1992 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1993 \HyPsd@String#1%
1994 }%
1995 \fi
1996 \fi
1997 \fi
1998 \fi
1999 \fi
2000 \fi
2001 \fi
2002 \fi
2003 \ifx\HyPsd@Rest\relax
2004 \ifx\scrollmode#2\scrollmode
2005 \else
2006 \Hy@ReturnAfterFiFiEnd{%
2007 \HyPsd@CheckCatcodes#2\HyPsd@End
2008 }%
2009 \fi
2010 \else
2011 \ifx\HyPsd@Rest\@empty
2012 \else
2013 \Hy@ReturnAfterFiFiEnd{%
2014 \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End

```

```

2015     }%
2016     \fi
2017     \fi
2018     \Hy@ReturnEnd
2019 }%
2020 \endgroup

```

### Remove counts, dimens, skips.

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

```

2021 \def\HyPsd@AfterCountRemove#1\HyPsd@end{%
2022   \gdef\HyPsd@Rest{#1}%
2023 }

```

`\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.

```

2024 \def\HyPsd@AfterDimenRemove#1\HyPsd@end{%
2025   \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
2026     \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
2027     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
2028   \else
2029     \ifdim\dimen@=\z@
2030     \else
2031       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
2032     \fi
2033   \gdef\HyPsd@Rest{#1}%
2034   \fi
2035 }

```

`\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).

```

2036 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
2037   \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
2038     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
2039     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
2040   \else
2041     \ifdim\skip@=\z@
2042     \else
2043       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
2044     \fi
2045   \gdef\HyPsd@Rest{#1}%
2046   \fi
2047 }

```

### Catcode warnings.

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

```

2048 \def\HyPsd@CatcodeWarning#1{%
2049   \HyPsd@Warning{%
2050     Token not allowed in a PDF string (%
2051     \ifHy@unicode
2052       Unicode%
2053     \else
2054       PDFDocEncoding%

```

```

2055 \fi
2056 ):%
2057 \MessageBreak removing '\HyPsd@RemoveCmdPrefix#1'%
2058 }%
2059 }
2060 \beginingroup
2061 \catcode'\|=0 %
2062 \catcode'\|=12 %
2063 |gdef|HyPsd@RemoveCmdPrefix#1{%
2064 |expandafter|HyPsd@@RemoveCmdPrefix
2065 |string#1|@empty\<>-|@empty|@empty
2066 }%
2067 |gdef|HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
2068 |endgroup

```

\HyPsd@RemoveSpaceWarning

```

2069 \def\HyPsd@RemoveSpaceWarning#1{%
2070 \HyPsd@Warning{%
2071 Token not allowed in a PDF string (%)
2072 \ifHy@unicode
2073 Unicode%
2074 \else
2075 PDFDocEncoding%
2076 \fi
2077 ):%
2078 \MessageBreak #1\MessageBreak
2079 removed%
2080 }%
2081 }

```

\HyPsd@ReplaceSpaceWarning

```

2082 \def\HyPsd@ReplaceSpaceWarning#1{%
2083 \HyPsd@Warning{%
2084 Token not allowed in a PDF string (%)
2085 \ifHy@unicode
2086 Unicode%
2087 \else
2088 PDFDocEncoding%
2089 \fi
2090 ):%
2091 \MessageBreak #1\MessageBreak
2092 replaced by space%
2093 }%
2094 }

```

### 6.6.5 Check for wrong glyphs

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

```

2095 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
2096 \expandafter\def\expandafter\HyPsd@String\expandafter{%
2097 \HyPsd@String#1%
2098 }%
2099 \ifx\|#2\%
2100 \else
2101 \ltx@ReturnAfterFi{%
2102 \HyPsd@GlyphProcessWarning#2\@empty

```

```

2103 }%
2104 \fi
2105 }
2106 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
2107 \HyPsd@@GlyphProcessWarning#1++>%
2108 \HyPsd@GlyphProcess#2\@empty
2109 }
2110 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
2111 \ifx\#2\%
2112 \HyPsd@Warning{%
2113 Glyph not defined in %
2114 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
2115 removing '\@backslashchar#1'%
2116 }%
2117 \else
2118 \HyPsd@Warning{%
2119 Composite letter '\@backslashchar#1+#2'\MessageBreak
2120 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
2121 \MessageBreak
2122 removing '\@backslashchar#1'%
2123 }%
2124 \fi
2125 }

```

### 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.

```

2126 \def\HyPsd@spaceopti#1{ % first space
2127 \ifx\HyPsd@spaceopti#1%
2128 \040%
2129 \else
2130 #1%
2131 \fi
2132 }%

```

### 6.6.6 Replacing tokens

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

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

```

2133 \def\HyPsd@Subst#1#2#3{%
2134 \def\HyPsd@@ReplaceFi##1##2\END\fi{%
2135 \fi
2136 ##1%
2137 \ifx\scrollmode##2\scrollmode
2138 \else
2139 #2%
2140 \HyPsd@@ReplaceFi##2\END
2141 \fi
2142 }%

```

```

2143 \xdef#3{%
2144   \iftrue
2145     \expandafter\HyPsd@@ReplaceFi#3#1\END
2146   \fi
2147 }%
2148 }

```

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

```

2149 \def\HyPsd@StringSubst#1{%
2150   \expandafter\HyPsd@Subst\expandafter{\string#1}%
2151 }

```

`\HyPsd@EscapeTeX`

```

2152 \begingroup
2153 \lccode'\!='\%%
2154 \lccode'\|='\%%
2155 \lccode'\(='\{%
2156 \lccode'\)='\}%
2157 \lccode'0=\ltx@zero
2158 \lccode'1=\ltx@zero
2159 \lccode'3=\ltx@zero
2160 \lccode'4=\ltx@zero
2161 \lccode'5=\ltx@zero
2162 \lccode'7=\ltx@zero
2163 \lowercase{\endgroup
2164 \def\HyPsd@EscapeTeX#1{%
2165   \HyPsd@Subst!{|045}#1%
2166   \HyPsd@Subst!{|173}#1%
2167   \HyPsd@Subst!{|175}#1%
2168 }%
2169 }

```

### 6.6.7 Support for package `xspace`

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

```

2170 \def\HyPsd@doxspace#1{%
2171   \ifx#1\relax\else
2172     \ifx#1.\else
2173       \ifx#1:\else
2174         \ifx#1,\else
2175           \ifx#1;\else
2176             \ifx#1!\else
2177               \ifx#1?\else
2178                 \ifx#1/\else
2179                   \ifx#1-\else
2180                     \ifx#1'\else
2181                       \HyPsd@SPACEOPTI
2182                     \fi
2183                   \fi
2184                 \fi
2185               \fi
2186             \fi
2187           \fi

```

```

2188     \fi
2189     \fi
2190     \fi
2191     \fi
2192     #1%
2193 }%

```

### 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.

```

2194 \begingroup
2195   \catcode'\|=0 %
2196   \catcode'\|=12 %

```

\HyPsd@ConvertToUnicode

```

2197 |gdef|HyPsd@ConvertToUnicode#1{%
2198   |xdef#1{%
2199     |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
2200   }%
2201   |ifx#1|@empty
2202   |else
2203     |xdef#1{%
2204       \376\377%
2205       #1%
2206     }%
2207   |fi
2208 }%

```

\HyPsd@DoConvert

```

2209 |gdef|HyPsd@DoConvert#1{%
2210   |ifx#1|@empty
2211   |else
2212     |ltx@ReturnAfterFi{%
2213       |ifx#1\%%
2214       \%%
2215       |expandafter|HyPsd@DoEscape
2216     |else
2217       |HyPsd@Char{#1}%
2218       |expandafter|HyPsd@DoConvert
2219     |fi
2220   }%
2221   |fi
2222 }%

```

\HyPsd@DoEscape

```

2223 |gdef|HyPsd@DoEscape#1{%
2224   |ifx#19%
2225     |expandafter|HyPsd@GetTwoBytes
2226   |else
2227     |ltx@ReturnAfterFi{%
2228       |ifx#18%
2229       00%
2230       |expandafter|HyPsd@GetTwoBytes
2231     |else
2232       #1%

```

```

2233     |expandafter|HyPsd@GetOneByte
2234     |fi
2235   }%
2236   |fi
2237 }%

```

`\HyPsd@GetTwoBytes`

```

2238 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
2239   #1\#2#3#4%
2240   |HyPsd@DoConvert
2241 }%

```

`\HyPsd@GetOneByte`

```

2242 |gdef|HyPsd@GetOneByte#1#2{%
2243   #1#2%
2244   |HyPsd@DoConvert
2245 }%
2246 |endgroup

```

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

```

2247 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
2248   \xdef#4{#4#1#2}%
2249   \HyPsd@@ConvertToUnicode#3\END#4%
2250 }

```

`\HyPsd@Char`

```

2251 \begingroup
2252 \catcode0=9 %
2253 \catcode'\^=7 %
2254 \catcode'\^^=12 %
2255 \def\x{^^^0000}%
2256 \expandafter\endgroup
2257 \ifx\x\@empty
2258   \def\HyPsd@Char#1{%
2259     \ifnum'#1<128 %
2260       \@backslashchar 000#1%
2261     \else
2262       \ifnum'#1<65536 %
2263         \expandafter\HyPsd@CharTwoByte\number'#1!%
2264       \else
2265         \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2266         \intcalcSub{'#1}{65536}!%
2267       \fi
2268     \fi
2269   }%
2270   \def\HyPsd@CharTwoByte#1!{%
2271     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2272     \IntCalcDiv#1!256!!%
2273     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2274     \IntCalcMod#1!256!!%
2275   }%
2276   \def\HyPsd@CharOctByte#1!{%
2277     \@backslashchar
2278     \IntCalcDiv#1!64!%
2279     \intcalcDiv{\IntCalcMod#1!64!}{8}%
2280     \IntCalcMod#1!8!%

```



```

2281 }%
2282 \def\HyPsd@CharSurrogate#1{%
2283   \@backslashchar 33%
2284   \IntCalcDiv#1!262144!%
2285   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2286   \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2287   \@backslashchar 33%
2288   \expandafter\expandafter\expandafter\IntCalcAdd
2289   \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2290   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2291   \IntCalcMod#1!256!!%
2292 }%
2293 \else
2294 \def\HyPsd@Char#1{%
2295   \@backslashchar 000#1%
2296 }%
2297 \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`

```

2298 \begingroup\expandafter\expandafter\expandafter\endgroup
2299 \expandafter\ifx\csname numexpr\endcsname\relax
2300   \let\HyPsd@UTFviii\relax
2301 \else
2302   \begingroup
2303     \lccode'\~='^^f4\relax
2304   \lowercase{\endgroup
2305     \def\HyPsd@UTFviii{%
2306       \let\UTFviii@two@octets\HyPsd@UTFviii@two
2307       \let\UTFviii@three@octets\HyPsd@UTFviii@three
2308       \let\UTFviii@four@octets\HyPsd@UTFviii@four
2309       \ifx~\HyPsd@UTFviii@ccxliv@undef
2310         \let~\HyPsd@UTFviii@ccxliv@def
2311       \fi
2312       \let\unichar\HyPsd@unichar
2313     }%
2314   }%
2315   \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
2316   \edef\HyPsd@UTFviii@ccxliv@def{%
2317     \noexpand\UTFviii@four@octets\string ^^f4%
2318   }%

```

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.

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

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

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

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

$$(5)$$

```

2319 \def\HyPsd@UTFviii@two#1#2{%
2320   \expandafter\HyPsd@UTFviii@@two
2321   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
2322   \number'#1\expandafter|
2323   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter|
2324   \number'#2 \@nil
2325 }%
2326 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2327   \expandafter\8%
2328   \number\numexpr #1-48\expandafter\relax
2329   \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2330   \number\numexpr #3-8*%
2331   \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2332   \number\numexpr #4-8*#3\relax
2333 }%
```

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

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

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

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

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

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

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

$$(12)$$

```

2334 \def\HyPsd@UTFviii@three#1#2#3{%
2335   \expandafter\HyPsd@UTFviii@@three
2336   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
2337   \number'#1\expandafter|
2338   \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter|
2339   \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter|
2340   \number'#2\expandafter|
2341   \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter|
2342   \number'#3 \@nil
2343 }%
2344 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
2345   \expandafter\9%
2346   \number\numexpr #1-56\expandafter\relax
2347   \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
2348   \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2349   \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
2350   \number\numexpr #6-16\expandafter\relax
2351   \number\numexpr #7-8*#6\relax
2352 }%
```

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 = uuuuu - 1
UTF-16: 110110ww wwzzzzyy 110111yy yyxxxxxx
octal: 011 011 0ww 0ww zzz zyy 011 011 1yy 0yy xxx xxx

```

```

2353 \def\HyPsd@UTFviii@four#1#2{%
2354 \expandafter\HyPsd@@UTFviii@four\number
2355 \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2356 \expandafter|\number
2357 \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp| %
2358 }%
2359 \def\HyPsd@@UTFviii@four#1|#2|#3{%
2360 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2361 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2362 \ifodd#2 %
2363 \number\dimexpr(#2-1)/2\relax
2364 \else
2365 \number\dimexpr#2/2\relax
2366 \fi
2367 \number\dimexpr\ifodd#2 4+\fi
2368 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2369 \933%
2370 \expandafter\HyPsd@@@UTFviii@four\number
2371 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2372 }%
2373 \def\HyPsd@@@UTFviii@four#1|#2{%
2374 \number\dimexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2375 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2376 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2377 \number\dimexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2378 }%

```

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

```

2379 \def\HyPsd@unichar#1{%
2380 \ifHy@unicode
2381 \ifnum#1>"10FFFF %
2382 \HyPsd@UnicodeReplacementCharacter % illegal
2383 \else
2384 \ifnum#1>"FFFF %

```

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

```

2385 \expandafter\HyPsd@unichar\expandafter{%
2386 \number\dimexpr 55296+%
2387 \dimexpr.0009765625\dimexpr\number#1sp-\p@
2388 \relax\relax\relax
2389 }%

```

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

```

2390 \expandafter\HyPsd@unichar\expandafter{%
2391 \number\dimexpr#1-9216%
2392 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2393 \relax\relax\relax
2394 }%
2395 \else
2396 \ifnum#1>"7FFF %
2397 \9%
2398 \expandafter\HyPsd@unichar@first@byte\expandafter{%
2399 \number
2400 \dimexpr.00390625\dimexpr\number#1sp\relax\relax

```

```

2401     }%
2402   \else
2403     \8%
2404     \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2405   \fi
2406   \expandafter\HyPsd@unichar@second@byte\expandafter{%
2407     \number
2408     \numexpr#1-256*\number
2409     \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2410   }%
2411   \fi
2412 \fi
2413 \else
2414   .% unsupported (Unicode -> PDF Doc Encoding)
2415 \fi
2416 }%
2417 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2418 \def\HyPsd@unichar@first@byte#1{%
2419   \number\dimexpr.015625\dimexpr#1sp\relax\relax
2420   \expandafter\HyPsd@unichar@octtwo\expandafter{%
2421     \number
2422     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2423     \relax\relax\relax
2424   }%
2425 }%
2426 \def\HyPsd@unichar@second@byte#1{%
2427   \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2428   \expandafter\HyPsd@unichar@octtwo\expandafter{%
2429     \number
2430     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2431     \relax\relax\relax
2432   }%
2433 }%
2434 \def\HyPsd@unichar@octtwo#1{%
2435   \number\dimexpr.125\dimexpr#1sp\relax\relax
2436   \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2437   \relax\relax\relax
2438 }%
2439 \fi

```

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

```

2440 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2441   \ifx\@gobble#1%
2442   \else
2443     [Please insert \textbackslash PrerenderUnicode%
2444     \textbraceleft#1\textbraceright\space
2445     into preamble]%
2446   \fi
2447 }%

```

### 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`.

```

2448 \def\HyPsd@DieFace#1{%
2449   \ifHy@unicode
2450     \ifnum#1<1 %
2451       \HyPsd@UnicodeReplacementCharacter
2452     \else
2453       \ifnum#1>6 %
2454         \9046\205%
2455         \expandafter\expandafter\expandafter
2456         \HyPsd@DieFaceLarge\intcalcSub{#1}{6}!%
2457       \else
2458         \9046\20\intcalcDec{#1}%
2459       \fi
2460     \fi
2461   \else
2462     .% Die faces are not part of PDFDocEncoding
2463   \fi
2464 }
```

`\HyPsd@DieFaceLarge`

```

2465 \def\HyPsd@DieFaceLarge#1!{%
2466   \ifnum#1>6 %
2467     \expandafter\ltx@firstoftwo
2468   \else
2469     \expandafter\ltx@secondoftwo
2470   \fi
2471   {%
2472     \9046\205%
2473     \expandafter\expandafter\expandafter
2474     \HyPsd@DieFaceLarge\IntCalcSub#1!6!!%
2475   }{%
2476     \9046\20\IntCalcDec#1!%
2477   }%
2478 }
```

### 6.6.11 Support for moon phases of package china2e

```

2479 \def\HyPsd@MoonPha#1{%
2480   \ifcase\intcalcNum{#1} %
2481     \HyPsd@UnicodeReplacementCharacter
2482   \or % 1
2483   % U+1F31A NEW MOON WITH FACE; \MoonPha{1} (china2e)
2484   \9330\074\9337\032%
2485   \or % 2
2486   \HyPsd@UnicodeReplacementCharacter
2487   \or % 3
2488   % U+1F31D FULL MOON WITH FACE; \MoonPha{3} (china2e)
2489   \9330\074\9337\035%
2490   \or % 4
2491   % U+1F31C LAST QUARTER MOON WITH FACE; \MoonPha{4} (china2e)
2492   \9330\074\9337\034%
2493   \else
2494     \HyPsd@UnicodeReplacementCharacter
2495   \fi
2496 }
```

2497 %\* \HyPsd@MoonPha -> \MoonPha

### 6.6.12 Support for package pifont

\HyPsd@ding

```
2498 \def\HyPsd@ding#1{%
2499   \ifHy@unicode
2500     \ifnum#1<32 %
2501       \HyPsd@UnicodeReplacementCharacter
2502     \else
2503       \ifnum#1>254 %
2504         \HyPsd@UnicodeReplacementCharacter
2505       \else
2506         \ifnum#1<127 %
2507           \expandafter\expandafter\expandafter
2508             \HyPsd@@ding\intcalcNum{#1}!%
2509         \else
2510           \ifnum#1>160 %
2511             \expandafter\expandafter\expandafter
2512               \HyPsd@@ding\intcalcNum{#1}!%
2513           \else
2514             \HyPsd@UnicodeReplacementCharacter
2515           \fi
2516         \fi
2517       \fi
2518     \fi
2519   \else
2520     .% Dingbats are not part of PDFDocEncoding
2521   \fi
2522 }
```

\HyPsd@@ding

```
2523 \def\HyPsd@@ding#1!{%
2524   \ltx@ifundefined{HyPsd@ding@#1}{%
2525     \ifnum#1<127 %
2526       \9047%
2527       \HyPsd@DecimalToOctalSecond{\IntCalcSub#1!32!}%
2528     \else
2529       \ifnum#1<168 %
2530         \9047\14\IntCalcSub#1!160!%
2531       \else
2532         \ifnum#1>181 %
2533           \9047\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!64!}%
2534         \else
2535           % 172..181 -> U+2460..U+2469
2536           \9044\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!76!}%
2537         \fi
2538       \fi
2539     \fi
2540   }{%
2541     \csname HyPsd@ding@#1\endcsname
2542   }%
2543 }

2544 \@namedef{HyPsd@ding@32}{\space}
2545 % U+260E BLACK TELEPHONE
2546 \@namedef{HyPsd@ding@37}{\9046\016}% U+260E
2547 % U+261B BLACK RIGHT POINTING INDEX
```

```

2548 \@namedef{HyPsd@ding@42}{\9046\033}% U+261B
2549 % U+261E WHITE RIGHT POINTING INDEX
2550 \@namedef{HyPsd@ding@43}{\9046\036}% U+261E
2551 % U+2605 BLACK STAR
2552 \@namedef{HyPsd@ding@72}{\9046\005}% U+2605
2553 % U+25CF BLACK CIRCLE
2554 \@namedef{HyPsd@ding@108}{\9045\317}% U+25CF
2555 % U+25A0 BLACK SQUARE
2556 \@namedef{HyPsd@ding@110}{\9045\240}% U+25A0
2557 % U+25B2 BLACK UP-POINTING TRIANGLE
2558 \@namedef{HyPsd@ding@115}{\9045\262}% U+25B2
2559 % U+25BC BLACK DOWN-POINTING TRIANGLE
2560 \@namedef{HyPsd@ding@116}{\9045\274}% U+25BC
2561 % U+25C6 BLACK DIAMOND
2562 \@namedef{HyPsd@ding@117}{\9045\306}% U+25C6
2563 % U+25D7 RIGHT HALF BLACK CIRCLE
2564 \@namedef{HyPsd@ding@119}{\9045\327}% U+25D7
2565 \@namedef{HyPsd@ding@168}{\textclubsuitblack}%
2566 \@namedef{HyPsd@ding@169}{\textdiamondsuitblack}%
2567 \@namedef{HyPsd@ding@170}{\textheartsuitblack}%
2568 \@namedef{HyPsd@ding@171}{\textspadesuitblack}%
2569 \@namedef{HyPsd@ding@213}{\textrightarrow}%
2570 \@namedef{HyPsd@ding@214}{\textleftarrow}%
2571 \@namedef{HyPsd@ding@215}{\textupdownarrow}%
2572 \@namedef{HyPsd@ding@240}{\HyPsd@UnicodeReplacementCharacter}

```

## 7 Support of other packages

### 7.1 Class memoir

```

2573 \@ifclassloaded{memoir}{%
2574   \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}%
2575 }{}

```

### 7.2 Package subfigure

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

```

2576 \@ifpackageloaded{subfigure}{%
2577   \ltx@ifundefined{sub@label}{%
2578     \Hy@hypertextnamesfalse
2579   }{%
2580     \renewcommand*{\sub@label}[1]{%
2581       \@bsphack
2582       \subfig@oldlabel{#1}%
2583       \if@filesw
2584         \begingroup
2585         \edef\@currentlabstr{%
2586           \expandafter\strip@prefix\meaning\@currentlabelname
2587         }%
2588         \protected@write\@auxout{}{%
2589           \string\newlabel{sub@#1}{%
2590             {\@nameuse{\@thesub\@capttype}}%
2591             {\thepage}%
2592           }%
2593           \expandafter\strip@period\@currentlabstr
2594           \relax.\relax\@@@%
2595         }%

```

```

2596         {\@currentHref}%
2597     }%
2598 }%
2599 }%
2600 \endgroup
2601 \fi
2602 \@esphack
2603 }%
2604 \@ifpackagelater{subfigure}{2002/03/26}{\%
2605     \providecommand*\@toclevel@subfigure}{1}%
2606     \providecommand*\@toclevel@subtable}{1}%
2607 }%
2608 }%
2609 }{}

```

### 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:

```

2610 \ltx@ifundefined{XR@addURL}{\%
2611 }{\%

```

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.

```

2612 \def\xr@addURL#1{\xr@dURL#1{}{}{}\\}%
2613 \def\xr@dURL#1#2#3#4#5\\{\%
2614   {#1}{#2}%
2615   \if!#4!%
2616   \else
2617     {#3}{#4}{\xr@URL}%
2618   \fi
2619 }%
2620 }

2621 \def\Hy@true{true}
2622 \def\Hy@false{false}

```

Providing dummy definitions.

```

2623 \let\literalps@out\@gobble
2624 \newcommand\pdfbookmark[3]{}
2625 \def\Acrobatmenu#1#2{\leavevmode#2}
2626 \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



```

2627 \let\HyperRaiseLinkHook\@empty
2628 \def\HyperRaiseLinkDefault{\baselineskip}
\HyperRaiseLinkHook allows the user to reassign \HyperRaiseLinkLength.

```

```

2629 \newcount\Hy@SavedSpaceFactor
2630 \def\Hy@SaveSpaceFactor{%
2631   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2632 }
2633 \def\Hy@RestoreSpaceFactor{%
2634   \relax
2635   \ifhmode
2636     \ifnum\Hy@SavedSpaceFactor>\z@
2637       \spacefactor=\Hy@SavedSpaceFactor
2638     \fi
2639   \fi
2640 }
2641 \def\Hy@SaveSavedSpaceFactor{%
2642   \edef\Hy@RestoreSavedSpaceFactor{%
2643     \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2644   }%
2645 }
2646 \def\Hy@raisedlink#1{%
2647   \ifvmode
2648     #1%
2649   \else
2650     \Hy@SaveSpaceFactor
2651     \penalty\@M
2652     \smash{%
2653       \begingroup
2654         \let\HyperRaiseLinkLength\@tempdima
2655         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2656         \HyperRaiseLinkHook
2657       \expandafter\endgroup
2658       \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2659         \Hy@RestoreSpaceFactor
2660         #1%
2661         \Hy@SaveSpaceFactor
2662       }%
2663     }%
2664     \Hy@RestoreSpaceFactor
2665   \fi
2666 }

```

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

```

2667 \def\Hy@SaveLastskip{%
2668   \let\Hy@RestoreLastskip\relax
2669   \ifvmode
2670     \ifdim\lastskip=\z@
2671       \let\Hy@RestoreLastskip\nobreak
2672     \else
2673       \begingroup
2674         \skip@=-\lastskip
2675       \edef\x{%
2676         \endgroup
2677         \def\noexpand\Hy@RestoreLastskip{%
2678           \noexpand\ifvmode
2679             \noexpand\nobreak
2680             \vskip\the\skip@

```

```

2681         \vskip\the\lastskip\relax
2682         \noexpand\fi
2683     }%
2684 }%
2685 \x
2686 \fi
2687 \else
2688 \ifhmode
2689 \ifdim\lastskip=\z@
2690 \let\Hy@RestoreLastskip\nobreak
2691 \else
2692 \begingroup
2693 \skip@=-\lastskip
2694 \edef\x{%
2695 \endgroup
2696 \def\noexpand\Hy@RestoreLastskip{%
2697 \noexpand\ifhmode
2698 \noexpand\nobreak
2699 \hskip\the\skip@
2700 \hskip\the\lastskip\relax
2701 \noexpand\fi
2702 }%
2703 }%
2704 \x
2705 \fi
2706 \fi
2707 \fi
2708 }%

```

## 9 Options

```

2709 \SetupKeyvalOptions{%
2710 family=Hyp,%
2711 prefix=HyOpt%
2712 }

```

### 9.1 Help macros

`\IfHyperBooleanExists`

```

2713 \def\IfHyperBooleanExists#1{%
2714 \ltx@ifundefined{Hy@#1false}\ltx@secondoftwo{%
2715 \ltx@ifundefined{KV@Hyp@#1@default}\ltx@secondoftwo\ltx@firstoftwo
2716 }%
2717 }

2718 \@namedef{KV@Hyp@stoppearly@default}{\}

```

`\IfHyperBoolean`

```

2719 \def\IfHyperBoolean#1{%
2720 \IfHyperBooleanExists{#1}{%
2721 \csname ifHy@#1\endcsname
2722 \expandafter\ltx@firstoftwo
2723 \else
2724 \expandafter\ltx@secondoftwo
2725 \fi
2726 }\ltx@secondoftwo
2727 }

```

\Hy@boolkey

```
2728 \def\Hy@boolkey#1#2{%
2729   \edef\Hy@tempa{#2}%
2730   \lowercase\expandafter{%
2731     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2732   }%
2733   \ifx\Hy@tempa\@empty
2734     \let\Hy@tempa\Hy@true
2735   \fi
2736   \ifx\Hy@tempa\Hy@true
2737   \else
2738     \ifx\Hy@tempa\Hy@false
2739     \else
2740       \let\Hy@tempa\relax
2741     \fi
2742   \fi
2743   \ifx\Hy@tempa\relax
2744     \Hy@WarnOptionValue{#2}{#1}{‘true’ or ‘false’}%
2745   \else
2746     \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2747     \csname Hy@#1\Hy@tempa\endcsname
2748   \fi
2749 }
```

\Hy@WarnOptionValue

```
2750 \def\Hy@WarnOptionValue#1#2#3{%
2751   \Hy@Warning{%
2752     Unexpected value ‘#1’\MessageBreak
2753     of option ‘#2’ instead of\MessageBreak
2754     #3%
2755   }%
2756 }
```

\Hy@DisableOption

```
2757 \def\Hy@DisableOption#1{%
2758   \ltx@ifundefined{KV@Hyp@#1@default}{%
2759     \define@key{Hyp}{#1}%
2760   }{%
2761     \define@key{Hyp}{#1}[]%
2762   }%
2763   {\Hy@WarnOptionDisabled{#1}}%
2764 }
```

\Hy@WarnOptionDisabled

```
2765 \def\Hy@WarnOptionDisabled#1{%
2766   \Hy@Warning{%
2767     Option ‘#1’ has already been used,\MessageBreak
2768     setting the option has no effect%
2769   }%
2770 }
```

\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.

```
2771 \def\Hy@CheckOptionValue#1#2#3{%
2772   \begingroup
2773   \edef\x{#1}%
```

```

2774 \@onelevel@sanitize\x
2775 \let\y=y%
2776 \def\do##1##2{%
2777   \def\z{##1}%
2778   \@onelevel@sanitize\z
2779   \ifx\x\z
2780     \let\y=n%
2781     \let\do\@gobbletwo
2782   \fi
2783 }%
2784 #3%
2785 \ifx\y y%
2786   \def\do##1##2{%
2787     * '##1'%
2788     \ifx\\##2\\\else\space(##2)\fi
2789     \MessageBreak
2790   }%
2791   \Hy@Warning{%
2792     Values of option '#2':\MessageBreak
2793     #3%
2794     * An empty value disables the option.\MessageBreak
2795     Unknown value '\x'%
2796   }%
2797 \fi
2798 \endgroup
2799 }

```

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

```

2800 \def\Hy@DefNameKey#1{%
2801   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2802 }

```

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

```

2803 \def\Hy@@DefNameKey#1#2#3{%
2804   \define@key{Hyp}{#2}{%
2805     \edef#1{##1}%
2806     \ifx#1\@empty
2807       \else
2808         \Hy@CheckOptionValue{##1}{#2}{#3}%
2809       \fi
2810     }%
2811   \let#1\@empty
2812 }

```

\Hy@UseNameKey

```

2813 \def\Hy@UseNameKey#1#2{%
2814   \ifx#2\@empty
2815     \else
2816       /#1/#2%
2817     \fi
2818 }

```

## 9.2 Defining the options

```

2819 \define@key{Hyp}{implicit}[true]{%
2820   \Hy@boolkey{implicit}{#1}%
2821 }
2822 \define@key{Hyp}{draft}[true]{%
2823   \Hy@boolkey{draft}{#1}%
2824 }
2825 \define@key{Hyp}{final}[true]{%
2826   \Hy@boolkey{final}{#1}%
2827 }
2828 \let\KV@Hyp@nolinks\KV@Hyp@draft

2829 \def\Hy@ObsoletePaperOption#1{%
2830   \Hy@WarningNoLine{%
2831     Option ‘#1’ is no longer used%
2832   }%
2833   \define@key{Hyp}{#1}[true]{}%
2834 }
2835 \def\Hy@temp#1{%
2836   \define@key{Hyp}{#1}[true]{%
2837     \Hy@ObsoletePaperOption{#1}%
2838   }%
2839 }
2840 \Hy@temp{a4paper}
2841 \Hy@temp{a5paper}
2842 \Hy@temp{b5paper}
2843 \Hy@temp{letterpaper}
2844 \Hy@temp{legalpaper}
2845 \Hy@temp{executivepaper}

2846 \define@key{Hyp}{setpagesize}[true]{%
2847   \Hy@boolkey{setpagesize}{#1}%
2848 }
2849 \define@key{Hyp}{debug}[true]{%
2850   \Hy@boolkey{debug}{#1}%
2851 }
2852 \define@key{Hyp}{linktocpage}[true]{%
2853   \Hy@boolkey{linktocpage}{#1}%
2854   \ifHy@linktocpage
2855     \let\Hy@linktoc\Hy@linktoc@page
2856   \else
2857     \let\Hy@linktoc\Hy@linktoc@section
2858   \fi
2859 }
2860 \chardef\Hy@linktoc@none=0 %
2861 \chardef\Hy@linktoc@section=1 %
2862 \chardef\Hy@linktoc@page=2 %
2863 \chardef\Hy@linktoc@all=3 %
2864 \ifHy@linktocpage
2865   \let\Hy@linktoc\Hy@linktoc@page
2866 \else
2867   \let\Hy@linktoc\Hy@linktoc@section
2868 \fi
2869 \define@key{Hyp}{linktoc}{%
2870   \@ifundefined{Hy@linktoc@#1}{%
2871     \Hy@Warning{%
2872       Unexpected value ‘#1’ of\MessageBreak
2873       option ‘linktoc’ instead of ‘none’,\MessageBreak

```

```

2874     'section', 'page' or 'all'%
2875   }%
2876 }{%
2877   \expandafter\let\expandafter\Hy@linktoc
2878   \csname Hy@linktoc@#1\endcsname
2879 }%
2880 }
2881 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2882 \let\XR@ext\relax
2883 \define@key{Hyp}{verbose}[true]{%
2884   \Hy@boolkey{verbose}{#1}%
2885 }
2886 \define@key{Hyp}{typexml}[true]{%
2887   \Hy@boolkey{typexml}{#1}%
2888 }

```

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.

```

2889 \define@key{Hyp}{raiselinks}[true]{%
2890   \Hy@boolkey{raiselinks}{#1}%
2891 }

```

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

```

2892 \def\Hy@setbreaklinks#1{%
2893   \csname breaklinks#1\endcsname
2894 }
2895 \def\Hy@breaklinks@unsupported{%
2896   \ifx\Hy@setbreaklinks@gobble
2897     \ifHy@breaklinks
2898       \Hy@WarningNoLine{%
2899         You have enabled option 'breaklinks'.\MessageBreak
2900         But driver '\Hy@driver.def' does not support this.\MessageBreak
2901         Expect trouble with the link areas of broken links%
2902       }%
2903     \fi
2904   \fi
2905 }
2906 \define@key{Hyp}{breaklinks}[true]{%
2907   \Hy@boolkey{breaklinks}{#1}%
2908   \let\Hy@setbreaklinks@gobble
2909 }
2910 \define@key{Hyp}{localanchorname}[true]{%
2911   \Hy@boolkey{localanchorname}{#1}%
2912 }

```

Determines whether an automatic anchor is put on each page

```

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

```

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.

```

2916 \define@key{Hyp}{plainpages}[true]{%
2917   \Hy@boolkey{plainpages}{#1}%
2918 }

```

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?

```
2919 \define@key{Hyp}{naturalnames}[true]{%
2920   \Hy@boolkey{naturalnames}{#1}%
2921 }
```

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

```
2922 \define@key{Hyp}{hypertextnames}[true]{%
2923   \Hy@boolkey{hypertextnames}{#1}%
2924 }
```

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

```
2925 \define@key{Hyp}{nesting}[true]{%
2926   \Hy@boolkey{nesting}{#1}%
2927 }
```

```
2928 \define@key{Hyp}{destlabel}[true]{%
2929   \Hy@boolkey{destlabel}{#1}%
2930 }
```

```
2931 \define@key{Hyp}{unicode}[true]{%
2932   \Hy@boolkey{unicode}{#1}%
2933   \ifHy@unicode
2934     \def\HyPsd@pdfencoding{unicode}%
2935     \HyPsd@LoadUnicode
2936   \else
2937     \def\HyPsd@pdfencoding{pdfdoc}%
2938   \fi
2939 }
```

```
2940 \Hy@AtBeginDocument{%
2941   \ifx\HyPsd@LoadUnicode\relax
2942   \else
2943     \def\HyPsd@LoadUnicode{%
2944       \Hy@Error{%
2945         Unicode support for bookmarks is not available.\MessageBreak
2946         Activate unicode support by using one of the options\MessageBreak
2947         'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2948         in the preamble%
2949       }\@ehc
2950       \global\let\HyPsd@LoadUnicode\relax
2951       \global\Hy@unicodetrue
2952       \global\let\Hy@unicodetrue\Hy@unicodetrue
2953     }%
2954   \fi
2955 }
```

```
2956 \define@key{Hyp}{pdfencoding}{%
2957   \edef\HyPsd@temp{#1}%
2958   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2959     \let\HyPsd@pdfencoding\HyPsd@temp
2960     \Hy@unicodetrue
2961   \else
2962     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2963       \z@
2964     \else
2965       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2966         \z@
2967       \else
```

```

2968         \@ne
2969     \fi
2970 \fi
2971 \let\HyPsd@pdfencoding\HyPsd@temp
2972 \hypersetup{unicode}%
2973 \ifHy@unicode
2974     \def\HyPsd@pdfencoding{#1}%
2975     \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2976         \HyPsd@LoadStringEnc
2977     \fi
2978 \else
2979     \Hy@Warning{Cannot switch to unicode bookmarks}%
2980     \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2981 \fi
2982 \else
2983     \@onelevel@sanitize\HyPsd@temp
2984     \Hy@Warning{%
2985         Values of option 'pdfencoding':\MessageBreak
2986         'pdfdoc', 'unicode', 'auto'.\MessageBreak
2987         Ignoring unknown value '\HyPsd@temp'%
2988     }%
2989 \fi
2990 \fi
2991 }
2992 \def\HyPsd@pdfencoding@auto{auto}
2993 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2994 \def\HyPsd@pdfencoding@unicode{unicode}
2995 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2996 \def\HyPsd@LoadStringEnc{%
2997     \RequirePackage{stringenc}[2009/12/15]%
2998     \let\HyPsd@LoadStringEnc\relax
2999 }
3000 \Hy@AtBeginDocument{%
3001     \@ifpackageloaded{stringenc}{%
3002         \let\HyPsd@LoadStringEnc\relax
3003     }{%
3004         \def\HyPsd@LoadStringEnc{%
3005             \Hy@WarningNoLine{%
3006                 Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
3007                 in the preamble or load the package there%
3008             }%
3009         }%
3010     }%
3011 }
3012 \define@key{Hyp}{psdextra}[true]{%
3013     \Hy@boolkey{psdextra}{#1}%
3014     \HyPsd@LoadExtra
3015 }
3016 \def\hypersetup{\kvsetkeys{Hyp}}
3017 \newif\ifHy@setpdfversion
3018 \define@key{Hyp}{pdfversion}{%
3019     \@ifundefined{Hy@pdfversion@#1}{%
3020         \PackageWarning{hyperref}{%
3021             Unsupported PDF version '#1'.\MessageBreak
3022             Valid values: 1.2 until 1.9%
3023         }%

```



```

3024 }{%
3025   \Hy@setpdfversiontrue
3026   \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
3027 }%
3028 }
3029 \@namedef{Hy@pdfversion@1.2}{2}%
3030 \@namedef{Hy@pdfversion@1.3}{3}%
3031 \@namedef{Hy@pdfversion@1.4}{4}%
3032 \@namedef{Hy@pdfversion@1.5}{5}%
3033 \@namedef{Hy@pdfversion@1.6}{6}%
3034 \@namedef{Hy@pdfversion@1.7}{7}%
3035 \@namedef{Hy@pdfversion@1.8}{8}%
3036 \@namedef{Hy@pdfversion@1.9}{9}%
3037 \def\Hy@pdfversion{2}

```

## 10 Options for different drivers

```

3038 \newif\ifHy@DviMode
3039 \let\Hy@DviErrMsg\ltx@empty
3040 \ifpdf
3041   \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
3042 \else
3043   \ifxetex
3044     \def\Hy@DviErrMsg{XeTeX is running}%
3045   \else
3046     \ifvtex
3047       \ifvtexdvi
3048         \Hy@DviModetrue
3049       \else
3050         \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
3051       \fi
3052     \else
3053       \Hy@DviModetrue
3054     \fi
3055   \fi
3056 \fi
3057 \def\HyOpt@CheckDvi#1{%
3058   \ifHy@DviMode
3059     \expandafter\ltx@firstofone
3060   \else
3061     \Hy@Error{%
3062       Wrong DVI mode driver option ‘#1’,\MessageBreak
3063       because \Hy@DviErrMsg
3064     }\@ehc
3065     \expandafter\ltx@gobble
3066   \fi
3067 }
3068 \DeclareVoidOption{tex4ht}{%
3069   \Hy@texhttrue
3070   \kvsetkeys{Hyp}{colorlinks=true}%
3071   \def\BeforeTeXIVht{\RequirePackage{color}}%
3072   \def\Hy@driver{htex4ht}%
3073   \def\MaybeStopEarly{%
3074     \Hy@Message{Stopped early}}%
3075   \Hy@AtBeginDocument{%
3076     \PDF@FinishDoc
3077     \gdef\PDF@FinishDoc{}}%

```

```

3078 }%
3079 \endinput
3080 }%
3081 }
3082 \DeclareVoidOption{pdftex}{%
3083   \ifpdf
3084     \def\Hy@driver{hpdftex}%
3085   \else
3086     \Hy@Error{%
3087       Wrong driver option 'pdftex',\MessageBreak
3088       because pdfTeX in PDF mode is not detected%
3089     }\@ehc
3090   \fi
3091 }
3092 \DeclareVoidOption{nativepdf}{%
3093   \HyOpt@CheckDvi{nativepdf}{%
3094     \def\Hy@driver{hdvips}%
3095   }%
3096 }
3097 \DeclareVoidOption{dvipdfm}{%
3098   \HyOpt@CheckDvi{dvipdfm}{%
3099     \def\Hy@driver{hdvipdfm}%
3100   }%
3101 }
3102 \DeclareVoidOption{dvipdfmx}{%
3103   \HyOpt@CheckDvi{dvipdfmx}{%
3104     \def\Hy@driver{hdvipdfm}%
3105   }%
3106 }
3107 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
3108   \expandafter\ifx\csname if#1\expandafter\endcsname
3109     \csname iftrue\endcsname
3110   \chardef\SpecialDvipdfmxOutlineOpen\@ne
3111   \else
3112     \chardef\SpecialDvipdfmxOutlineOpen\z@
3113   \fi
3114 }
3115 \DeclareVoidOption{xetex}{%
3116   \ifxetex
3117     \def\Hy@driver{hxetex}%
3118   \else
3119     \Hy@Error{%
3120       Wrong driver option 'xetex',\MessageBreak
3121       because XeTeX is not detected%
3122     }\@ehc
3123   \fi
3124 }
3125 \DeclareVoidOption{pdfmark}{%
3126   \HyOpt@CheckDvi{pdfmark}{%
3127     \def\Hy@driver{hdvips}%
3128   }%
3129 }
3130 \DeclareVoidOption{dvips}{%
3131   \HyOpt@CheckDvi{dvips}{%
3132     \def\Hy@driver{hdvips}%
3133   }%
3134 }

```

```

3135 \DeclareVoidOption{hypertex}{%
3136   \HyOpt@CheckDvi{hypertex}{%
3137     \def\Hy@driver{hypertex}%
3138   }%
3139 }
3140 \let\Hy@MaybeStopNow\relax
3141 \DeclareVoidOption{vtex}{%
3142   \ifvtex
3143     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
3144     \def\Hy@driver{hvtex}%
3145   \else
3146     \ifnum\OpMode=10\relax
3147       \def\Hy@driver{hvtexhtm}%
3148       \def\MaybeStopEarly{%
3149         \Hy@Message{Stopped early}%
3150         \Hy@AtBeginDocument{%
3151           \PDF@FinishDoc
3152           \gdef\PDF@FinishDoc{}}%
3153       }%
3154       \endinput
3155     }%
3156   \else
3157     \Hy@Error{%
3158       Wrong driver option 'vtex',\MessageBreak
3159       because of wrong OpMode (\the\OpMode)%
3160     }\@ehc
3161   \fi
3162 }
3163 \else
3164   \Hy@Error{%
3165     Wrong driver option 'vtex',\MessageBreak
3166     because VTeX is not running%
3167   }\@ehc
3168 }
3169 }
3170 \DeclareVoidOption{vtexpdfmark}{%
3171   \ifvtex
3172     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
3173     \def\Hy@driver{hvtexmrk}%
3174   \else
3175     \Hy@Error{%
3176       Wrong driver option 'vtexpdfmark',\MessageBreak
3177       because of wrong OpMode (\the\OpMode)%
3178     }\@ehc
3179   \fi
3180 \else
3181   \Hy@Error{%
3182     Wrong driver option 'vtexpdfmark',\MessageBreak
3183     because VTeX is not running%
3184   }\@ehc
3185 }
3186 }
3187 \DeclareVoidOption{dviwindo}{%
3188   \HyOpt@CheckDvi{dviwindo}{%
3189     \def\Hy@driver{hdviwind}%
3190     \kvsetkeys{Hyp}{colorlinks}%
3191     \PassOptionsToPackage{dviwindo}{color}%

```

```

3192 }%
3193 }
3194 \DeclareVoidOption{dvipsone}{%
3195   \HyOpt@CheckDvi{dvipsone}{%
3196     \def\Hy@driver{hdvipson}%
3197   }%
3198 }
3199 \DeclareVoidOption{textures}{%
3200   \HyOpt@CheckDvi{textures}{%
3201     \def\Hy@driver{htexture}%
3202   }%
3203 }
3204 \DeclareVoidOption{latex2html}{%
3205   \HyOpt@CheckDvi{latex2html}{%
3206     \Hy@AtBeginDocument{\@@@latextohtmlX}%
3207   }%
3208 }

```

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

```

3209 \DeclareVoidOption{ps2pdf}{%
3210   \HyOpt@CheckDvi{ps2pdf}{%
3211     \def\Hy@driver{hdvips}%
3212   }%
3213 }
3214 \let\HyOpt@DriverFallback\ltx@empty
3215 \define@key{Hyp}{driverfallback}{%
3216   \ifHy@DviMode
3217     \def\HyOpt@DriverFallback{#1}%
3218     \Hy@Match\HyOpt@DriverFallback{%
3219       ~(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
3220       latex2html|tex4ht)$%
3221     }{}%
3222     \let\HyOpt@DriverFallback\ltx@empty
3223   }%
3224 \fi
3225 }

```

## 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.

```

3226 \define@key{Hyp}{hyperfigures}[true]{%
3227   \Hy@boolkey{hyperfigures}{#1}%
3228 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

3229 \define@key{Hyp}{hyperfootnotes}[true]{%
3230   \Hy@boolkey{hyperfootnotes}{#1}%
3231 }

```

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

```

3232 \def\back@none{none}
3233 \def\back@section{section}
3234 \def\back@page{page}
3235 \def\back@slide{slide}
3236 \define@key{Hyp}{backref}[section]{%
3237   \lowercase{\def\Hy@tempa{#1}}%
3238   \ifx\Hy@tempa\@empty

```

```

3239 \let\Hy@tempa\back@section
3240 \fi
3241 \ifx\Hy@tempa\Hy@false
3242 \let\Hy@tempa\back@none
3243 \fi
3244 \ifx\Hy@tempa\back@slide
3245 \let\Hy@tempa\back@section
3246 \fi
3247 \ifx\Hy@tempa\back@page
3248 \PassOptionsToPackage{hyperpageref}{backref}%
3249 \Hy@backreftrue
3250 \else
3251 \ifx\Hy@tempa\back@section
3252 \PassOptionsToPackage{hyperref}{backref}%
3253 \Hy@backreftrue
3254 \else
3255 \ifx\Hy@tempa\back@none
3256 \Hy@backreffalse
3257 \else
3258 \Hy@WarnOptionValue{#1}{backref}{%
3259 'section', 'slide', 'page', 'none',\MessageBreak
3260 or 'false'}%
3261 \fi
3262 \fi
3263 \fi
3264 }
3265 \define@key{Hyp}{pagebackref}[true]{%
3266 \edef\Hy@tempa{#1}%
3267 \lowercase\expandafter{%
3268 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
3269 }%
3270 \ifx\Hy@tempa\@empty
3271 \let\Hy@tempa\Hy@true
3272 \fi
3273 \ifx\Hy@tempa\Hy@true
3274 \PassOptionsToPackage{hyperpageref}{backref}%
3275 \Hy@backreftrue
3276 \else
3277 \ifx\Hy@tempa\Hy@false
3278 \Hy@backreffalse
3279 \else
3280 \Hy@WarnOptionValue{#1}{pagebackref}{'true' or 'false'}%
3281 \fi
3282 \fi
3283 }

```

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

```

3284 \define@key{Hyp}{hyperindex}[true]{%
3285 \Hy@boolkey{hyperindex}{#1}%
3286 }

```

Configuration of encap char.

```

3287 \define@key{Hyp}{encap}[\\]{%
3288 \def\HyInd@EncapChar{#1}%
3289 }

```

## 12 Language options

The `\autoref` feature depends on the language.

```
3290 \def\HyLang@afrikaans{%
3291   \def\equationautorefname{Vergelyking}%
3292   \def\footnoteautorefname{Voetnota}%
3293   \def\itemautorefname{Item}%
3294   \def\figureautorefname{Figuur}%
3295   \def\tableautorefname{Tabel}%
3296   \def\partautorefname{Deel}%
3297   \def\appendixautorefname{Bylae}%
3298   \def\chapterautorefname{Hoofstuk}%
3299   \def\sectionautorefname{Afdeling}%
3300   \def\subsectionautorefname{Subafdeling}%
3301   \def\subsubsectionautorefname{Subsubafdeling}%
3302   \def\paragraphautorefname{Paragraaf}%
3303   \def\subparagraphautorefname{Subparagraaf}%
3304   \def\FancyVerbLineautorefname{Lyn}%
3305   \def\theoremautorefname{Teorema}%
3306   \def\pageautorefname{Bladsy}%
3307 }
3308 \def\HyLang@english{%
3309   \def\equationautorefname{Equation}%
3310   \def\footnoteautorefname{footnote}%
3311   \def\itemautorefname{item}%
3312   \def\figureautorefname{Figure}%
3313   \def\tableautorefname{Table}%
3314   \def\partautorefname{Part}%
3315   \def\appendixautorefname{Appendix}%
3316   \def\chapterautorefname{chapter}%
3317   \def\sectionautorefname{section}%
3318   \def\subsectionautorefname{subsection}%
3319   \def\subsubsectionautorefname{subsubsection}%
3320   \def\paragraphautorefname{paragraph}%
3321   \def\subparagraphautorefname{subparagraph}%
3322   \def\FancyVerbLineautorefname{line}%
3323   \def\theoremautorefname{Theorem}%
3324   \def\pageautorefname{page}%
3325 }
3326 \def\HyLang@french{%
3327   \def\equationautorefname{'Equation}%
3328   \def\footnoteautorefname{note}%
3329   \def\itemautorefname{item}%
3330   \def\figureautorefname{Figure}%
3331   \def\tableautorefname{Tableau}%
3332   \def\partautorefname{Partie}%
3333   \def\appendixautorefname{Appendice}%
3334   \def\chapterautorefname{chapitre}%
3335   \def\sectionautorefname{section}%
3336   \def\subsectionautorefname{sous-section}%
3337   \def\subsubsectionautorefname{sous-sous-section}%
3338   \def\paragraphautorefname{paragraphe}%
3339   \def\subparagraphautorefname{sous-paragraphe}%
3340   \def\FancyVerbLineautorefname{ligne}%
3341   \def\theoremautorefname{Th'eor'eme}%
3342   \def\pageautorefname{page}%
3343 }
```

```

3344 \def\HyLang@german{%
3345   \def\equationautorefname{Gleichung}%
3346   \def\footnoteautorefname{Fu\ss note}%
3347   \def\itemautorefname{Punkt}%
3348   \def\figureautorefname{Abbildung}%
3349   \def\tableautorefname{Tabelle}%
3350   \def\partautorefname{Teil}%
3351   \def\appendixautorefname{Anhang}%
3352   \def\chapterautorefname{Kapitel}%
3353   \def\sectionautorefname{Abschnitt}%
3354   \def\subsectionautorefname{Unterabschnitt}%
3355   \def\subsubsectionautorefname{Unterunterabschnitt}%
3356   \def\paragraphautorefname{Absatz}%
3357   \def\subparagraphautorefname{Unterabsatz}%
3358   \def\FancyVerbLineautorefname{Zeile}%
3359   \def\theoremautorefname{Theorem}%
3360   \def\pageautorefname{Seite}%
3361 }
3362 \def\HyLang@italian{%
3363   \def\equationautorefname{Equazione}%
3364   \def\footnoteautorefname{nota}%
3365   \def\itemautorefname{punto}%
3366   \def\figureautorefname{Figura}%
3367   \def\tableautorefname{Tabella}%
3368   \def\partautorefname{Parte}%
3369   \def\appendixautorefname{Appendice}%
3370   \def\chapterautorefname{Capitolo}%
3371   \def\sectionautorefname{sezione}%
3372   \def\subsectionautorefname{sottosezione}%
3373   \def\subsubsectionautorefname{sottosottosezione}%
3374   \def\paragraphautorefname{paragrafo}%
3375   \def\subparagraphautorefname{sottoparagrafo}%
3376   \def\FancyVerbLineautorefname{linea}%
3377   \def\theoremautorefname{Teorema}%
3378   \def\pageautorefname{Pag.\@}%
3379 }
3380 \def\HyLang@magyar{%
3381   \def\equationautorefname{Egyenlet}%
3382   \def\footnoteautorefname{l'abjegyzet}%
3383   \def\itemautorefname{Elem}%
3384   \def\figureautorefname{'Abra}%
3385   \def\tableautorefname{T'abl'azat}%
3386   \def\partautorefname{R'esz}%
3387   \def\appendixautorefname{F'uggel'ek}%
3388   \def\chapterautorefname{fejezet}%
3389   \def\sectionautorefname{szakasz}%
3390   \def\subsectionautorefname{alszakasz}%
3391   \def\subsubsectionautorefname{alalszakasz}%
3392   \def\paragraphautorefname{bekezd'es}%
3393   \def\subparagraphautorefname{albekezd'es}%
3394   \def\FancyVerbLineautorefname{sor}%
3395   \def\theoremautorefname{T'etel}%
3396   \def\pageautorefname{oldal}%
3397 }
3398 \def\HyLang@portuges{%
3399   \def\equationautorefname{Equa\c c\~ao}%
3400   \def\footnoteautorefname{Nota de rodap'e}%

```

```

3401 \def\itemautorefname{Item}%
3402 \def\figureautorefname{Figura}%
3403 \def\tableautorefname{Tabela}%
3404 \def\partautorefname{Parte}%
3405 \def\appendixautorefname{Ap\^endice}%
3406 \def\chapterautorefname{Cap\itulo}%
3407 \def\sectionautorefname{Se\c c\~ao}%
3408 \def\subsectionautorefname{Subse\c c\~ao}%
3409 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3410 \def\paragraphautorefname{par\agrafo}%
3411 \def\subparagraphautorefname{subpar\agrafo}%
3412 \def\FancyVerbLineautorefname{linha}%
3413 \def\theoremautorefname{Teorema}%
3414 \def\pageautorefname{P\agina}%
3415 }

```

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`.

```

3416 \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`?

```

3417 \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`.

```

3418 % \def\equationautorefname{%
3419 %   \cyr\cyrv\cyrry\cyrr\cyra\cyrzh\cyre\cyrn\cyri\cyre
3420 % }%

```

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

```

3421 \def\footnoteautorefname{%
3422   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
3423 }%

```

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}`”

```

3424 % \def\footnoteautorefname{%
3425 %   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %
3426 %   \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre
3427 % }%

```

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

```

3428 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
3429 % \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.

```
3430 \def\itemautorefname{\cyr\cyrp.}%
3431 % \def\itemautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%

```

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

```
3432 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
3433 \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.

```
3434 \def\partautorefname{\cyr\cyrch.}%
3435 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
3436 \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.

```
3437 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
3438 % \def\appendixautorefname{%
3439 % \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrrh\cyre\cyrn\cyri\cyre
3440 % }%

```

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.

```
3441 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
3442 \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.

```
3443 \def\paragraphautorefname{\cyr\cyrp.}%
3444 \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.

```
3445 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
3446 % \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.

```
3447 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%

```

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

```
3448 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
3449 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%

```

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

```
3450 % \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 ...

```
3451 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
3452 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
```

```
3453 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
3454 \def\pageautorefname{\cyr\cyr.}%
```

```
3455 }
```

```
3456 \def\HyLang@spanish{%
```

```
3457 \def\equationautorefname{Ecuaci'on}%
```

```
3458 \def\footnoteautorefname{Nota a pie de p'agina}%
```

```
3459 \def\itemautorefname{Elemento}%
```

```
3460 \def\figureautorefname{Figura}%
```

```
3461 \def\tableautorefname{Tabla}%
```

```
3462 \def\partautorefname{Parte}%
```

```
3463 \def\appendixautorefname{Ap'endice}%
```

```
3464 \def\chapterautorefname{Cap'itulo}%
```

```
3465 \def\sectionautorefname{Secci'on}%
```

```
3466 \def\subsectionautorefname{Subsecci'on}%
```

```
3467 \def\subsubsectionautorefname{Subsubsecci'on}%
```

```
3468 \def\paragraphautorefname{P'arrafo}%
```

```
3469 \def\subparagraphautorefname{Subp'arrafo}%
```

```
3470 \def\FancyVerbLineautorefname{L'inea}%
```

```
3471 \def\theoremautorefname{Teorema}%
```

```
3472 \def\pageautorefname{P'agina}%
```

```
3473 }
```

```
3474 \def\HyLang@vietnamese{%
```

```
3475 \def\equationautorefname{Ph\uhorn{}}\ohorn{}ng tr'inh}%
```

```
3476 \def\footnoteautorefname{Ch'u th'ich}%
```

```
3477 \def\itemautorefname{m\du{c}}%
```

```
3478 \def\figureautorefname{H'inh}%
```

```
3479 \def\tableautorefname{B\h{a}ng}%
```

```
3480 \def\partautorefname{Ph'\acircumflex{n}}%
```

```
3481 \def\appendixautorefname{Ph\du{l}\du{c}}%
```

```
3482 \def\chapterautorefname{ch\uhorn{}}\ohorn{}ng}%
```

```
3483 \def\sectionautorefname{m\du{c}}%
```

```
3484 \def\subsectionautorefname{m\du{c}}%
```

```
3485 \def\subsubsectionautorefname{m\du{c}}%
```

```
3486 \def\paragraphautorefname{\dj{}}\o\da{n}}%
```

```
3487 \def\subparagraphautorefname{\dj{}}\o\da{n}}%
```

```
3488 \def\FancyVerbLineautorefname{d'ong}%
```

```
3489 \def\theoremautorefname{\DJ{}}\di{nh l'y}}%
```

```
3490 \def\pageautorefname{Trang}%
```

```
3491 }
```

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

```
3492 \def\HyLang@addto#1#2{%
```

```
3493 #2%
```

```
3494 \@temptokena{#2}%
```

```
3495 \ifx#1\relax
```

```
3496 \let#1\@empty
```

```
3497 \fi
```

```
3498 \ifx#1\@undefined
```

```

3499 \edef#1{\the\@temptokena}%
3500 \else
3501 \toks@\expandafter{#1}%
3502 \edef#1{\the\toks@\the\@temptokena}%
3503 \fi
3504 \@temptokena{}\toks@\@temptokena
3505 }

3506 \def\HyLang@DeclareLang#1#2#3{%
3507 \ifpackagewith{babel}{#1}{%
3508 \expandafter\HyLang@addto
3509 \csname extras#1\expandafter\endcsname
3510 \csname HyLang@#2\endcsname
3511 \begingroup
3512 \edef\x{\endgroup
3513 #3%
3514 }%
3515 \x
3516 \@namedef{HyLang@#1@done}{}%
3517 }{}%
3518 \begingroup
3519 \edef\x##1##2{%
3520 \noexpand\ifx##2\relax
3521 \errmessage{No definitions for language #2' found!}%
3522 \noexpand\fi
3523 \endgroup
3524 \noexpand\define@key{Hyp}{#1}[]{%
3525 \noexpand\ifundefined{HyLang@#1@done}{%
3526 \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3527 #3%
3528 \noexpand\@namedef{HyLang@#1@done}{}%
3529 }{}%
3530 }%
3531 }%
3532 \expandafter\x\csname extras#1\expandafter\endcsname
3533 \csname HyLang@#2\endcsname
3534 }

3535 \HyLang@DeclareLang{english}{english}{}
3536 \HyLang@DeclareLang{UKenglish}{english}{}
3537 \HyLang@DeclareLang{british}{english}{}
3538 \HyLang@DeclareLang{USenglish}{english}{}
3539 \HyLang@DeclareLang{american}{english}{}
3540 \HyLang@DeclareLang{german}{german}{}
3541 \HyLang@DeclareLang{austrian}{german}{}
3542 \HyLang@DeclareLang{ngerman}{german}{}
3543 \HyLang@DeclareLang{naustrian}{german}{}
3544 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3545 \HyLang@DeclareLang{brazil}{portuges}{}
3546 \HyLang@DeclareLang{brazilian}{portuges}{}
3547 \HyLang@DeclareLang{portuguese}{portuges}{}
3548 \HyLang@DeclareLang{spanish}{spanish}{}
3549 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3550 \HyLang@DeclareLang{french}{french}{}
3551 \HyLang@DeclareLang{frenchb}{french}{}
3552 \HyLang@DeclareLang{francais}{french}{}
3553 \HyLang@DeclareLang{acadian}{french}{}
3554 \HyLang@DeclareLang{canadien}{french}{}
3555 \HyLang@DeclareLang{italian}{italian}{}

```

```

3556 \HyLang@DeclareLang{magyar}{magyar}{}
3557 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

3558 \DeclareVoidOption{vietnamese}{%
3559   \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3560   \Hy@AtEndOfPackage{%
3561     \ifundefined{T@PU}{}%
3562     \input{puvnenc.def}%
3563   }%
3564 }%
3565 }
3566 \DeclareVoidOption{vietnam}{%
3567   \HyLang@addto\extravietnam\HyLang@vietnamese
3568   \Hy@AtEndOfPackage{%
3569     \ifundefined{T@PU}{}%
3570     \input{puvnenc.def}%
3571   }%
3572 }%
3573 }

```

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

```

3574 \DeclareVoidOption{arabic}{%
3575   \Hy@AtEndOfPackage{%
3576     \ifundefined{T@PU}{}%
3577     \input{puarenc.def}%
3578   }%
3579 }%
3580 }

```

## 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.

```

3581 \define@key{Hyp}{colorlinks}[true]{%
3582   \Hy@boolkey{colorlinks}{#1}%
3583 }
3584 \DeclareVoidOption{hidelinks}{%
3585   \Hy@colorlinksfalse
3586   \Hy@ocgcolorlinksfalse
3587   \Hy@frenchlinksfalse
3588   \def\Hy@colorlink##1{\begingroup}%
3589   \def\Hy@endcolorlink{\endgroup}%
3590   \def\@pdfborder{0 0 0}%
3591   \let\@pdfborderstyle\ltx@empty
3592 }
3593 \define@key{Hyp}{ocgcolorlinks}[true]{%
3594   \Hy@boolkey{ocgcolorlinks}{#1}%
3595 }
3596 \Hy@AtBeginDocument{%
3597   \begingroup
3598   \ifundefined{OBJ@OCG@view}{%
3599     \ifHy@ocgcolorlinks
3600     \Hy@Warning{%
3601       Driver does not support ‘ocgcolorlinks’,\MessageBreak
3602       using ‘colorlinks’ instead%
3603     }%
3604     \fi

```

```

3605   }{}%
3606   \endgroup
3607 }
3608 \define@key{Hyp}{frenchlinks}[true]{%
3609   \Hy@boolkey{frenchlinks}{#1}%
3610 }

```

## 14 Bookmarking

```

3611 \begingroup\expandafter\expandafter\expandafter\endgroup
3612 \expandafter\ifx\csname chapter\endcsname\relax
3613   \def\toclevel@part{0}%
3614   \else
3615     \def\toclevel@part{-1}%
3616   \fi
3617   \def\toclevel@chapter{0}
3618   \def\toclevel@section{1}
3619   \def\toclevel@subsection{2}
3620   \def\toclevel@subsubsection{3}
3621   \def\toclevel@paragraph{4}
3622   \def\toclevel@subparagraph{5}
3623   \def\toclevel@figure{0}
3624   \def\toclevel@table{0}
3625   \@ifpackageloaded{listings}{%
3626     \providecommand*\theHlstlisting{\thelstlisting}%
3627     \providecommand*\toclevel@lstlisting{0}%
3628   }{}
3629   \@ifpackageloaded{listing}{%
3630     \providecommand*\theHlisting{\thelisting}%
3631     \providecommand*\toclevel@listing{0}%
3632   }{}

3633 \define@key{Hyp}{bookmarks}[true]{%
3634   \Hy@boolkey{bookmarks}{#1}%
3635 }

3636 \define@key{Hyp}{bookmarksopen}[true]{%
3637   \Hy@boolkey{bookmarksopen}{#1}%
3638 }

```

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.

```

3639 \let\Hy@bookmarksdepth\c@tocdepth
3640 \define@key{Hyp}{bookmarksdepth}[]{}%
3641 \begingroup
3642   \edef\x{#1}%
3643   \ifx\x\empty
3644     \global\let\Hy@bookmarksdepth\c@tocdepth
3645   \else
3646     \@ifundefined{toclevel@\x}{}%

```

```

3647 \@onelevel@sanitize\x
3648 \edef\y{\expandafter\@car\x\@nil}%
3649 \ifcase 0\expandafter\ifx\y-1\fi
3650 \expandafter\ifnum\expandafter'\y>47 %
3651 \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
3652 \Hy@Warning{Unknown document division name (\x)}%
3653 \else
3654 \setbox\z@=\hbox{%
3655 \count@=\x
3656 \xdef\Hy@bookmarksdepth{\the\count@}%
3657 }%
3658 \fi
3659 }{%
3660 \setbox\z@=\hbox{%
3661 \count@=\csname toclevel@\x\endcsname
3662 \xdef\Hy@bookmarksdepth{\the\count@}%
3663 }%
3664 }%
3665 \fi
3666 \endgroup
3667 }

```

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

```

3668 \define@key{Hyp}{bookmarksopenlevel}{%
3669 \def\@bookmarksopenlevel{#1}%
3670 }
3671 \def\@bookmarksopenlevel{\maxdimen}
3672 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
3673 \define@key{Hyp}{bookmarkstype}{%
3674 \def\Hy@bookmarkstype{#1}%
3675 }
3676 \def\Hy@bookmarkstype{toc}

```

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

```

3677 \define@key{Hyp}{bookmarksnumbered}[true]{%
3678 \Hy@boolkey{bookmarksnumbered}{#1}%
3679 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3680 \define@key{Hyp}{CJKbookmarks}[true]{%
3681 \Hy@boolkey{CJKbookmarks}{#1}%
3682 }
3683 \def\Hy@temp#1{%
3684 \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3685 }
3686 \def\Hy@@temp#1#2#3{%
3687 \define@key{Hyp}{#2color}{%
3688 \HyColor@HyperrefColor{##1}#1%
3689 }%
3690 \def#1{#3}%
3691 }
3692 \Hy@temp{link}{red}
3693 \Hy@temp{anchor}{black}
3694 \Hy@temp{cite}{green}
3695 \Hy@temp{file}{cyan}
3696 \Hy@temp{url}{magenta}
3697 \Hy@temp{menu}{red}

```

```

3698 \Hy@temp{run}{\@filecolor}
3699 \define@key{Hyp}{pagecolor}{%
3700   \Hy@WarningPageColor
3701 }
3702 \def\Hy@WarningPageColor{%
3703   \Hy@WarningNoLine{Option 'pagecolor' is not available anymore}%
3704   \global\let\Hy@WarningPageColor\relax
3705 }
3706 \define@key{Hyp}{allcolors}{%
3707   \HyColor@HyperrefColor{#1}\@linkcolor
3708   \HyColor@HyperrefColor{#1}\@anchorcolor
3709   \HyColor@HyperrefColor{#1}\@citecolor
3710   \HyColor@HyperrefColor{#1}\@filecolor
3711   \HyColor@HyperrefColor{#1}\@urlcolor
3712   \HyColor@HyperrefColor{#1}\@menucolor
3713   \HyColor@HyperrefColor{#1}\@runcolor
3714 }
3715 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3716 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3717 \let\@baseurl\@empty
3718 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3719 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3720 \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.

```

3721 \let\@pdfpagetransition\relax
3722 \define@key{Hyp}{pdfpagetransition}{%
3723   \def\@pdfpagetransition{#1}%
3724 }

```

`\@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.

```

3725 \let\@pdfpageduration\relax
3726 \define@key{Hyp}{pdfpageduration}{%
3727   \def\@pdfpageduration{#1}%
3728   \Hy@Match\@pdfpageduration{%
3729     ^(|[0-9]+\.[0-9]*|[0-9]*\.[0-9]+)$%
3730   }{%
3731     \Hy@Warning{%
3732       Invalid value '\@pdfpageduration'\MessageBreak
3733       of option 'pdfpageduration'\MessageBreak
3734       is replaced by an empty value%
3735     }%
3736     \let\@pdfpageduration\ltx@empty
3737   }%
3738 }

```

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.

```

3739 \newif\ifHy@useHidKey
3740 \Hy@useHidKeyfalse
3741 \define@key{Hyp}{pdfpagehidden}[true]{%
3742   \Hy@boolkey{pdfpagehidden}{#1}%
3743   \ifHy@pdfpagehidden
3744     \global\Hy@useHidKeytrue
3745   \fi
3746 }

```

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).

```

3747 \def\Hy@ColorList{cite,file,link,menu,run,url}
3748 \@for\Hy@temp:=\Hy@ColorList\do{%
3749   \edef\Hy@temp{%
3750     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3751       \noexpand\HyColor@HyperrefBorderColor
3752       {##1}%
3753       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3754       {hyperref}%
3755       {\Hy@temp bordercolor}%
3756     }%
3757   }%
3758   \Hy@temp
3759 }
3760 \define@key{Hyp}{pagebordercolor}{%
3761   \Hy@WarningPageBorderColor
3762 }
3763 \def\Hy@WarningPageBorderColor{%
3764   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3765   \global\let\Hy@WarningPageBorderColor\relax
3766 }
3767 \define@key{Hyp}{allbordercolors}{%
3768   \def\Hy@temp##1##2{%
3769     \HyColor@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}%
3770   }%
3771   \Hy@temp\@citebordercolor{cite}%
3772   \Hy@temp\@filebordercolor{file}%
3773   \Hy@temp\@linkbordercolor{link}%
3774   \Hy@temp\@menubordercolor{menu}%
3775   \Hy@temp\@runbordercolor{run}%
3776   \Hy@temp\@urlbordercolor{url}%
3777 }
3778 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3779 \Hy@DefNameKey{pdfhighlight}{%
3780   \do{/I}{Invert}%
3781   \do{/N}{None}%
3782   \do{/O}{Outline}%
3783   \do{/P}{Push}%
3784 }
3785 \define@key{Hyp}{pdfborder}{%
3786   \let\Hy@temp\@pdfborder

```



```

3787 \def\@pdfborder{#1}%
3788 \Hy@Match\@pdfborder{%
3789   ~\HyPat@NonNegativeReal/ %
3790   \HyPat@NonNegativeReal/ %
3791   \HyPat@NonNegativeReal/%
3792   ( ?\[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*])?${}%
3793 }{}{%
3794   \Hy@Warning{%
3795     Invalid value '\@pdfborder'\MessageBreak
3796     for option 'pdfborder'\MessageBreak
3797     Option setting is ignored%
3798   }%
3799   \let\@pdfborder\Hy@temp
3800 }%
3801 }
3802 \define@key{Hyp}{pdfborderstyle}{%
3803   \let\Hy@temp\@pdfborderstyle
3804   \def\@pdfborderstyle{#1}%
3805   \Hy@Match\@pdfborderstyle{%
3806     ~%
3807     ( */Type */Border%
3808     | */W +\HyPat@NonNegativeReal/%
3809     | */S */[SDBIU]%
3810     | */D *\[ *(\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)?)?]%
3811     )* *$%
3812   }{}{%
3813     \Hy@Warning{%
3814       Invalid value '\@pdfborderstyle'\MessageBreak
3815       for option 'pdfborderstyle'\MessageBreak
3816       Option setting is ignored%
3817     }%
3818     \let\@pdfborderstyle\Hy@temp
3819   }%
3820 }
3821 \def\Hy@setpdfborder{%
3822   \ifx\@pdfborder\@empty
3823   \else
3824     /Border[\@pdfborder]%
3825   \fi
3826   \ifx\@pdfborderstyle\@empty
3827   \else
3828     /BS<<\@pdfborderstyle>>%
3829   \fi
3830 }
3831 \Hy@DefNameKey{pdfpagemode}{%
3832   \do{UseNone}{}%
3833   \do{UseOutlines}{}%
3834   \do{UseThumbs}{}%
3835   \do{FullScreen}{}%
3836   \do{UseOC}{PDF 1.5}%
3837   \do{UseAttachments}{PDF 1.6}%
3838 }
3839 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3840   \do{UseNone}{}%
3841   \do{UseOutlines}{}%
3842   \do{UseThumbs}{}%
3843   \do{FullScreen}{}%

```

```

3844 \do{UseOC}{PDF 1.5}%
3845 \do{UseAttachments}{PDF 1.6}%
3846 }
3847 \Hy@DefNameKey{pdfdirection}{%
3848 \do{L2R}{Left to right}%
3849 \do{R2L}{Right to left}%
3850 }
3851 \Hy@DefNameKey{pdfviewarea}{%
3852 \do{MediaBox}{}%
3853 \do{CropBox}{}%
3854 \do{BleedBox}{}%
3855 \do{TrimBox}{}%
3856 \do{ArtBox}{}%
3857 }
3858 \Hy@DefNameKey{pdfviewclip}{%
3859 \do{MediaBox}{}%
3860 \do{CropBox}{}%
3861 \do{BleedBox}{}%
3862 \do{TrimBox}{}%
3863 \do{ArtBox}{}%
3864 }
3865 \Hy@DefNameKey{pdfprintarea}{%
3866 \do{MediaBox}{}%
3867 \do{CropBox}{}%
3868 \do{BleedBox}{}%
3869 \do{TrimBox}{}%
3870 \do{ArtBox}{}%
3871 }
3872 \Hy@DefNameKey{pdfprintclip}{%
3873 \do{MediaBox}{}%
3874 \do{CropBox}{}%
3875 \do{BleedBox}{}%
3876 \do{TrimBox}{}%
3877 \do{ArtBox}{}%
3878 }
3879 \Hy@DefNameKey{pdfprintscaling}{%
3880 \do{AppDefault}{}%
3881 \do{None}{}%
3882 }
3883 \Hy@DefNameKey{pdfduplex}{%
3884 \do{Simplex}{}%
3885 \do{DuplexFlipShortEdge}{}%
3886 \do{DuplexFlipLongEdge}{}%
3887 }
3888 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3889 \do{true}{}%
3890 \do{false}{}%
3891 }
3892 \define@key{Hyp}{pdfprintpagerange}{%
3893 \def\@pdfprintpagerange{#1}%
3894 }
3895 \Hy@DefNameKey{pdfnumcopies}{%
3896 \do{2}{two copies}%
3897 \do{3}{three copies}%
3898 \do{4}{four copies}%
3899 \do{5}{five copies}%
3900 }

```

```

3901 \define@key{Hyp}{pdfusetitle}[true]{%
3902   \Hy@boolkey{pdfusetitle}{#1}%
3903 }
3904 \def\HyXeTeX@CheckUnicode{%
3905   \ifxetex
3906     \ifHy@unicode
3907     \else
3908       \Hy@WarningNoLine{%
3909         XeTeX driver only supports unicode.\MessageBreak
3910         Enabling option 'unicode'%
3911       }%
3912       \kvsetkeys{Hyp}{unicode}%
3913     \fi
3914   \else
3915     \let\HyXeTeX@CheckUnicode\relax
3916   \fi
3917 }
3918 \def\HyPsd@PrerenderUnicode#1{%
3919   \begingroup
3920     \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3921     \else
3922       \sbox0{%
3923         \let\GenericInfo\@gobbletwo
3924         \let\GenericWarning\@gobbletwo
3925         \let\GenericError\@gobblefour
3926         \PrerenderUnicode{#1}%
3927       }%
3928     \fi
3929   \endgroup
3930 }
3931 \define@key{Hyp}{pdftitle}{%
3932   \HyXeTeX@CheckUnicode
3933   \HyPsd@XeTeXBigCharstrue
3934   \HyPsd@PrerenderUnicode{#1}%
3935   \pdfstringdef\@pdftitle{#1}%
3936 }
3937 \define@key{Hyp}{pdfauthor}{%
3938   \HyXeTeX@CheckUnicode
3939   \HyPsd@XeTeXBigCharstrue
3940   \HyPsd@PrerenderUnicode{#1}%
3941   \pdfstringdef\@pdfauthor{#1}%
3942 }
3943 \define@key{Hyp}{pdfproducer}{%
3944   \HyXeTeX@CheckUnicode
3945   \HyPsd@XeTeXBigCharstrue
3946   \HyPsd@PrerenderUnicode{#1}%
3947   \pdfstringdef\@pdfproducer{#1}%
3948   \ifxetex
3949     \Hy@Warning{%
3950       pdfproducer: %
3951       xdvipdfmx will use its own setting\MessageBreak
3952       instead of the value given%
3953     }%
3954   \else
3955     \def\Hy@temp{hdvipdfm}%
3956     \ifx\Hy@driver\Hy@temp
3957       \Hy@Warning{%

```

```

3958     pdfproducer: %
3959     dvipdfm(x) will use its own setting\MessageBreak
3960     instead of the value given%
3961 }%
3962 \fi
3963 \fi
3964 }
3965 \define@key{Hyp}{pdfcreator}{%
3966   \HyXeTeX@CheckUnicode
3967   \HyPsd@XeTeXBigCharstrue
3968   \HyPsd@PrerenderUnicode{#1}%
3969   \pdfstringdef\@pdfcreator{#1}%
3970 }
3971 \define@key{Hyp}{pdfcreationdate}{%
3972   \begingroup
3973   \Hy@unicodetrue
3974   \pdfstringdef\@pdfcreationdate{#1}%
3975   \endgroup
3976 }
3977 \define@key{Hyp}{pdfmoddate}{%
3978   \begingroup
3979   \Hy@unicodetrue
3980   \pdfstringdef\@pdfmoddate{#1}%
3981   \endgroup
3982 }
3983 \define@key{Hyp}{pdfsubject}{%
3984   \HyXeTeX@CheckUnicode
3985   \HyPsd@XeTeXBigCharstrue
3986   \HyPsd@PrerenderUnicode{#1}%
3987   \pdfstringdef\@pdfsubject{#1}%
3988 }
3989 \define@key{Hyp}{pdfkeywords}{%
3990   \HyXeTeX@CheckUnicode
3991   \HyPsd@XeTeXBigCharstrue
3992   \HyPsd@PrerenderUnicode{#1}%
3993   \pdfstringdef\@pdfkeywords{#1}%
3994 }
3995 \define@key{Hyp}{pdftrapped}{%
3996   \lowercase{\edef\Hy@temp{#1}}%
3997   \ifx\Hy@temp\HyInfo@trapped@true
3998     \def\@pdftrapped{True}%
3999   \else
4000     \ifx\Hy@temp\HyInfo@trapped@false
4001       \def\@pdftrapped{False}%
4002     \else
4003       \ifx\Hy@temp\HyInfo@trapped@unknown
4004         \def\@pdftrapped{Unknown}%
4005       \else
4006         \ifx\Hy@temp\@empty
4007           \else
4008             \Hy@Warning{%
4009               Unsupported value ‘#1’\MessageBreak
4010               for option ‘pdftrapped’%
4011             }%
4012           \fi
4013         \def\@pdftrapped{}%
4014       \fi

```

```

4015 \fi
4016 \fi
4017 }
4018 \def\HyInfo@trapped@true{true}
4019 \def\HyInfo@trapped@false{false}
4020 \def\HyInfo@trapped@unknown{unknown}
4021 \def\HyInfo@TrappedUnsupported{%
4022 \ifx\@pdftrapped\@empty
4023 \else
4024 \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
4025 \gdef\HyInfo@TrappedUnsupported{}%
4026 \fi
4027 }
4028 \define@key{Hyp}{pdfinfo}{%
4029 \kvsetkeys{pdfinfo}{#1}%
4030 }
4031 \def\Hy@temp#1{%
4032 \lowercase{\Hy@temp@A{#1}}{#1}%
4033 }
4034 \def\Hy@temp@A#1#2{%
4035 \define@key{pdfinfo}{#2}{%
4036 \hypersetup{pdf#1={##1}}}%
4037 }%
4038 }
4039 \Hy@temp{Title}
4040 \Hy@temp{Author}
4041 \Hy@temp{Keywords}
4042 \Hy@temp{Subject}
4043 \Hy@temp{Creator}
4044 \Hy@temp{Producer}
4045 \Hy@temp{CreationDate}
4046 \Hy@temp{ModDate}
4047 \Hy@temp{Trapped}
4048 \newif\ifHyInfo@AddonUnsupported
4049 \kv@set@family@handler{pdfinfo}{%
4050 \HyInfo@AddonHandler{#1}{#2}%
4051 }
4052 \let\HyInfo@do\relax
4053 \def\HyInfo@AddonHandler#1#2{%
4054 \ifx\kv@value\relax
4055 \Hy@Warning{%
4056 Option 'pdfinfo': ignoring key '\kv@key' without value%
4057 }%
4058 \else
4059 \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
4060 \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
4061 \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
4062 \ifHyInfo@AddonUnsupported
4063 \Hy@Warning{%
4064 This driver does not support additional\MessageBreak
4065 information entries, therefore\MessageBreak
4066 '\kv@key' is ignored%
4067 }%
4068 \else
4069 \define@key{pdfinfo}{\HyInfo@Key}{%
4070 \HyXeTeX@CheckUnicode
4071 \HyPsd@XeTeXBigChartrue

```

```

4072 \HyPsd@PrerenderUnicode{##1}%
4073 \pdfstringdef\HyInfo@Value{##1}%
4074 \expandafter\let\csname HyInfo@Value@\HyInfo@Key\endcsname
4075 \HyInfo@Value
4076 }%
4077 \edef\HyInfo@AddonList{%
4078 \HyInfo@AddonList
4079 \HyInfo@do{\HyInfo@Key}%
4080 }%
4081 \kv@parse@normalized{%
4082 \HyInfo@Key={#2}%
4083 }{%
4084 \kv@processor@default{pdfinfo}%
4085 }%
4086 \fi
4087 \else
4088 \kv@parse@normalized{%
4089 \HyInfo@Key={#2}%
4090 }{%
4091 \kv@processor@default{pdfinfo}%
4092 }%
4093 \fi
4094 \fi
4095 }
4096 \def\HyInfo@GenerateAddons{%
4097 \ifHyInfo@AddonUnsupported
4098 \def\HyInfo@Addons{}%
4099 \else
4100 \begingroup
4101 \toks@{}%
4102 \def\HyInfo@do##1{%
4103 \EdefEscapeName\HyInfo@Key{##1}%
4104 \edef\x{%
4105 \toks@{%
4106 \the\toks@
4107 /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
4108 }%
4109 }%
4110 \x
4111 }%
4112 \HyInfo@AddonList
4113 \edef\x{\endgroup
4114 \def\noexpand\HyInfo@Addons{\the\toks@}%
4115 }%
4116 \x
4117 \fi
4118 }
4119 \let\HyInfo@AddonList\ltx@empty
4120 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
4121 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
4122 \let\setpdfinkmargin\@gobble
4123 \def\calculate@pdfview#1 #2\{%
4124 \def\@pdfview{#1}%
4125 \ifx\#2\%
4126 \def\@pdfviewparams{-32768}%
4127 \else
4128 \def\@pdfviewparams{#2}%

```

```

4129 \fi
4130 }
4131 \begingroup\expandafter\expandafter\expandafter\endgroup
4132 \expandafter\ifx\csname numexpr\endcsname\relax
4133 \def\Hy@number#1{%
4134   \expandafter\@firstofone\expandafter{\number#1}%
4135 }%
4136 \else
4137 \def\Hy@number#1{%
4138   \the\numexpr#1\relax
4139 }%
4140 \fi
4141 \define@key{Hyp}{pdfstartpage}{%
4142   \ifx\#1\%
4143     \let\@pdfstartpage\ltx@empty
4144   \else
4145     \edef\@pdfstartpage{\Hy@number{#1}}%
4146   \fi
4147 }%
4148 \define@key{Hyp}{pdfstartview}{%
4149   \ifx\#1\%
4150     \let\@pdfstartview\ltx@empty
4151   \else
4152     \hypercalcbpdef\@pdfstartview{/#1}%
4153   \fi
4154 }
4155 \def\HyPat@NonNegativeReal/{%
4156   \ *([0-9]+\.[0-9]*|[0-9]*\.[0-9]+) *%
4157 }
4158 \define@key{Hyp}{pdfremotestartview}{%
4159   \ifx\#1\%
4160     \def\@pdfremotestartview{/Fit}%
4161   \else
4162     \hypercalcbpdef\@pdfremotestartview{#1}%
4163     \edef\@pdfremotestartview{\@pdfremotestartview}%
4164     \Hy@Match\@pdfremotestartview{%
4165       ^{XYZ -?(null|\HyPat@NonNegativeReal/) %
4166         -(null|\HyPat@NonNegativeReal/) %
4167         (null|\HyPat@NonNegativeReal/)|%
4168       Fit(|B| %
4169         (H|V|BH|BV) (null|\HyPat@NonNegativeReal/)|%
4170         R \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/ %
4171         \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/%
4172       )}$%
4173     }{}{%
4174       \Hy@Warning{%
4175         Invalid value '\@pdfremotestartview'\MessageBreak
4176         of 'pdfremotestartview'\MessageBreak
4177         is replaced by 'Fit'%
4178       }%
4179       \let\@pdfremotestartview\@empty
4180     }%
4181     \ifx\@pdfremotestartview\@empty
4182       \def\@pdfremotestartview{/Fit}%
4183     \else
4184       \edef\@pdfremotestartview{\@pdfremotestartview}%
4185     \fi

```

```

4186 \fi
4187 }
4188 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
4189 \define@key{Hyp}{pdftoolbar}[true]{%
4190 \Hy@boolkey{pdftoolbar}{#1}%
4191 }
4192 \define@key{Hyp}{pdfmenubar}[true]{%
4193 \Hy@boolkey{pdfmenubar}{#1}%
4194 }
4195 \define@key{Hyp}{pdfwindowui}[true]{%
4196 \Hy@boolkey{pdfwindowui}{#1}%
4197 }
4198 \define@key{Hyp}{pdffitwindow}[true]{%
4199 \Hy@boolkey{pdffitwindow}{#1}%
4200 }
4201 \define@key{Hyp}{pdfcenterwindow}[true]{%
4202 \Hy@boolkey{pdfcenterwindow}{#1}%
4203 }
4204 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
4205 \Hy@boolkey{pdfdisplaydoctitle}{#1}%
4206 }
4207 \define@key{Hyp}{pdfa}[true]{%
4208 \Hy@boolkey{pdfa}{#1}%
4209 }
4210 \define@key{Hyp}{pdfnewwindow}[true]{%
4211 \def\Hy@temp{#1}%
4212 \ifx\Hy@temp@empty
4213 \Hy@pdfnewwindowsetfalse
4214 \else
4215 \Hy@pdfnewwindowsettrue
4216 \Hy@boolkey{pdfnewwindow}{#1}%
4217 \fi
4218 }
4219 \def\Hy@SetNewWindow{%
4220 \ifHy@pdfnewwindowset
4221 /NewWindow %
4222 \ifHy@pdfnewwindow true\else false\fi
4223 \fi
4224 }
4225 \Hy@DefNameKey{pdfpagelayout}{%
4226 \do{SinglePage}{}%
4227 \do{OneColumn}{}%
4228 \do{TwoColumnLeft}{}%
4229 \do{TwoColumnRight}{}%
4230 \do{TwoPageLeft}{PDF 1.5}%
4231 \do{TwoPageRight}{PDF 1.5}%
4232 }
4233 \define@key{Hyp}{pdflang}{%
4234 \def\@pdflang{#1}%
4235 }
4236 \define@key{Hyp}{pdfpagelabels}[true]{%
4237 \Hy@boolkey{pdfpagelabels}{#1}%
4238 }
4239 \define@key{Hyp}{pdfescapeform}[true]{%
4240 \Hy@boolkey{pdfescapeform}{#1}%
4241 }

```

Default values:



```

4242 \def\@linkbordercolor{1 0 0}
4243 \def\@urlbordercolor{0 1 1}
4244 \def\@menubordercolor{1 0 0}
4245 \def\@filebordercolor{0 .5 .5}
4246 \def\@runbordercolor{0 .7 .7}
4247 \def\@citebordercolor{0 1 0}
4248 \def\@pdfhighlight{/I}
4249 \let\@pdftitle\ltx@empty
4250 \let\@pdfauthor\ltx@empty
4251 \let\@pdfproducer\relax
4252 \def\@pdfcreator{LaTeX with hyperref package}
4253 \let\@pdfcreationdate\ltx@empty
4254 \let\@pdfmoddate\ltx@empty
4255 \let\@pdfsubject\ltx@empty
4256 \let\@pdfkeywords\ltx@empty
4257 \let\@pdftrapped\ltx@empty
4258 \let\@pdfpagescrop\ltx@empty
4259 \def\@pdfstartview{/Fit}
4260 \def\@pdfremotestartview{/Fit}
4261 \def\@pdfstartpage{1}
4262 \let\@pdfprintpagerange\ltx@empty
4263 \let\@pdflang\ltx@empty
4264 \let\PDF@SetupDoc\@empty
4265 \let\PDF@FinishDoc\@empty
4266 \let\phantomsection\@empty
4267 \let\special@paper\@empty
4268 \def\HyperDestNameFilter#1{#1}
4269 \Hy@AtBeginDocument{%
4270   \begingroup
4271     \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
4272     \dimen@=\x\relax
4273     \ifdim\dimen@>\z@
4274       \else
4275         \dimen@=11in\relax
4276         \Hy@WarningNoLine{%
4277           Height of page (\expandafter\string\x) %
4278           is invalid (\the\x),\MessageBreak
4279           using 11in%
4280         }%
4281       \fi
4282       \dimen@=0.99626401\dimen@
4283       \xdef\Hy@pageheight{\strip@pt\dimen@}%
4284     \endgroup
4285   }
4286 \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.

```

4287 \let\hyper@normalise\ExecuteOptions
4288 \let\ExecuteOptions\hypersetup
4289 \Hy@RestoreCatcodes
4290 \InputIfFileExists{hyperref.cfg}{-}{-}
4291 \Hy@SetCatcodes
4292 \let\ExecuteOptions\hyper@normalise
4293 \ifx\Hy@MaybeStopNow\relax
4294 \else
4295   \Hy@stoppearlytrue

```

```

4296 \expandafter\Hy@MaybeStopNow
4297 \fi
4298 \Hy@stoppedeasilyfalse

```

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.

```

4299 \SetupKeyvalOptions{family=Hyp}
4300 \DeclareLocalOptions{%
4301   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4302 }

```

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

```

4303 \@ifpackageloaded{tex4ht}{%
4304   \@ifpackagewith{hyperref}{tex4ht}{-}{%
4305     \PassOptionsToPackage{tex4ht}{hyperref}%
4306   }%
4307 }{}

```

```

4308 \let\ReadBookmarks\relax
4309 \ProcessKeyvalOptions{Hyp}

```

After processing options.

## 15.1 Package `xspace` support

```

4310 \def\Hy@xspace@end{}
4311 \ltx@ifundefined{xspaceaddexceptions}{%
4312   \Hy@AtBeginDocument{%
4313     \ltx@ifundefined{xspaceaddexceptions}{%
4314       }{%
4315         \def\Hy@xspace@end{%
4316           \ltx@gobble{end for xspace}%
4317         }%
4318         \xspaceaddexceptions{%
4319           \Hy@xspace@end,\hyper@linkend,\hyper@anchorend
4320         }%
4321       }%
4322     }%
4323   }{}%
4324   \def\Hy@xspace@end{%
4325     \ltx@gobble{end for xspace}%
4326   }%
4327   \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4328 }

```

## 15.2 Option draft

```

4329 \Hy@AtBeginDocument{%
4330   \ifHy@draft
4331     \let\hyper@@anchor\@gobble
4332     \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%
4333     \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4334     \def\hyper@anchorend{\Hy@xspace@end}%
4335     \let\hyper@linkstart\@gobbletwo
4336     \def\hyper@linkend{\Hy@xspace@end}%
4337     \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4338     \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4339     \def\hyper@link@[#1]#2#3#4{#4\Hy@xspace@end}%
4340     \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%

```

```

4341 \let\PDF@SetupDoc\@empty
4342 \let\PDF@FinishDoc\@empty
4343 \let\@fifthoffive\@secondoftwo
4344 \let\@secondoffive\@secondoftwo
4345 \let\ReadBookmarks\relax
4346 \let\WriteBookmarks\relax
4347 \Hy@WarningNoLine{Draft mode on}%
4348 \fi
4349 \Hy@DisableOption{draft}%
4350 \Hy@DisableOption{nolinks}%
4351 \Hy@DisableOption{final}%
4352 }

```

### 15.3 PDF/A

```

4353 \Hy@DisableOption{pdfa}

4354 \ifHy@pdfa
4355 \kvsetkeys{Hyp}{pdfversion=1.4}%
4356 \Hy@DisableOption{pdfversion}%
4357 \def\Hy@Acrobatmenu#1#2{%
4358 \leavevmode
4359 \begingroup
4360 \edef\x{#1}%
4361 \@onelevel@sanitize\x
4362 \ifx\x\Hy@NextPage
4363 \let\y=Y%
4364 \else
4365 \ifx\x\Hy@PrevPage
4366 \let\y=Y%
4367 \else
4368 \ifx\x\Hy@FirstPage
4369 \let\y=Y%
4370 \else
4371 \ifx\x\Hy@LastPage
4372 \let\y=Y%
4373 \else
4374 \let\y=N%
4375 \fi
4376 \fi
4377 \fi
4378 \fi
4379 \expandafter\endgroup
4380 \ifx\y Y%
4381 \else
4382 \Hy@Error{%
4383 PDF/A: Named action ‘#1’ is not permitted%
4384 }\@ehc
4385 {#2}%
4386 \expandafter\@gobble
4387 \fi
4388 }%
4389 \def\Hy@temp#1{%
4390 \expandafter\def\csname Hy@#1\endcsname{#1}%
4391 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4392 }%
4393 \Hy@temp{NextPage}%
4394 \Hy@temp{PrevPage}%
4395 \Hy@temp{FirstPage}%

```

```

4396 \Hy@temp{LastPage}%
4397 \else
4398 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4399 \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.

```

4400 \Hy@nextfalse
4401 \ltx@ifundefined{spanish@sh@}{\Hy@nexttrue}
4402 \ltx@ifundefined{galician@sh@}{\Hy@nexttrue}
4403 \ltx@ifundefined{estonian@sh@}{\Hy@nexttrue}
4404 \ifHy@next
4405 \let\texttilde\~%
4406 \fi

4407 \def\Hy@wrapper@babel#1#2{%
4408 \begingroup
4409 \Hy@safe@activetrue
4410 \set@display@protect
4411 \edef\x{#2}%
4412 \@onelevel@sanitize\x
4413 \toks@{#1}%
4414 \edef\x{\endgroup\the\toks@{\x}}%
4415 \x
4416 }
4417 \def\Hy@WrapperDef#1{%
4418 \begingroup
4419 \escapechar=\m@ne
4420 \xdef\Hy@gtemp{%
4421 \expandafter\noexpand\csname HyWrap@string#1\endcsname
4422 }%
4423 \endgroup
4424 \edef#1{%
4425 \noexpand\Hy@wrapper@babel
4426 \expandafter\noexpand\Hy@gtemp
4427 }%
4428 \expandafter\def\Hy@gtemp
4429 }

4430 \ifHy@hyperfigures
4431 \Hy@Info{Hyper figures ON}%
4432 \else
4433 \Hy@Info{Hyper figures OFF}%
4434 \fi
4435 \ifHy@nesting
4436 \Hy@Info{Link nesting ON}%
4437 \else
4438 \Hy@Info{Link nesting OFF}%
4439 \fi
4440 \ifHy@hyperindex
4441 \Hy@Info{Hyper index ON}%
4442 \else
4443 \Hy@Info{Hyper index OFF}%
4444 \fi
4445 \ifHy@plainpages
4446 \Hy@Info{Plain pages ON}%

```

```

4447 \else
4448   \Hy@Info{Plain pages OFF}%
4449 \fi
4450 \ifHy@backref
4451   \Hy@Info{Backreferencing ON}%
4452 \else
4453   \Hy@Info{Backreferencing OFF}%
4454 \fi
4455 \ifHy@typexml
4456   \Hy@AtEndOfPackage{%
4457     \RequirePackage{color}%
4458     \RequirePackage{nameref}[2012/07/28]%
4459   }%
4460 \fi
4461 \Hy@DisableOption{typexml}
4462 \ifHy@implicit
4463   \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4464 \else
4465   \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4466   \def\MaybeStopEarly{%
4467     \Hy@Message{Stopped early}%
4468     \Hy@AtBeginDocument{%
4469       \PDF@FinishDoc
4470       \gdef\PDF@FinishDoc{}}%
4471   }%
4472   \endinput
4473 }%
4474 \Hy@AtBeginDocument{%
4475   \let\autoref\ref
4476   \let\autopageref\pageref
4477   \ifx\@pdfpagemode\@empty
4478     \gdef\@pdfpagemode{UseNone}%
4479   \fi
4480   \global\Hy@backreffalse
4481 }%
4482 \Hy@AtEndOfPackage{%
4483   \global\let\ReadBookmarks\relax
4484   \global\let\WriteBookmarks\relax
4485 }%
4486 \fi
4487 \Hy@DisableOption{implicit}

```

#### 15.4.1 Driver loading

```

4488 \Hy@AtEndOfPackage{%
4489   \@ifpackageloaded{tex4ht}{%
4490     \def\Hy@driver{htex4ht}%
4491     \Hy@texhttrue
4492   }{}%

```

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.

```

4493   \ifx\Hy@driver\@empty
4494   \else
4495     \def\Hy@temp{hpdftex}%
4496     \ifpdf
4497       \ifx\Hy@driver\Hy@temp
4498       \else

```

```

4499     \Hy@WarningNoLine{%
4500       Wrong driver '\Hy@driver.def';\MessageBreak
4501       pdfTeX is running in PDF mode.\MessageBreak
4502       Forcing driver '\Hy@temp.def"%
4503     }%
4504     \let\Hy@driver\Hy@temp
4505   \fi
4506 \else
4507   \ifx\Hy@driver\Hy@temp
4508     \Hy@WarningNoLine{%
4509       Wrong driver '\Hy@driver.def';\MessageBreak
4510       pdfTeX is not running in PDF mode.\MessageBreak
4511       Using default driver%
4512     }%
4513     \let\Hy@driver\@empty
4514   \fi
4515 \fi
4516 \fi
4517 \ifHy@texht
4518 \else
4519   \ifx\Hy@driver\@empty
4520   \else
4521     \def\Hy@temp{hxtex}%
4522     \ifxetex
4523       \ifx\Hy@driver\Hy@temp
4524       \else
4525         \Hy@WarningNoLine{%
4526           Wrong driver '\Hy@driver.def';\MessageBreak
4527           XeTeX is running.\MessageBreak
4528           Forcing driver '\Hy@temp.def' for XeTeX%
4529         }%
4530         \let\Hy@driver\Hy@temp
4531       \fi
4532     \fi
4533   \fi
4534 \fi
4535 \ifx\Hy@driver\@empty
4536 \else
4537   \def\Hy@temp{hvtexhtm}%
4538   \ifvtexhtml
4539     \ifx\Hy@driver\Hy@temp
4540   \else
4541     \Hy@WarningNoLine{%
4542       Wrong driver '\Hy@driver.def';\MessageBreak
4543       VTeX is running in HTML mode.\MessageBreak
4544       Forcing driver '\Hy@temp.def"%
4545     }%
4546     \let\Hy@driver\Hy@temp
4547   \fi
4548 \else
4549   \ifx\Hy@driver\Hy@temp
4550     \Hy@WarningNoLine{%
4551       Wrong driver '\Hy@driver.def';\MessageBreak
4552       VTeX is not running in HTML mode.\MessageBreak
4553       Using default driver%
4554     }%
4555     \let\Hy@driver\@empty

```

```

4556 \fi
4557 \fi
4558 \fi

```

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

```

4559 \def\HyOpt@DriverType{%
4560 \ifx\Hy@driver\@empty
4561 \def\HyOpt@DriverType{ (autodetected)}%
4562 \providecommand*\Hy@defaultdriver{\hypertex}%
4563 \ifpdf
4564 \def\Hy@driver{hpdfTeX}%
4565 \else
4566 \ifxetex
4567 \def\Hy@driver{hxetex}%
4568 \else
4569 \ifvtexhtml
4570 \def\Hy@driver{hvtexhtm}%
4571 \def\MaybeStopEarly{%
4572 \Hy@Message{Stopped early}}%
4573 \Hy@AtBeginDocument{%
4574 \PDF@FinishDoc
4575 \gdef\PDF@FinishDoc{}}%
4576 }%
4577 \endinput
4578 }%
4579 \else
4580 \ifvtexpdf
4581 \def\Hy@driver{hvtex}%
4582 \else
4583 \ifvtexps
4584 \def\Hy@driver{hvtex}%
4585 \else
4586 \ifx\HyOpt@DriverFallback\ltx@empty
4587 \let\Hy@driver\Hy@defaultdriver
4588 \def\HyOpt@DriverType{ (default)}%
4589 \else
4590 \begingroup
4591 \toks@{\expandafter{\HyOpt@DriverFallback}}%
4592 \edef\x{\endgroup
4593 \noexpand\kvsetkeys{Hyp}{\the\toks@}}%
4594 }%
4595 \x
4596 \ifx\Hy@driver\ltx@empty
4597 \let\Hy@driver\Hy@defaultdriver
4598 \def\HyOpt@DriverType{ (default)}%
4599 \else
4600 \def\HyOpt@DriverType{ (fallback)}%
4601 \fi
4602 \fi
4603 \fi
4604 \fi
4605 \fi
4606 \fi
4607 \fi
4608 \ifx\Hy@driver\Hy@defaultdriver
4609 \def\Hy@temp{hdvwind}%
4610 \ifx\Hy@temp\Hy@driver
4611 \kvsetkeys{Hyp}{colorlinks}%

```

```

4612     \PassOptionsToPackage{dviwindo}{color}%
4613     \fi
4614   \fi
4615 \fi
4616 \Hy@Message{Driver\HyOpt@DriverType: \Hy@driver}%
4617 \chardef\Hy@VersionChecked=0 %
4618 \input{\Hy@driver.def}%
4619 \ifcase\Hy@VersionChecked
4620   \Hy@VersionCheck{\Hy@driver.def}%
4621 \fi
4622 \let\@unprocessedoptions\relax
4623 \Hy@RestoreCatcodes
4624 \Hy@DisableOption{tex4ht}%
4625 \Hy@DisableOption{pdftex}%
4626 \Hy@DisableOption{nativepdf}%
4627 \Hy@DisableOption{dvipdfm}%
4628 \Hy@DisableOption{dvipdfmx}%
4629 \Hy@DisableOption{dvipdfmx-outline-open}%
4630 \Hy@DisableOption{pdfmark}%
4631 \Hy@DisableOption{dvips}%
4632 \Hy@DisableOption{hypertex}%
4633 \Hy@DisableOption{vtex}%
4634 \Hy@DisableOption{vtexpdfmark}%
4635 \Hy@DisableOption{dviwindo}%
4636 \Hy@DisableOption{dvipsone}%
4637 \Hy@DisableOption{textures}%
4638 \Hy@DisableOption{latex2html}%
4639 \Hy@DisableOption{ps2pdf}%
4640 \Hy@DisableOption{xetex}%
4641 \Hy@DisableOption{pdfversion}%
4642 }

```

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.

```

4643 \newif\ifHy@DvipdfmxOutlineOpen
4644 \ifxetex
4645   \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4646     \else
4647       \chardef\SpecialDvipdfmxOutlineOpen\@ne
4648       \Hy@DvipdfmxOutlineOpenttrue
4649     \fi
4650 \fi
4651 \begingroup\expandafter\expandafter\expandafter\endgroup
4652 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4653 \else
4654   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4655     \Hy@DvipdfmxOutlineOpenttrue
4656   \fi
4657 \fi

```

#### 15.4.2 Bookmarks

```

4658 \def\WriteBookmarks{0}
4659 \def\@bookmarkopenstatus#1{%
4660   \ifHy@bookmarksopen

```

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



```

4661 \ifnum#1<\expandafter\@firstofone\expandafter
4662     {\number\@bookmarksopenlevel} % explicit space
4663 \else
4664     -%
4665 \fi
4666 \else
4667     -%
4668 \fi
4669 }
4670 \ifHy@bookmarks
4671 \Hy@Info{Bookmarks ON}%
4672 \ifx\@pdfpagemode\@empty
4673 \def\@pdfpagemode{UseOutlines}%
4674 \fi
4675 \else
4676 \let\@bookmarkopenstatus\ltx@gobble
4677 \Hy@Info{Bookmarks OFF}%
4678 \Hy@AtEndOfPackage{%
4679 \global\let\ReadBookmarks\relax
4680 \global\let\WriteBookmarks\relax
4681 }%
4682 \ifx\@pdfpagemode\@empty
4683 \def\@pdfpagemode{UseNone}%
4684 \fi
4685 \fi
4686 \Hy@DisableOption{bookmarks}

Add wrapper for setting standard catcodes (babel's shorthands).
4687 \def\Hy@CatcodeWrapper#1{%
4688 \let\Hy@endWrap\ltx@empty
4689 \def\TMP@EnsureCode##1##2{%
4690 \edef\Hy@endWrap{%
4691 \Hy@endWrap
4692 \catcode##1 \the\catcode##1\relax
4693 }%
4694 \catcode##1 ##2\relax
4695 }%
4696 \TMP@EnsureCode{10}{12}% ^^J
4697 \TMP@EnsureCode{33}{12}% !
4698 \TMP@EnsureCode{34}{12}% "
4699 \TMP@EnsureCode{36}{3}% $ (math)
4700 \TMP@EnsureCode{38}{4}% & (alignment)
4701 \TMP@EnsureCode{39}{12}% '
4702 \TMP@EnsureCode{40}{12}% (
4703 \TMP@EnsureCode{41}{12}% )
4704 \TMP@EnsureCode{42}{12}% *
4705 \TMP@EnsureCode{43}{12}% +
4706 \TMP@EnsureCode{44}{12}% ,
4707 \TMP@EnsureCode{45}{12}% -
4708 \TMP@EnsureCode{46}{12}% .
4709 \TMP@EnsureCode{47}{12}% /
4710 \TMP@EnsureCode{58}{12}% :
4711 \TMP@EnsureCode{59}{12}% ;
4712 \TMP@EnsureCode{60}{12}% <
4713 \TMP@EnsureCode{61}{12}% =
4714 \TMP@EnsureCode{62}{12}% >
4715 \TMP@EnsureCode{63}{12}% ?
4716 \TMP@EnsureCode{91}{12}% [

```

```

4717 \TMP@EnsureCode{93}{12}% ]
4718 \TMP@EnsureCode{94}{7}% ^ (superscript)
4719 \TMP@EnsureCode{95}{8}% _ (subscript)
4720 \TMP@EnsureCode{96}{12}% ‘
4721 \TMP@EnsureCode{124}{12}% |
4722 \TMP@EnsureCode{126}{13}% ~ (active)
4723 #1\relax
4724 \Hy@EndWrap
4725 }

```

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

```

4726 \Hy@AtBeginDocument{%
4727   \ifHy@ocgcolorlinks
4728     \kvsetkeys{Hyp}{colorlinks}%
4729     \ifHy@pdfa
4730       \Hy@Warning{%
4731         PDF/A: Optional Content Groups are prohibited,\MessageBreak
4732         using ‘colorlinks’ instead of ‘ocgcolorlinks’%
4733       }%
4734       \Hy@ocgcolorlinksfalse
4735     \fi
4736   \fi
4737   \ifHy@ocgcolorlinks
4738   \else
4739     \Hy@DisableOption{ocgcolorlinks}%
4740   \fi
4741   \ifHy@colorlinks
4742     \def\@pdfborder{0 0 0}%
4743     \let\@pdfborderstyle\@empty
4744     \ifHy@typexml
4745     \else
4746       \Hy@CatcodeWrapper{%
4747         \RequirePackage{color}%
4748       }%
4749     \fi
4750     \def\Hy@colorlink#1{%
4751       \begingroup
4752       \HyColor@UseColor#1%
4753     }%
4754     \def\Hy@endcolorlink{\endgroup}%
4755     \Hy@Info{Link coloring ON}%
4756   \else
4757     \ifHy@frenchlinks
4758       \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4759       \def\Hy@endcolorlink{\endgroup}%
4760       \Hy@Info{French linking ON}%
4761     \else

```

for grouping consistency:

```

4762     \def\Hy@colorlink#1{\begingroup}%
4763     \def\Hy@endcolorlink{\endgroup}%
4764     \Hy@Info{Link coloring OFF}%
4765   \fi
4766 \fi
4767 \Hy@DisableOption{colorlinks}%
4768 \Hy@DisableOption{frenchlinks}%
4769 \ifHy@texht
4770   \long\def\@firstoffive#1#2#3#4#5{#1}%

```

```

4771 \long\def\@secondoffive#1#2#3#4#5{#2}%
4772 \long\def\@thirdoffive#1#2#3#4#5{#3}%
4773 \long\def\@fourthoffive#1#2#3#4#5{#4}%
4774 \long\def\@fifthoffive#1#2#3#4#5{#5}%
4775 \providecommand*\@safe@activetrue{}%
4776 \providecommand*\@safe@activesfalse{}%
4777 \def\T@ref#1{%
4778   \Hy@safe@activetrue
4779   \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4780   \Hy@safe@activesfalse
4781 }%
4782 \def\T@pageref#1{%
4783   \Hy@safe@activetrue
4784   \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4785   \Hy@safe@activesfalse
4786 }%
4787 \else
4788   \ifHy@typexml
4789   \else
4790     \Hy@CatcodeWrapper{%
4791       \RequirePackage{nameref}[2012/07/28]%
4792     }%
4793   \fi
4794 \fi
4795 \DeclareRobustCommand\ref{%
4796   \@ifstar\@crefstar\T@ref
4797 }%
4798 \DeclareRobustCommand\pageref{%
4799   \@ifstar\@pagerefstar\T@pageref
4800 }%
4801 % \@ifclassloaded{memoir}{%
4802 %   \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
4803 %     \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4804 %   }%
4805 % } \ltx@secondoftwo
4806 % {%
4807 %   \DeclareRobustCommand*\@nameref{%
4808 %     \@ifstar\@mem@titlerefno link\@mem@titleref
4809 %   }%
4810 % }{%
4811   \DeclareRobustCommand*\@nameref{%
4812     \@ifstar\@namerefstar\T@nameref
4813   }%
4814 % }%
4815 }
4816 \Hy@AtBeginDocument{%
4817   \ifHy@texht
4818   \else
4819     \Hy@CatcodeWrapper\ReadBookmarks
4820   \fi
4821 }
4822 \ifHy@backref
4823   \RequirePackage{backref}%
4824 \else
4825   \let\Hy@backout\@gobble
4826 \fi
4827 \Hy@DisableOption{backref}

```

```
4828 \Hy@DisableOption{pagebackref}
```

```
4829 \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`.

```
4830 \begingroup
4831 \endlinechar=-1 %
4832 \catcode'\^^A=14 %
4833 \catcode'\^^M\active
4834 \catcode'\%\active
4835 \catcode'\#\active
4836 \catcode'\_\active
4837 \catcode'\$\active
4838 \catcode'\&\active
4839 \gdef\hyper@normalise{^^A
4840 \begingroup
4841 \catcode'\^^M\active
4842 \def^^M{ }^^A
4843 \catcode'\%\active
4844 \let%\@percentchar
4845 \let%\@percentchar
4846 \catcode'\#\active
4847 \def#{\hyper@hash}^^A
4848 \def\#{\hyper@hash}^^A
4849 \@makeother\&^^A
4850 \edef&{\string&}^^A
4851 \edef\&{\string&}^^A
4852 \edef\textunderscore{\string_}^^A
4853 \let_\textunderscore
4854 \catcode'\_\active
4855 \let_\textunderscore
4856 \let~\hyper@tilde
4857 \let~\hyper@tilde
4858 \let\textasciitilde\hyper@tilde
4859 \let\\\@backslashchar
4860 \edef${\string$}^^A
4861 \Hy@safe@activetrue
4862 \hyper@n@rmalise
4863 }^^A
4864 \catcode'\#=6 ^^A
4865 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4866 \gdef\hyper@n@rmalise#1#2{^^A
4867 \def\Hy@tempa{#2}^^A
4868 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4869 \ltx@ReturnAfterElseFi{^^A
4870 \hyper@@normalise{#1}^^A
4871 }^^A
4872 \else
4873 \ltx@ReturnAfterFi{^^A
```

```

4874     \hyper@@normalise{#1}{#2}^^A
4875   }^^A
4876   \fi
4877 }^^A
4878 \gdef\hyper@@normalise#1#2{^^A
4879   \edef\Hy@tempa{^^A
4880     \endgroup
4881     \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
4882   }^^A
4883   \Hy@tempa
4884 }^^A
4885 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
4886   #1^^A
4887   \ifx\limits#2\limits
4888   \else
4889     \ltx@ReturnAfterFi{^^A
4890       \Hy@RemovePercentCr #2\@nil
4891     }^^A
4892   \fi
4893 }^^A
4894 \endgroup
4895 \providecommand*\hyper@chars{%
4896   \let\#\hyper@hash
4897   \let\%\@percentchar
4898   \Hy@safe@activetrue
4899 }

4900 \def\hyperlink#1#2{%
4901   \hyper@@@link{}{#1}{#2}%
4902 }

4903 \def\Hy@VerboseLinkStart#1#2{%
4904   \ifHy@verbose
4905     \begingroup
4906     \Hy@safe@activetrue
4907     \xdef\Hy@VerboseGlobalTemp{(#1) '#2'}%
4908     \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4909     \xdef\Hy@VerboseGlobalTemp{%
4910       \Hy@VerboseGlobalTemp, %
4911       line \the\inputlineno
4912     }%
4913     \endgroup
4914     \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4915     \@onelevel@sanitize\Hy@VerboseLinkInfo
4916   \fi
4917 }

4918 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4919 \def\Hy@VerboseLinkStop{%
4920   \ifHy@verbose
4921     \begingroup
4922     \edef\x{\endgroup
4923       \write\m@ne{%
4924         Package 'hyperref' Info: %
4925         End of reference \Hy@VerboseLinkInfo.%
4926       }%
4927     }%
4928     \x
4929   \fi

```

```

4930 }
4931 \def\Hy@VerboseAnchor#1{%
4932   \ifHy@verbose
4933     \begingroup
4934       \Hy@safe@activetrue
4935       \Hy@Info{Anchor '\HyperDestNameFilter{#1}'}%
4936     \endgroup
4937   \fi
4938 }
4939 \def\Hy@AllowHyphens{%
4940   \relax
4941   \ifhmode
4942     \penalty\@M
4943     \hskip\z@skip
4944   \fi
4945 }
4946 \DeclareRobustCommand*{\href}[1][]{%
4947   \begingroup
4948     \setkeys{href}{#1}%
4949     \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4950 }
4951 \def\Hy@href#1{%
4952   \hyper@normalise\href@
4953 }
4954 \begingroup
4955   \catcode'\$=6 %
4956   \catcode'\#=12 %
4957   \gdef\href@#1{\expandafter\href@split$1##\}%
4958   \gdef\href@split$1##$2##$3\\$4{%
4959     \hyper@@link{$1}{$2}{$3}{$4}%
4960   \endgroup
4961 }%
4962 \endgroup

```

Option ‘page’.

```

4963 \define@key{href}{page}{%
4964   \def\Hy@href@page{#1}%
4965 }
4966 \let\Hy@href@page\@empty
4967 \newcount\c@Hy@tempcnt
4968 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4969 \def\Hy@MakeRemoteAction{%
4970   \ifx\Hy@href@page\@empty
4971     \def\Hy@href@page{0}%
4972   \else
4973     \setcounter{Hy@tempcnt}{\Hy@href@page}%
4974     \ifnum\c@Hy@tempcnt<\@ne
4975       \Hy@Warning{%
4976         Invalid page number (\theHy@tempcnt)\MessageBreak
4977         for remote PDF file.\MessageBreak
4978         Using page 1%
4979       }%
4980     \def\Hy@href@page{0}%
4981   \else
4982     \global\advance\c@Hy@tempcnt\m@ne
4983   \edef\Hy@href@page{\theHy@tempcnt}%
4984   \fi

```

```
4985 \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.

```
4986 \ifx\Hy@href@nextactionraw\@empty
4987 \else
4988 \Hy@pdfnewwindowsettrue
4989 \Hy@pdfnewwindowtrue
4990 \fi
4991 }
```

Option ‘pdfremotestartview’.

```
4992 \define@key{href}{pdfremotestartview}{%
4993 \setkeys{Hyp}{pdfremotestartview={#1}}}%
4994 }
```

Option ‘pdfnewwindow’.

```
4995 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
4996 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default
```

Option ‘ismap’.

```
4997 \newif\ifHy@href@ismap
4998 \define@key{href}{ismap}[true]{%
4999 \ltx@ifundefined{Hy@href@ismap#1}{%
5000 \Hy@Error{%
5001 Invalid value (#1) for key ‘ismap’.\MessageBreak
5002 Permitted values are ‘true’ or ‘false’.\MessageBreak
5003 Ignoring ‘ismap’%
5004 }\@ehc
5005 }{%
5006 \csname Hy@href@ismap#1\endcsname
5007 }%
5008 }
```

Option ‘nextactionraw’.

```
5009 \let\Hy@href@nextactionraw\@empty
5010 \define@key{href}{nextactionraw}{%
5011 \edef\Hy@href@nextactionraw{#1}%
5012 \ifx\Hy@href@nextactionraw\@empty
5013 \else
5014 \Hy@Match\Hy@href@nextactionraw{%
5015 ~(\HyPat@ObjRef/|<<.*S[ /.+>>|%
5016 \[( ?\HyPat@ObjRef/|<<.*S[ /.+>>)+ ?)]$%
5017 }{ }{%
5018 \Hy@Warning{Invalid value for ‘nextactionraw’:\MessageBreak
5019 \Hy@href@nextactionraw\MessageBreak
5020 The action is discarded%
5021 }%
5022 }%
5023 \ifx\Hy@href@nextactionraw\@empty
5024 \else
5025 \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
5026 \fi
5027 \fi
5028 }
5029 \def\HyPat@ObjRef/{.+}
```

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

```
5030 \RequirePackage{url}
5031 \let\HyOrg@url\url
```

```

5032 \def\Hurl{\begingroup \Url}
5033 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
5034 \def\nolinkurl@#1{\Hurl{#1}}
5035 \DeclareRobustCommand*\url{\hyper@normalise\url@}
5036 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

5037 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
5038 \providecommand\hyper@image[2]{#2}

5039 \def\hypertarget#1#2{%
5040   \ifHy@nesting
5041     \hyper@@anchor{#1}{#2}%
5042   \else
5043     \hyper@@anchor{#1}{\relax}#2%
5044   \fi
5045 }

```

`\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  $\LaTeX$  label which can be used in a short form of `\hyperref` later, to avoid remembering the name and category.

```

5046 \DeclareRobustCommand*\hyperref{%
5047   \@ifnextchar{\Hy@babelnormalise\label@hyperref}\@hyperref
5048 }
5049 \def\Hy@babelnormalise#1[#2]{%
5050   \begingroup
5051     \Hy@safe@activestrue
5052     \edef\Hy@tempa{%
5053       \endgroup
5054       \noexpand#1[#2]}%
5055   }%
5056   \Hy@tempa
5057 }
5058 \def\@hyperref{\hyper@normalise\@hyperref}
5059 \def\@hyperref#1#2#3{%
5060   \edef\ref@one{\ifx\\#2\\ \else#2.\fi#3}%
5061   \expandafter\tryhyper@link\ref@one\{#1}%
5062 }
5063 \def\tryhyper@link#1\\#2{%
5064   \hyper@@link{#2}{#1}%
5065 }

5066 \def\hyperdef{\@ifnextchar{\label@hyperdef}\@hyperdef}
5067 \def\@hyperdef#1#2#3{% category, name, text
5068   \ifx\\#1\\%
5069     \def\Hy@AnchorName{#2}%
5070   \else
5071     \def\Hy@AnchorName{#1.#2}%
5072   \fi
5073   \ifHy@nesting
5074     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
5075   \else
5076     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
5077   \fi
5078 }

```



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.

```

5079 \def\label@hyperref[#1]{%
5080   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
5081 }%
5082 \def\label@@hyperref#1#2#3{%
5083   \ifx#1\relax
5084     \protect\G@refundefinedtrue
5085     \@latex@warning{%
5086       Hyper reference ‘#2’ on page \thepage \space undefined%
5087     }%
5088     \begingroup
5089       #3%
5090     \endgroup
5091   \else
5092     \hyper@@link{\expandafter\@fifthoffive#1}%
5093     {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
5094   \fi
5095 }
5096 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
5097                               % anchor text
5098   \@bsphack
5099   \ifx\#2\%
5100     \def\Hy@AnchorName{#3}%
5101   \else
5102     \def\Hy@AnchorName{#2.#3}%
5103   \fi
5104   \if@filesw
5105     \protected@write\@auxout{}{%
5106       \string\newlabel{#1}{#3}{#4}{\Hy@AnchorName}{#3}%
5107     }%
5108   \fi
5109   \@esphack
5110   \ifHy@nesting
5111     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
5112   \else
5113     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
5114   \fi
5115 }

```

## 16.1 Link box support for XeTeX

```

5116 \newdimen\XeTeXLinkMargin
5117 \setlength{\XeTeXLinkMargin}{2pt}
5118 \ifxetex
5119   \font\XeTeXLink@font=pzdr at 1sp\relax
5120   \newcommand*\XeTeXLink@space{%
5121     \begingroup
5122       \XeTeXLink@font
5123       \@xxxii
5124     \endgroup
5125   }%
5126   \newcommand{\XeTeXLinkBox}[1]{%
5127     \begingroup
5128       \leavevmode
5129       \sbox\z@{#1}%
5130     \begingroup

```

```

5131 \dimen@=\dp\z@
5132 \advance\dimen@\XeTeXLinkMargin
5133 \setbox\tw@=\llap{%
5134 \hb@xt@\XeTeXLinkMargin{%
5135 \lower\dimen@\hbox{\XeTeXLink@space}%
5136 \hss
5137 }%
5138 }%
5139 \dp\tw@=\dp\z@
5140 \ht\tw@=\ht\z@
5141 \copy\tw@
5142 \endgroup
5143 \copy\z@
5144 \dimen@=\ht\z@
5145 \advance\dimen@\XeTeXLinkMargin
5146 \setbox\tw@=\rlap{%
5147 \hb@xt@\XeTeXLinkMargin{%
5148 \hss
5149 \raise\dimen@\hbox{\XeTeXLink@space}%
5150 }%
5151 }%
5152 \dp\tw@=\dp\z@
5153 \ht\tw@=\ht\z@
5154 \copy\tw@
5155 \endgroup
5156 }%
5157 \else
5158 \newcommand*\XeTeXLinkBox}[1]{%
5159 \begingroup
5160 \leavevmode
5161 \sbox\z@{#1}%
5162 \copy\z@
5163 \endgroup
5164 }%
5165 \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.

```

5166 \def\hyper@link{\let\Hy@reserved@a\relax
5167 \@ifnextchar{\hyper@link@}{\hyper@link@[link]}%
5168 }
5169 \def\hyper@link@[#1]#2#3#4{%
5170 \begingroup
5171 \protected@edef\Hy@tempa{#2}%
5172 \Hy@safe@activetrue
5173 \edef\x{#3}%
5174 \ifx\Hy@tempa\@empty
5175 \toks0{\hyper@link{#1}}%
5176 \else
5177 \toks0{\expandafter\hyper@readexternallink#2\\{#1}}%
5178 \fi
5179 \toks2{%
5180 \Hy@safe@activesfalse

```

```

5181     #4%
5182 }%
5183 \edef\Hy@tempa{\the\toks2}%
5184 \edef\x{\endgroup
5185   \ifx\Hy@tempa\@empty
5186     \noexpand\Hy@Warning{Suppressing empty link}%
5187   \else
5188     \the\toks0 {\x}{\the\toks2}%%
5189   \fi
5190 }%
5191 \x
5192 }

```

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.

```

5193 \def\hyper@readexternallink#1\#2#3#4{%
5194   \begingroup
5195     \let\\\relax
5196   \expandafter\endgroup
5197   \expandafter\@hyper@\@readexternallink#1\#{2}\#{3}\#{4}%
5198 }
5199 \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.

```

5200 \@hyper@readexternallink#{2}\#{3}\#{4}#1::\#{1}%
5201 }

```

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

```

5202 \def\@pdftempwordfile{file}%
5203 \def\@pdftempwordrun{run}%
5204 \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:`

```

5205   \ifx\\\#6\\\%
5206     \@hyper@linkfile file:#7\\\#{3}\#{2}\#{7}%
5207   \else
5208     \ifx\\\#4\\\%
5209       \@hyper@linkfile file:#7\\\#{3}\#{2}\#{7}%
5210     \else

```

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

```
5211 \def\@pdftempa{#4}%
5212 \ifx\@pdftempa\@pdftempwordfile
5213 \@hyper@linkfile#7\{#3}{#2}{#7}%
5214 \else
```

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

```
5215 \ifx\@pdftempa\@pdftempwordrun
5216 \ifHy@pdfa
5217 \Hy@Error{%
5218 PDF/A: Launch action is prohibited%
5219 }\@ehc
5220 \begingroup
5221 \leavevmode
5222 #2%
5223 \endgroup
5224 \else
5225 \@hyper@launch#7\{#3}{#2}%
5226 \fi
5227 \else
```

otherwise its a URL

```
5228 \hyper@linkurl{#3}{#7\ifx\#2\else\hyper@hash#2\fi}%
5229 \fi
5230 \fi
5231 \fi
5232 \fi
5233 }
```

By default, turn run: into file:

```
5234 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
5235 \hyper@linkurl{#2}{%
5236 \Hy@linkfileprefix
5237 #1%
5238 \ifx\#3\%
5239 \else
5240 \hyper@hash
5241 #3%
5242 \fi
5243 }%
5244 }
```

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

```
5245 \def\@hyper@linkfile file:#1\#2#3#4{%
5246 %file url,link string, name, original uri
5247 \filename@parse{#1}%
5248 \ifx\filename@ext\relax
5249 \edef\filename@ext{\XR@ext}%
5250 \fi
5251 \def\use@file{\filename@area\filename@base.\filename@ext}%
5252 \Hy@ifStringEndsWith\filename@ext\XR@ext{%
5253 \hyper@linkfile{#2}{\use@file}{#3}%
5254 }{%
5255 \ifx\@baseurl\empty
5256 \hyper@linkurl{#2}{%
5257 #4\ifx\#3\else\hyper@hash#3\fi
5258 }%
5259 \else
```

```

5260 \hyper@linkurl{#2}{\use@file\ifx\\#3\\else\hyper@hash#3\fi}%
5261 \fi
5262 }%
5263 }

5264 \def\Hy@IfStringEndsWith#1#2{%
5265 \begingroup
5266 \edef\x{#1}%
5267 \@onelevel@sanitize\x
5268 \edef\x{.\x}%
5269 \edef\y{#2}%
5270 \@onelevel@sanitize\y
5271 \edef\y{.\y}%
5272 \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
5273 \endgroup
5274 \ifx\relax##2\relax
5275 \expandafter\ltx@secondoftwo
5276 \else
5277 \expandafter\ltx@firstoftwo
5278 \fi
5279 }%
5280 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
5281 }

5282 \def\Hy@StringLocalhost{localhost}
5283 \@onelevel@sanitize\Hy@StringLocalhost
5284 \def\Hy@CleanupFile#1{%
5285 \edef#1{#1}%
5286 \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
5287 }
5288 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5289 \begingroup
5290 \toks@{\endgroup}%
5291 \def\x{#1}%
5292 \ifx\x@empty
5293 \def\x{#2}%
5294 \ifx\x@empty
5295 \toks@{\endgroup\def#5{/#3}}%
5296 \else
5297 \@onelevel@sanitize\x
5298 \ifx\x\Hy@StringLocalhost
5299 \toks@{\endgroup\def#5{/#3}}%
5300 \fi
5301 \fi
5302 \fi
5303 \the\toks@
5304 }

```

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.

```

5305 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5306 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5307 \ifx\\#1\\%

```

```

5308   #2\Hy@Warning{Ignoring empty anchor}%
5309 \else
5310   \def\anchor@spot{#2#3}%
5311   \let\put@me@back\@empty
5312   \ifx\relax#2\relax
5313   \else
5314     \ifHy@nesting
5315     \else
5316       \ifcat a\noexpand#2\relax
5317       \else
5318         \ifcat 0\noexpand#2 \relax
5319         \else
5320           \typeout{Anchor start is not alphanumeric %
5321             on input line\the\inputlineno%
5322           }%
5323           \let\anchor@spot\@empty
5324           \def\put@me@back{#2#3}%
5325         \fi
5326       \fi
5327     \fi
5328   \fi
5329   \ifHy@activeanchor
5330   \anchor@spot
5331   \else
5332     \hyper@anchor{#1}%
5333   \fi
5334   \expandafter\put@me@back
5335 \fi
5336 \let\anchor@spot\@empty
5337 }
5338 \let\anchor@spot\ltx@empty

```

## 18 Option ‘destlabel’

```

5339 \ifHy@destlabel

\hyper@newdestlabel

5340 \def\hyper@newdestlabel#1#2{%
5341   \begingroup
5342     \Hy@safe@activetrue
5343     \edef\x{\endgroup
5344       \noexpand\@newl@bel{HyDL}{#1}{#2}%
5345     }%
5346   \x
5347 }%

\hyper@destlabel@hook

5348 \providecommand*\hyper@destlabel@hook{}%

\Hy@DestRename

5349 \newcommand*\Hy@DestRename[2]{%
5350   \ltx@ifundefined{HyDL!#1}{%
5351     \begingroup
5352       \Hy@safe@activetrue
5353       \edef\dest@name{#1}%
5354       \edef\label@name{#2}%
5355       \hyper@destlabel@hook

```

```

5356 \Hy@IsNotEmpty{dest@name}{%
5357 \Hy@IsNotEmpty{label@name}{%
5358 \global\expandafter
5359 \let\csname HyDL!#1\endcsname\ltx@empty
5360 \if@files
5361 \protected@write\@auxout{}{%
5362 \string\hyper@newdestlabel
5363 {#1}%
5364 {\label@name}%
5365 }%
5366 \fi
5367 }%
5368 }%
5369 \endgroup
5370 }{}%
5371 }%

```

\HyperDestRename

```

5372 \newcommand*{\HyperDestRename}[2]{%
5373 \AtBeginDocument{%
5374 \Hy@DestRename{#1}{#2}%
5375 }%
5376 }%
5377 \AtBeginDocument{%
5378 \let\HyperDestRename\Hy@DestRename
5379 }%

```

\Hy@IsNotEmpty

```

5380 \def\Hy@IsNotEmpty#1{%
5381 \ltx@ifundefined{#1}\ltx@gobble{%
5382 \expandafter\ifx\csname#1\endcsname\ltx@empty
5383 \expandafter\ltx@gobble
5384 \else
5385 \expandafter\ltx@firstofone
5386 \fi
5387 }%
5388 }%

5389 \ltx@GlobalAppendToMacro\label@hook{%
5390 \HyperDestRename\@currentHref\label@name
5391 }%

```

\HyperDestLabelReplace

```

5392 \def\HyperDestLabelReplace#1{%
5393 \ltx@ifundefined{HyDL@#1}{%
5394 #1%
5395 }{%
5396 \csname HyDL@#1\endcsname
5397 }%
5398 }%

```

\HyperDestNameFilter

```

5399 \let\HyperDestNameFilter\HyperDestLabelReplace
5400 \else

```

\hyper@newdestlabel

```

5401 \let\hyper@newdestlabel\ltx@gobbletwo

```

`\HyperDestLabelReplace`

```
5402 \let\HyperDestLabelReplace\ltx@firstofone
```

`\HyperDestRename`

```
@gobbletwo
```

```
5403 \fi
```

```
5404 \Hy@DisableOption{destlabel}
```

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

```
5405 \AddLineBeginAux{%
```

```
5406 \string\providecommand\string\hyper@newdestlabel[2]{}%
```

```
5407 }
```

## 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.

```
5408 \let\htmladdimg\hyperimage
```

```
5409 \def\htmladdnormallink#1#2{\href{#2}{#1}}
```

```
5410 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
```

```
5411 \def\htmlref#1#2{% anchor text, label
```

```
5412 \label@hyperref{#2}{#1}%
```

```
5413 }
```

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.

```
5414 \def\@@latextohtmlX{%
```

```
5415 \let\hhyperref\hyperref
```

```
5416 \def\hyperref##1##2##3##4{% anchor text for HTML
```

```
5417 % text to print before label in print
```

```
5418 % label
```

```
5419 % post-label text in print
```

```
5420 ##2\ref{##4}##3%
```

```
5421 }%
```

```
5422 }
```

## 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.

```
5423 \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

```
5424 \def\HyField@NewFlag#1#2{%
5425   \lowercase{\HyField@NewOption{#2}}%
5426   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5427 }
```

\HyField@NewFlagOnly

```
5428 \def\HyField@NewFlagOnly#1#2{%
5429   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5430 }
```

\HyField@NewOption #1: option name

```
5431 \def\HyField@NewOption#1{%
5432   \expandafter\newif\csname ifFld@#1\endcsname
5433   \define@key{Field}{#1}[true]{%
5434     \lowercase{\Field@boolkey{##1}}{#1}%
5435   }%
5436 }
```

\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

```
5437 \def\HyField@NewBitsetFlag#1#2#3#4{%
5438   \begingroup
5439   \count@=#4\relax
5440   \advance\count@\m@ne
5441   \def\x##1{%
5442     \endgroup
5443     \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5444     \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
5445       \expandafter\edef\csname HyField@#3@##1\endcsname{%
5446         (\number#4) #2%
5447       }%
5448     \else
5449       \expandafter\edef\csname HyField@#3@##1\endcsname{%
5450         \csname HyField@#3@##1\endcsname
5451         /#2%
5452       }%
5453     \fi
5454   }%
5455   \expandafter\x\expandafter{\the\count@}%
5456 }
```

```

\HyField@UseFlag The bit set is HyField@#1
5457 \def\HyField@UseFlag#1#2{%
5458   \lowercase{\HyField@@UseFlag{#2}}{#1}%
5459 }

\HyField@@UseFlag
5460 \def\HyField@@UseFlag#1#2{%
5461   \bitsetSetValue{HyField@#2}{%
5462     \csname HyField@#2@#1\endcsname
5463   }{%
5464     \csname ifFld@#1\endcsname 1\else 0\fi
5465   }%
5466 }

\HyField@SetFlag The bit set is HyField@#1
5467 \def\HyField@SetFlag#1#2{%
5468   \lowercase{\HyField@@SetFlag{#2}}{#1}%
5469 }

\HyField@@SetFlag
5470 \def\HyField@@SetFlag#1#2{%
5471   \bitsetSetValue{HyField@#2}{%
5472     \csname HyField@#2@#1\endcsname
5473   }{1}%
5474 }

\HyField@PrintFlags
5475 \def\HyField@PrintFlags#1#2{%
5476   \ifHy@verbose
5477     \begingroup
5478     \let\Hy@temp\@empty
5479     \let\MessageBreak\relax
5480     \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5481     \bitsetGetSetBitList{HyField@#1}\do{%
5482       \edef\Hy@temp{%
5483         \Hy@temp
5484         \csname HyField@#1@\x\endcsname\MessageBreak
5485       }%
5486     }%
5487     \edef\x{\endgroup
5488       \noexpand\Hy@Info{%
5489         Field flags: %
5490         \expandafter\ifx\@car#1\@nil S\else/\fi
5491         #1 %
5492         \bitsetGetDec{HyField@#1} %
5493         (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5494         \Hy@temp
5495         for #2%
5496       }%
5497     }\x
5498   \fi
5499 }

```

### 20.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

5500 \HyField@NewFlag{Ff}{ReadOnly}{1}
5501 \HyField@NewFlag{Ff}{Required}{2}
5502 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

5503 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5504 \HyField@NewFlag{Ff}{Radio}{16}
5505 \HyField@NewFlag{Ff}{Pushbutton}{17}
5506 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

5507 \HyField@NewFlag{Ff}{Multiline}{13}
5508 \HyField@NewFlag{Ff}{Password}{14}
5509 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5510 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5511 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5512 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5513 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

5514 \HyField@NewFlag{Ff}{Combo}{18}
5515 \HyField@NewFlag{Ff}{Edit}{19}
5516 \HyField@NewFlag{Ff}{Sort}{20}
5517 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5518 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5519 \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.

```

5520 \newif\iffld@popdown
5521 \define@key{Field}{popdown}[true]{%
5522   \lowercase{\Field@boolkey{#1}}{popdown}%
5523 }

```

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.

```

5524 \HyField@NewFlag{F}{Invisible}{1}
5525 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5526 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5527 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5528 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5529 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5530 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5531 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5532 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

5533 \ifHy@pdfa
5534   \def\HyField@PDFAFldWarning#1#2{%
5535     \Hy@Warning{%
5536       PDF/A: Annotation flag ‘#1’ must\MessageBreak
5537       be set to ‘#2’%
5538     }%
5539   }%
5540   \Fld@invisiblefalse
5541   \def\Fld@invisibletrue{%

```

```

5542 \HyField@PDFAFFlagWarning{invisible}{false}%
5543 }%
5544 \Fld@hiddenfalse
5545 \def\Fld@hiddenttrue{%
5546 \HyField@PDFAFFlagWarning{hidden}{false}%
5547 }%
5548 \Fld@printtrue
5549 \def\Fld@printfalse{%
5550 \HyField@PDFAFFlagWarning{print}{true}%
5551 }%
5552 \Fld@nozoomtrue
5553 \def\Fld@nozoomfalse{%
5554 \HyField@PDFAFFlagWarning{nozoom}{true}%
5555 }%
5556 \Fld@norotatetrue
5557 \def\Fld@norotatefalse{%
5558 \HyField@PDFAFFlagWarning{norotate}{true}%
5559 }%
5560 \Fld@noviewfalse
5561 \def\Fld@noviewtrue{%
5562 \HyField@PDFAFFlagWarning{noview}{false}%
5563 }%
5564 \fi

```

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

```

5565 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5566 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5567 \HyField@NewFlag{Submit}{GetMethod}{4}
5568 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5569 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5570 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5571 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5572 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5573 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5574 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5575 \HyField@NewFlag{Submit}{ExclFKey}{12}
5576 \HyField@NewFlag{Submit}{EmbedForm}{14}

5577 \define@key{Field}{export}{%
5578 \lowercase{\def\Hy@temp{#1}}%
5579 \@ifundefined{Fld@export@}\Hy@temp{%
5580 \@onelevel@sanitize\Hy@temp
5581 \Hy@Error{%
5582 Unknown export format '\Hy@temp'.\MessageBreak
5583 Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
5584 }\@ehc
5585 }{%
5586 \let\Fld@export\Hy@temp
5587 }%
5588 }
5589 \def\Fld@export{fdf}
5590 \@namedef{Fld@export@fdf}{0}%
5591 \@namedef{Fld@export@html}{1}%
5592 \@namedef{Fld@export@xfdf}{2}%
5593 \@namedef{Fld@export@pdf}{3}%

```

### 20.1.2 Set submit flags

\HyField@FlagsSubmit

```
5594 \def\HyField@FlagsSubmit{%
5595   \bitsetReset{HyField@Submit}%
5596   \ifcase\@nameuse{Fld@export@\Fld@export} %
5597     % FDF
5598     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5599     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5600     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5601     \HyField@UseFlag{Submit}{IncludeAnnotations}%
5602     \HyField@UseFlag{Submit}{CanonicalFormat}%
5603     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5604     \HyField@UseFlag{Submit}{ExclFKey}%
5605     \HyField@UseFlag{Submit}{EmbedForm}%
5606   \or % HTML
5607     \HyField@SetFlag{Submit}{ExportFormat}%
5608     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5609     \HyField@UseFlag{Submit}{GetMethod}%
5610     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5611     \HyField@UseFlag{Submit}{CanonicalFormat}%
5612   \or % XFDF
5613     \HyField@SetFlag{Submit}{XFDF}%
5614     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5615     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5616     \HyField@UseFlag{Submit}{CanonicalFormat}%
5617   \or % PDF
5618     \HyField@SetFlag{Submit}{SubmitPDF}%
5619     \HyField@UseFlag{Submit}{GetMethod}%
5620   \fi
5621   \HyField@PrintFlags{Submit}{submit button field}%
5622   \bitsetIsEmpty{HyField@Submit}{%
5623     \let\Fld@submitflags\ltx@empty
5624   }{%
5625     \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
5626   }%
5627 }
```

### 20.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```
5628 \def\HyField@FlagsAnnot#1{%
5629   \bitsetReset{HyField@F}%
5630   \HyField@UseFlag{F}{Invisible}%
5631   \HyField@UseFlag{F}{Hidden}%
5632   \HyField@UseFlag{F}{Print}%
5633   \HyField@UseFlag{F}{NoZoom}%
5634   \HyField@UseFlag{F}{NoRotate}%
5635   \HyField@UseFlag{F}{NoView}%
5636   \HyField@UseFlag{F}{Locked}%
5637   \HyField@UseFlag{F}{ToggleNoView}%
5638   \HyField@UseFlag{F}{LockedContents}%
5639   \HyField@PrintFlags{F}{#1}%
5640   \bitsetIsEmpty{HyField@F}{%
5641     \let\Fld@annotflags\ltx@empty
5642   }{%
5643     \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
5644   }
```

```

5644 }%
5645 }

```

#### 20.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5646 \def\HyField@FlagsPushButton{%
5647   \HyField@FlagsAnnot{push button field}%
5648   \bitsetReset{HyField@Ff}%
5649   \HyField@UseFlag{Ff}{ReadOnly}%
5650   \HyField@UseFlag{Ff}{Required}%
5651   \HyField@UseFlag{Ff}{NoExport}%
5652   \HyField@SetFlag{Ff}{PushButton}%
5653   \HyField@PrintFlags{Ff}{push button field}%
5654   \bitsetIsEmpty{HyField@Ff}{%
5655     \let\Fld@flags\ltx@empty
5656   }{%
5657     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5658   }%
5659 }

```

#### 20.1.5 Check box field

\HyField@FlagsCheckBox

```

5660 \def\HyField@FlagsCheckBox{%
5661   \HyField@FlagsAnnot{check box field}%
5662   \bitsetReset{HyField@Ff}%
5663   \HyField@UseFlag{Ff}{ReadOnly}%
5664   \HyField@UseFlag{Ff}{Required}%
5665   \HyField@UseFlag{Ff}{NoExport}%
5666   \HyField@PrintFlags{Ff}{check box field}%
5667   \bitsetIsEmpty{HyField@Ff}{%
5668     \let\Fld@flags\ltx@empty
5669   }{%
5670     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5671   }%
5672 }

```

#### 20.1.6 Radio button field

\HyField@FlagsRadioButton

```

5673 \def\HyField@FlagsRadioButton{%
5674   \HyField@FlagsAnnot{radio button field}%
5675   \bitsetReset{HyField@Ff}%
5676   \HyField@UseFlag{Ff}{ReadOnly}%
5677   \HyField@UseFlag{Ff}{Required}%
5678   \HyField@UseFlag{Ff}{NoExport}%
5679   \HyField@UseFlag{Ff}{NoToggleToOff}%
5680   \HyField@SetFlag{Ff}{Radio}%
5681   \HyField@UseFlag{Ff}{RadiosInUnison}%
5682   \HyField@PrintFlags{Ff}{radio button field}%
5683   \bitsetIsEmpty{HyField@Ff}{%
5684     \let\Fld@flags\ltx@empty
5685   }{%
5686     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5687   }%
5688 }

```

### 20.1.7 Text fields

\HyField@FlagsText

```
5689 \def\HyField@FlagsText{%
5690   \HyField@FlagsAnnot{text field}%
5691   \bitsetReset{HyField@Ff}%
5692   \HyField@UseFlag{Ff}{ReadOnly}%
5693   \HyField@UseFlag{Ff}{Required}%
5694   \HyField@UseFlag{Ff}{NoExport}%
5695   \HyField@UseFlag{Ff}{Multiline}%
5696   \HyField@UseFlag{Ff}{Password}%
5697   \HyField@UseFlag{Ff}{FileSelect}%
5698   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5699   \HyField@UseFlag{Ff}{DoNotScroll}%
5700   \ifFld@comb
5701     \ifcase0\ifFld@multiline
5702       \else\ifFld@password
5703       \else\ifFld@fileselect
5704       \else 1\fi\fi\fi\relax
5705     \Hy@Error{%
5706       Field option ‘comb’ cannot used together with\MessageBreak
5707       ‘multiline’, ‘password’, or ‘fileselect’%
5708     }\@ehc
5709   \else
5710     \HyField@UseFlag{Ff}{Comb}%
5711   \fi
5712 \fi
5713 \HyField@UseFlag{Ff}{RichText}%
5714 \HyField@PrintFlags{Ff}{text field}%
5715 \bitsetIsEmpty{HyField@Ff}{%
5716   \let\Fld@flags\ltx@empty
5717 }{%
5718   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5719 }%
5720 }
```

### 20.1.8 Choice fields

\HyField@FlagsChoice

```
5721 \def\HyField@FlagsChoice{%
5722   \HyField@FlagsAnnot{choice field}%
5723   \bitsetReset{HyField@Ff}%
5724   \HyField@UseFlag{Ff}{ReadOnly}%
5725   \HyField@UseFlag{Ff}{Required}%
5726   \HyField@UseFlag{Ff}{NoExport}%
5727   \HyField@UseFlag{Ff}{Combo}%
5728   \ifFld@combo
5729     \HyField@UseFlag{Ff}{Edit}%
5730   \fi
5731   \HyField@UseFlag{Ff}{Sort}%
5732   \HyField@UseFlag{Ff}{MultiSelect}%
5733   \ifFld@combo
5734     \ifFld@edit
5735       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5736     \fi
5737   \fi
5738   \HyField@UseFlag{Ff}{CommitOnSelChange}%

```

```

5739 \HyField@PrintFlags{Ff}{choice field}%
5740 \bitsetIsEmpty{HyField@Ff}{%
5741   \let\Fld@flags\ltx@empty
5742 }{%
5743   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5744 }%
5745 }

```

## 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`.

```

5746 \def\HyField@PDFChoices#1{%
5747   \begingroup
5748   \global\let\Fld@choices\ltx@empty
5749   \let\HyTmp@optlist\ltx@empty
5750   \let\HyTmp@optitem\relax
5751   \count@=0 %
5752   \kv@parse{#1}{%
5753     \Hy@pdfstringdef\kv@key\kv@key
5754     \ifx\kv@value\relax
5755       \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
5756         \xdef\Fld@choices{\Fld@choices(\kv@key)(\kv@key)}%
5757       \else
5758         \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5759       \fi
5760     \else
5761       \Hy@pdfstringdef\kv@value\kv@value
5762       \xdef\Fld@choices{\Fld@choices(\kv@value)(\kv@key)}%
5763     \fi
5764     \edef\HyTmp@optlist{%
5765       \HyTmp@optlist
5766       \HyTmp@optitem{\the\count@}{\kv@key}0%
5767     }%
5768     \advance\count@ by 1 %
5769     \@gobbletwo
5770   }%
5771   \xdef\Fld@choices{/Opt[\Fld@choices]}%
5772   \ifFld@multiselect
5773     \HyField@@PDFChoices{DV}\Fld@default
5774     \HyField@@PDFChoices{V}\Fld@value
5775   \else
5776     \ifx\Fld@default\relax
5777     \else
5778       \pdfstringdef\Hy@gtemp\Fld@default
5779       \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5780     \fi
5781     \ifx\Fld@value\relax
5782     \else
5783       \pdfstringdef\Hy@gtemp\Fld@value
5784       \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5785     \fi
5786   \fi
5787   \endgroup
5788 }

```



\HyField@@PDFChoices

```
5789 \def\HyField@@PDFChoices#1#2{%
5790   \ifx#2\relax
5791   \else
5792     \count@=0 %
5793     \def\HyTmp@optitem##1##2##3{%
5794       \def\HyTmp@key{##2}%
5795       \ifx\HyTmp@key\Hy@gtemp
5796         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5797           \HyTmp@optlist
5798           \HyTmp@optitem{##1}{##2}1%
5799         }%
5800       \let\HyTmp@found=Y%
5801     \else
5802       \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5803         \HyTmp@optlist
5804         \HyTmp@optitem{##1}{##2}##3%
5805       }%
5806     \fi
5807   }%
5808   \expandafter\comma@parse\expandafter{#2}{%
5809     \pdfstringdef\Hy@gtemp\comma@entry
5810     \let\HyTmp@found=N %
5811     \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5812     \HyTmp@optlist
5813     \ifx\HyTmp@found Y%
5814       \advance\count@ by 1 %
5815     \else
5816       \@onelevel@sanitize\comma@entry
5817       \PackageWarning{hyperref}{%
5818         \string\ChoiceBox: Ignoring value ‘\comma@entry’,%
5819         \MessageBreak
5820         it cannot be found in the choices%
5821       }%
5822     \fi
5823     \@gobble
5824   }%
5825   \def\HyTmp@optitem##1##2##3{%
5826     \ifnum##3=1 %
5827       (##2)%
5828     \fi
5829   }%
5830   \ifcase\count@
5831   \or
5832     \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5833   \else
5834     \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5835   \ifx#1V%
5836     \def\HyTmp@optitem##1##2##3{%
5837       \ifnum##3=1 %
5838         \@firstofone{ ##1}%
5839       \fi
5840     }%
5841     \edef\HyTmp@optlist{\HyTmp@optlist}%
5842     \xdef\Fld@choices{%
5843       \Fld@choices
5844       /I[\expandafter\@firstofone\HyTmp@optlist]%

```

```

5845     }%
5846     \fi
5847     \fi
5848     \fi
5849 }

```

## 20.3 Forms

\HyField@SetKeys

```

5850 \def\HyField@SetKeys{%
5851   \kvsetkeys{Field}%
5852 }

5853 \newif\ifFld@checked
5854 \newif\ifFld@disabled
5855 \Fld@checkedfalse
5856 \Fld@disabledfalse
5857 \newcount\Fld@menulength
5858 \newdimen\Fld@Width
5859 \newdimen\Fld@charsize
5860 \Fld@charsize=10\p@
5861 \def\Fld@maxlen{0}
5862 \def\Fld@align{0}
5863 \def\Fld@color{0 0 0 rg}
5864 \def\Fld@bcolor{1 1 1}
5865 \def\Fld@bordercolor{1 0 0}
5866 \def\Fld@bordersep{1\p@}
5867 \def\Fld@borderwidth{1}
5868 \def\Fld@borderstyle{S}
5869 \def\Fld@cbsymbol{4}
5870 \def\Fld@radiosymbol{H}
5871 \def\Fld@rotation{0}
5872 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
5873 \def\endForm{\@endForm}
5874 \newif\ifForm@html
5875 \Form@htmlfalse
5876 \def\Form@boolkey#1#2{%
5877   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5878 }
5879 \define@key{Form}{action}{%
5880   \hyper@normalise\Hy@DefFormAction{#1}%
5881 }
5882 \def\Hy@DefFormAction{\def\Form@action}
5883 \def\enc@html{html}
5884 \define@key{Form}{encoding}{%
5885   \def\Hy@tempa{#1}%
5886   \ifx\Hy@tempa\enc@html
5887     \Form@htmltrue
5888     \def\Fld@export{html}%
5889   \else
5890     \Hy@Warning{%
5891       Form 'encoding' key with \MessageBreak
5892       unknown value '#1'%
5893     }%
5894     \Form@htmlfalse
5895   \fi
5896 }

```

```

5897 \define@key{Form}{method}{%
5898   \lowercase{\def\Hy@temp{#1}}%
5899   \@ifundefined{Form@method@\Hy@temp}{%
5900     \@onelevel@sanitize\Hy@temp
5901     \Hy@Error{%
5902       Unknown method '\Hy@temp'.\MessageBreak
5903       Known values are 'post' and 'get'%
5904     }\@ehc
5905   }{%
5906     \let\Form@method\Hy@temp
5907     \ifcase\@nameuse{Form@method@\Hy@temp} %
5908       \Fld@getmethodfalse
5909     \else
5910       \Fld@getmethodtrue
5911     \fi
5912   }%
5913 }
5914 \def\Form@method{
5915 \@namedef{Form@method@post}{0}
5916 \@namedef{Form@method@get}{1}

5917 \newif\ifHyField@NeedAppearances
5918 \def\HyField@NeedAppearancesfalse{%
5919   \global\let\ifHyField@NeedAppearances\iffalse
5920 }
5921 \def\HyField@NeedAppearancetrue{%
5922   \global\let\ifHyField@NeedAppearances\iftrue
5923 }
5924 \HyField@NeedAppearancetrue
5925 \define@key{Form}{NeedAppearances}[true]{%
5926   \edef\Hy@tempa{#1}%
5927   \ifx\Hy@tempa\Hy@true
5928     \HyField@NeedAppearancetrue
5929   \else
5930     \ifx\Hy@tempa\Hy@false
5931       \HyField@NeedAppearancesfalse
5932     \else
5933       \Hy@Error{%
5934         Unexpected value '\Hy@tempa'.\MessageBreak
5935         of option 'NeedAppearances' instead of\MessageBreak
5936         'true' or 'false'%
5937       }\@ehc
5938     \fi
5939   \fi
5940 }
5941 \def\Field@boolkey#1#2{%
5942   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5943 }
5944 \ifHy@texht
5945   \newtoks\Field@toks
5946   \Field@toks={ }%
5947   \def\Field@addtoks#1#2{%
5948     \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
5949     \@processme
5950   }%
5951 \else
5952   \def\Hy@WarnHTMLFieldOption#1{%
5953     \Hy@Warning{%

```

```

5954     HTML field option '#1'\MessageBreak
5955     is ignored%
5956   }%
5957 }%
5958 \fi
5959 \def\Fld@checkequals#1=#2=#3\{%
5960   \def\@currDisplay{#1}%
5961   \ifx\#2\%
5962     \def\@currValue{#1}%
5963   \else
5964     \def\@currValue{#2}%
5965   \fi
5966 }
5967 \define@key{Field}{loc}{%
5968   \def\Fld@loc{#1}%
5969 }
5970 \define@key{Field}{checked}[true]{%
5971   \lowercase{\Field@boolkey{#1}}{checked}%
5972 }
5973 \define@key{Field}{disabled}[true]{%
5974   \lowercase{\Field@boolkey{#1}}{disabled}%
5975 }
5976 \ifHy@texht
5977   \define@key{Field}{accesskey}{%
5978     \Field@addtoks{accesskey}{#1}%
5979   }%
5980   \define@key{Field}{tabkey}{%
5981     \Field@addtoks{tabkey}{#1}%
5982   }%
5983 \else
5984   \define@key{Field}{accesskey}{%
5985     \Hy@WarnHTMLFieldOption{accesskey}%
5986   }%
5987   \define@key{Field}{tabkey}{%
5988     \Hy@WarnHTMLFieldOption{tabkey}%
5989   }%
5990 \fi
5991 \define@key{Field}{name}{%
5992   \def\Fld@name{#1}%
5993 }
5994 \let\Fld@altname\relax
5995 \define@key{Field}{altname}{%
5996   \def\Fld@altname{#1}%
5997 }
5998 \let\Fld@mappingname\relax
5999 \define@key{Field}{mappingname}{%
6000   \def\Fld@mappingname{#1}%
6001 }
6002 \define@key{Field}{width}{%
6003   \def\Fld@width{#1}%
6004   \Field@Width#1\setbox0=\hbox{m}%
6005 }
6006 \define@key{Field}{maxlen}{%
6007   \def\Fld@maxlen{#1}%
6008 }
6009 \define@key{Field}{menulength}{%
6010   \Fld@menulength=#1\relax

```

```

6011 }
6012 \define@key{Field}{height}{%
6013   \def\Fld@height{#1}%
6014 }
6015 \define@key{Field}{charsize}{%
6016   \setlength{\Fld@charsize}{#1}%
6017 }
6018 \define@key{Field}{borderwidth}{%
6019   \Hy@defaultbp\Fld@borderwidth{#1}%
6020 }
6021 \def\Hy@defaultbp#1#2{%
6022   \begingroup
6023     \afterassignment\Hy@defaultbpAux
6024     \dimen@=#2bp\relax{#1}{#2}%
6025 }
6026 \begingroup\expandafter\expandafter\expandafter\endgroup
6027 \expandafter\ifx\csname dimexpr\endcsname\relax
6028   \def\Hy@defaultbpAux#1\relax#2#3{%
6029     \ifx!#1!%
6030       \endgroup
6031       \def#2{#3}%
6032     \else
6033       \dimen@=.99626\dimen@
6034       \edef\x{\endgroup
6035         \def\noexpand#2{%
6036           \strip@pt\dimen@
6037         }%
6038       }\x
6039     \fi
6040   }%
6041 \else
6042   \def\Hy@defaultbpAux#1\relax#2#3{%
6043     \ifx!#1!%
6044       \endgroup
6045       \def#2{#3}%
6046     \else
6047       \edef\x{\endgroup
6048         \def\noexpand#2{%
6049           \strip@pt\dimexpr\dimen@*800/803\relax
6050         }%
6051       }\x
6052     \fi
6053   }%
6054 \fi
6055 \define@key{Field}{borderstyle}{%
6056   \let\Hy@temp\Fld@borderstyle
6057   \def\Fld@borderstyle{#1}%
6058   \Hy@Match\Fld@borderstyle{%
6059     ~[SDBIU]$%
6060   }{}{%
6061     \Hy@Warning{%
6062       Invalid value '@pdfborderstyle'\MessageBreak
6063       for option 'pdfborderstyle'. Valid values:\MessageBreak
6064       \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
6065       \space\space I (Inset), U (Underline)\MessageBreak
6066       Option setting is ignored%
6067     }%

```

```

6068 \let\Fld@borderstyle\Hy@temp
6069 }%
6070 }
6071 \define@key{Field}{bordersep}{%
6072 \def\Fld@bordersep{#1}%
6073 }
6074 \define@key{Field}{default}{%
6075 \def\Fld@default{#1}%
6076 }
6077 \define@key{Field}{align}{%
6078 \def\Fld@align{#1}%
6079 }
6080 \define@key{Field}{value}{%
6081 \def\Fld@value{#1}%
6082 }
6083 \define@key{Field}{checkboxsymbol}{%
6084 \Fld@DingDef\Fld@cbsymbol{#1}%
6085 }
6086 \define@key{Field}{radiosymbol}{%
6087 \Fld@DingDef\Fld@radiosymbol{#1}%
6088 }
6089 \def\Fld@DingDef#1#2{%
6090 \let\Fld@temp\ltx@empty
6091 \Fld@@@DingDef#2\ding{ }\@nil
6092 \let#1\Fld@temp
6093 }
6094 \def\Fld@@@DingDef#1\ding#2#3\@nil{%
6095 \expandafter\def\expandafter\Fld@temp\expandafter{%
6096 \Fld@temp
6097 #1%
6098 }%
6099 \ifx\\#3\\%
6100 \expandafter\@gobble
6101 \else
6102 \begingroup
6103 \lccode'0=#2\relax
6104 \lowercase{\endgroup
6105 \expandafter\def\expandafter\Fld@temp\expandafter{%
6106 \Fld@temp
6107 0%
6108 }%
6109 }%
6110 \expandafter\@firstofone
6111 \fi
6112 {%
6113 \Fld@@@DingDef#3\@nil
6114 }%
6115 }

6116 \define@key{Field}{rotation}{%
6117 \def\Fld@rotation{#1}%
6118 }

6119 \define@key{Field}{backgroundcolor}{%
6120 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
6121 }
6122 \define@key{Field}{bordercolor}{%
6123 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
6124 }

```

```

6125 \define@key{Field}{color}{%
6126   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
6127 }

6128 \let\Fld@onclick@code\ltx@empty
6129 \let\Fld@format@code\ltx@empty
6130 \let\Fld@validate@code\ltx@empty
6131 \let\Fld@calculate@code\ltx@empty
6132 \let\Fld@keystroke@code\ltx@empty
6133 \let\Fld@onfocus@code\ltx@empty
6134 \let\Fld@onblur@code\ltx@empty
6135 \let\Fld@onmousedown@code\ltx@empty
6136 \let\Fld@onmouseup@code\ltx@empty
6137 \let\Fld@onenter@code\ltx@empty
6138 \let\Fld@onexit@code\ltx@empty
6139 \def\Hy@temp#1{%
6140   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
6141 }
6142 \def\Hy@@temp#1#2{%
6143   \ifHy@pdfa
6144     \define@key{Field}{#2}{%
6145       \Hy@Error{%
6146         PDF/A: Additional action ‘#2’ is prohibited%
6147       }\@ehc
6148     }%
6149   \else
6150     \define@key{Field}{#2}{%
6151       \def#1{##1}%
6152     }%
6153   \fi
6154 }
6155 \Hy@temp{keystroke}
6156 \Hy@temp{format}
6157 \Hy@temp{validate}
6158 \Hy@temp{calculate}
6159 \Hy@temp{onfocus}
6160 \Hy@temp{onblur}
6161 \Hy@temp{onenter}
6162 \Hy@temp{onexit}
6163 \ifHy@texht
6164   \def\Hy@temp#1{%
6165     \define@key{Field}{#1}{%
6166       \Fld@addtoks{#1}{##1}%
6167     }%
6168   }%
6169 \else
6170   \def\Hy@temp#1{%
6171     \define@key{Field}{#1}{%
6172       \Hy@WarnHTMLFieldOption{#1}%
6173     }%
6174   }%
6175 \fi
6176 \Hy@temp{ondblclick}
6177 \Hy@temp{onmousedown}
6178 \Hy@temp{onmouseup}
6179 \Hy@temp{onmouseover}
6180 \Hy@temp{onmousemove}
6181 \Hy@temp{onmouseout}

```

```

6182 \Hy@temp{onkeydown}
6183 \Hy@temp{onkeyup}
6184 \Hy@temp{onselect}
6185 \Hy@temp{onchange}
6186 \Hy@temp{onkeypress}
6187 \ifHy@texht
6188   \define@key{Field}{onclick}{%
6189     \Field@addtoks{onclick}{#1}%
6190   }%
6191 \else
6192   \ifHy@pdfa
6193     \define@key{Field}{onclick}{%
6194       \Hy@Error{%
6195         PDF/A: Action 'onclick' is prohibited%
6196       }\@ehc
6197     }%
6198   \else
6199     \define@key{Field}{onclick}{%
6200       \def\Fld@onclick@code{#1}%
6201     }%
6202   \fi
6203 \fi

6204 \DeclareRobustCommand\TextField{%
6205   \@ifnextchar[{\@TextField}{\@TextField[]}%
6206 }
6207 \DeclareRobustCommand\ChoiceMenu{%
6208   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
6209 }
6210 \DeclareRobustCommand\CheckBox{%
6211   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
6212 }
6213 \DeclareRobustCommand\PushButton{%
6214   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
6215 }
6216 \DeclareRobustCommand\Gauge{%
6217   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
6218 }
6219 \DeclareRobustCommand\Submit{%
6220   \@ifnextchar[{\@Submit}{\@Submit[]}%
6221 }
6222 \DeclareRobustCommand\Reset{%
6223   \@ifnextchar[{\@Reset}{\@Reset[]}%
6224 }
6225 \def\LayoutTextField#1#2{% label, field
6226   #1 #2%
6227 }
6228 \def\LayoutChoiceField#1#2{% label, field
6229   #1 #2%
6230 }
6231 \def\LayoutCheckField#1#2{% label, field
6232   #1 #2%
6233 }
6234 \def\LayoutPushButtonField#1{% button
6235   #1%
6236 }
6237 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6238 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}

```



```

6239 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6240 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6241 \def\MakeButtonField#1{%
6242   \sbox0{%
6243     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
6244   }%
6245   \@tempdima\ht0 %
6246   \advance\@tempdima by \Fld@borderwidth bp %
6247   \advance\@tempdima by \Fld@borderwidth bp %
6248   \ht0\@tempdima
6249   \@tempdima\dp0 %
6250   \advance\@tempdima by \Fld@borderwidth bp %
6251   \advance\@tempdima by \Fld@borderwidth bp %
6252   \dp0\@tempdima
6253   \box0\relax
6254 }
6255 \def\DefaultHeightofSubmit{14pt}
6256 \def\DefaultWidthofSubmit{2cm}
6257 \def\DefaultHeightofReset{14pt}
6258 \def\DefaultWidthofReset{2cm}
6259 \def\DefaultHeightofCheckBox{\baselineskip}
6260 \def\DefaultWidthofCheckBox{\baselineskip}
6261 \def\DefaultHeightofChoiceMenu{\baselineskip}
6262 \def\DefaultWidthofChoiceMenu{\baselineskip}
6263 \def\DefaultHeightofText{\baselineskip}
6264 \def\DefaultHeightofTextMultiline{4\baselineskip}
6265 \def\DefaultWidthofText{3cm}
6266 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
6267 \def\DefaultOptionsofReset{print,name=Reset,noexport}
6268 \def\DefaultOptionsofPushButton{print}
6269 \def\DefaultOptionsofCheckBox{print}
6270 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

6271 \def\DefaultOptionsofListBox{print}
6272 \def\DefaultOptionsofComboBox{print,edit,sort}
6273 \def\DefaultOptionsofPopdownBox{print}
6274 \def\DefaultOptionsofRadio{print,notoggletooff}

```

## 21 Setup

```

6275 \ifHy@hyperfigures
6276   \Hy@Info{Hyper figures ON}%
6277 \else
6278   \Hy@Info{Hyper figures OFF}%
6279 \fi
6280 \ifHy@nesting
6281   \Hy@Info{Link nesting ON}%
6282 \else
6283   \Hy@Info{Link nesting OFF}%
6284 \fi
6285 \ifHy@hyperindex
6286   \Hy@Info{Hyper index ON}%
6287 \else
6288   \Hy@Info{Hyper index OFF}%
6289 \fi
6290 \ifHy@backref

```

```

6291 \Hy@Info{backreferencing ON}%
6292 \else
6293 \Hy@Info{backreferencing OFF}%
6294 \fi
6295 \ifHy@colorlinks
6296 \Hy@Info{Link coloring ON}%
6297 \else
6298 \Hy@Info{Link coloring OFF}%
6299 \fi
6300 \ifHy@ocgcolorlinks
6301 \Hy@Info{Link coloring with OCG ON}%
6302 \else
6303 \Hy@Info{Link coloring with OCG OFF}%
6304 \fi
6305 \ifHy@pdfa
6306 \Hy@Info{PDF/A mode ON}%
6307 \else
6308 \Hy@Info{PDF/A mode OFF}%
6309 \fi

```

## 22 Low-level utility macros

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

```

6310 \edef\hyper@hash{\string#}
6311 \edef\hyper@tilde{\string~}
6312 \edef\hyper@quote{\string"}

```

Support \label before \begin{document}.

```

6313 \def\@currentHref{Doc-Start}
6314 \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.

```

6315 \Hy@AtBeginDocument{%
6316 \Hy@pdfstringtrue
6317 \PDF@SetupDoc
6318 \let\PDF@SetupDoc\@empty
6319 \Hy@DisableOption{pdfpagescrop}%
6320 \Hy@DisableOption{pdfpagemode}%
6321 \Hy@DisableOption{pdfnonfullscreenpagemode}%
6322 \Hy@DisableOption{pdfdirection}%
6323 \Hy@DisableOption{pdfviewarea}%
6324 \Hy@DisableOption{pdfviewclip}%
6325 \Hy@DisableOption{pdfprintarea}%
6326 \Hy@DisableOption{pdfprintclip}%
6327 \Hy@DisableOption{pdfprintscaling}%
6328 \Hy@DisableOption{pdfduplex}%
6329 \Hy@DisableOption{pdfpicktraybypdfsize}%
6330 \Hy@DisableOption{pdfprintpagerange}%
6331 \Hy@DisableOption{pdfnumcopies}%
6332 \Hy@DisableOption{pdfstartview}%
6333 \Hy@DisableOption{pdfstartpage}%
6334 \Hy@DisableOption{pdftoolbar}%
6335 \Hy@DisableOption{pdfmenubar}%
6336 \Hy@DisableOption{pdfwindowui}%
6337 \Hy@DisableOption{pdffitwindow}%
6338 \Hy@DisableOption{pdfcenterwindow}%

```

```

6339 \Hy@DisableOption{pdfdisplaydoctitle}%
6340 \Hy@DisableOption{pdfpagelayout}%
6341 \Hy@DisableOption{pdflang}%
6342 \Hy@DisableOption{baseurl}%
6343 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
6344 \Hy@pdfstringfalse
6345 }

```

Ignore star from referencing macros:

```

6346 \LetLtxMacro\NoHy@OrgRef\ref
6347 \DeclareRobustCommand*{\ref}{%
6348 \ifstar\NoHy@OrgRef\NoHy@OrgRef
6349 }
6350 \LetLtxMacro\NoHy@OrgPageRef\pageref
6351 \DeclareRobustCommand*{\pageref}{%
6352 \ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6353 }

```

## 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.

```

6354 \def\NoHyper{%
6355 \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6356 \def\hyper@@anchor##1##2{##2\Hy@xspace@end}%
6357 \global\let\hyper@livelink\hyper@link
6358 \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
6359 \let\hyper@anchor\ltx@gobble
6360 \let\hyper@anchorstart\ltx@gobble
6361 \def\hyper@anchorend{\Hy@xspace@end}%
6362 \let\hyper@linkstart\ltx@gobbletwo
6363 \def\hyper@linkend{\Hy@xspace@end}%
6364 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6365 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6366 \let\Hy@backout\@gobble
6367 }
6368 \def\stop@hyper{%
6369 \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6370 \let\Hy@backout\@gobble
6371 \let\hyper@@anchor\ltx@gobble
6372 \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
6373 \let\hyper@anchor\ltx@gobble
6374 \let\hyper@anchorstart\ltx@gobble
6375 \def\hyper@anchorend{\Hy@xspace@end}%
6376 \let\hyper@linkstart\ltx@gobbletwo
6377 \def\hyper@linkend{\Hy@xspace@end}%
6378 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6379 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6380 }
6381 \def\endNoHyper{%
6382 \global\let\hyper@link\hyper@livelink
6383 }
6384 \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:

```
6385 \*nohyperref
6386 \RequirePackage{letltxmacro}[2008/06/13]
6387 \let\hyper@@anchor\@gobble
6388 \def\hyper@link#1#2#3{#3}%
6389 \let\hyper@anchorstart\@gobble
6390 \let\hyper@anchorend\@empty
6391 \let\hyper@linkstart\@gobbletwo
6392 \let\hyper@linkend\@empty
6393 \def\hyper@linkurl#1#2{#1}%
6394 \def\hyper@linkfile#1#2#3{#1}%
6395 \def\hyper@link@{#1}#2#3{#1}%
6396 \let\PDF@SetupDoc\@empty
6397 \let\PDF@FinishDoc\@empty
6398 \def\nohyperpage#1{#1}
```

Some top-level commands:

```
6399 \def\Acrobatmenu#1#2{\leavevmode#2}
6400 \let\pdfstringdefDisableCommands\@gobbletwo
6401 \let\texorpdfstring\@firstoftwo
6402 \let\pdfbookmark\@undefined
6403 \newcommand\pdfbookmark[3]{}
6404 \let\phantomsection\@empty
6405 \let\hypersetup\@gobble
6406 \let\hyperbaseurl\@gobble
6407 \newcommand*{\href}[3]{}
6408 \let\hyperdef\@gobbletwo
6409 \let\hyperlink\@gobble
6410 \let\hypertarget\@gobble
6411 \def\hyperref{%
6412   \@ifnextchar{\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6413 }
6414 \long\def\@gobbleopt[#1]{}
6415 \let\hyperpage\@empty
```

Ignore star from referencing macros:

```
6416 \LetLtxMacro\NoHy@OrgRef\ref
6417 \DeclareRobustCommand*\ref{%
6418   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6419 }
6420 \LetLtxMacro\NoHy@OrgPageRef\pageref
6421 \DeclareRobustCommand*\pageref{%
6422   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6423 }
6424 \</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}`

```
6425 \*package}
6426 \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.

```
6427 \if@filesw
6428 \ifHy@typexml
6429 \immediate\closeout\@mainaux
6430 \immediate\openout\@mainaux\jobname.aux\relax
6431 \immediate\write\@auxout{<relaxxml>\relax}%
6432 \fi
6433 \immediate\write\@auxout{%
6434 \string\providecommand\string\HyperFirstAtBeginDocument{%
6435 \string\AtBeginDocument}^^J%
6436 \string\HyperFirstAtBeginDocument{%
6437 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6438 \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
6439 \string\gdef\string\contentsline%
6440 \string#1\string#2\string#3\string#4{%
6441 \string\oldcontentsline%
6442 {\string#1}{\string#2}{\string#3}}^^J%
6443 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6444 \string\gdef\string\newlabel\string#1\string#2{%
6445 \string\newlabelxx{\string#1}\string#2}^^J%
6446 \string\gdef\string\newlabelxx%
6447 \string#1\string#2\string#3\string#4\string#5\string#6{%
6448 \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.

```
6449 \string\AtEndDocument{%
6450 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6451 \string\let\string\contentsline\string\oldcontentsline^^J%
6452 \string\let\string\newlabel\string\oldnewlabel^^J%
6453 \string\fi%
6454 }^^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.

```
6455 \string\fi%
6456 }^^J%
6457 \string\global\string\let\string\hyper@last\relax^^J%
6458 \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6459 }%
6460 \fi
6461 \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.

```
6462 \ifx\hyper@last\@undefined
6463 \def\@starttoc#1{%
6464 \begingroup
6465 \makeatletter
```

```

6466 \ltx@ifpackageloaded{parskip}{\parskip\z@}{}%
6467 \IfFileExists{\jobname.#1}{%
6468 \Hy@WarningNoLine{%
6469 old #1 file detected, not used; run LaTeX again%
6470 }%
6471 }}%
6472 \if@filesw
6473 \expandafter\newwrite\csname tf@#1\endcsname
6474 \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
6475 \fi
6476 \@nobreakfalse
6477 \endgroup
6478 }%
6479 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}}%
6480 \fi
6481 }

```

## 26 Title strings

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

```

6482 \ifHy@pdfusetitle
6483 \let\HyOrg@title\title
6484 \let\HyOrg@author\author
6485 \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
6486 \def\Hy@scanopttitle[#1]{%
6487 \gdef\Hy@title{#1}%
6488 \HyOrg@title{#1}%
6489 }%
6490 \def\Hy@scantitle#1{%
6491 \gdef\Hy@title{#1}%
6492 \HyOrg@title{#1}%
6493 }%
6494 \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6495 \def\Hy@scanoptauthor[#1]{%
6496 \gdef\Hy@author{#1}%
6497 \HyOrg@author{#1}%
6498 }%
6499 \def\Hy@scanauthor#1{%
6500 \gdef\Hy@author{#1}%
6501 \HyOrg@author{#1}%
6502 }%

```

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

```

6503 \begingroup
6504 \def\process@me#1\@nil#2{%
6505 \expandafter\let\expandafter\x\csname @#2\endcsname
6506 \edef\y{\expandafter\strip@prefix\meaning\x}%
6507 \def\c##1#1##2\@nil{%
6508 \ifx\##1\%
6509 \else
6510 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6511 \expandafter{\x}%
6512 \fi

```

```

6513 }%
6514 \expandafter\c\y\relax#1\@nil
6515 }%
6516 \expandafter\process@me\string\@latex@\@nil{title}%
6517 \expandafter\process@me\string\@latex@\@nil{author}%
6518 \endgroup
6519 \fi
6520 \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.

```

6521 \def\Hy@UseMaketitleString#1{%
6522 \ltx@ifundefined{Hy@#1}{-}%
6523 \begingroup
6524 \let\Hy@saved@hook\pdfstringdefPreHook
6525 \pdfstringdefDisableCommands{%
6526 \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
6527 \let\newline\\%
6528 }%
6529 \expandafter\ifx\csname @pdf#1\endcsname\@empty
6530 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6531 \csname Hy@#1\endcsname\@empty
6532 }%
6533 \fi
6534 \global\let\pdfstringdefPreHook\Hy@saved@hook
6535 \endgroup
6536 }%
6537 }
6538 \def\Hy@newline@title#1{ #1}
6539 \def\Hy@newline@author#1{, #1}
6540 \def\Hy@UseMaketitleInfos{%
6541 \Hy@UseMaketitleString{title}%
6542 \Hy@UseMaketitleString{author}%
6543 }

```

## 27 Page numbers

This stuff is done by Heiko Oberdiek.

## 28 Every page

```

6544 \RequirePackage{atbegshi}[2007/09/09]
6545 \let\Hy@EveryPageHook\ltx@empty
6546 \let\Hy@EveryPageBoxHook\ltx@empty
6547 \let\Hy@FirstPageHook\ltx@empty
6548 \AtBeginShipout{%
6549 \Hy@EveryPageHook
6550 \ifx\Hy@EveryPageBoxHook\ltx@empty

```

```

6551 \else
6552 \setbox\AtBeginShipoutBox=\vbox{%
6553 \offinterlineskip
6554 \Hy@EveryPageBoxHook
6555 \box\AtBeginShipoutBox
6556 }%
6557 \fi
6558 }
6559 \ltx@iffileloaded{hpdf.tex.def}{%
6560 \AtBeginShipout{%
6561 \Hy@FirstPageHook
6562 \global\let\Hy@FirstPageHook\ltx@empty
6563 }%
6564 }{%
6565 \AtBeginShipoutFirst{%
6566 \Hy@FirstPageHook
6567 }%
6568 }
6569 \g@addto@macro\Hy@FirstPageHook{%
6570 \PDF@FinishDoc
6571 \global\let\PDF@FinishDoc\ltx@empty
6572 }

```

## 28.1 PDF /PageLabels

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

```

6573 \ifHy@pdfpagelabels
6574 \begingroup\expandafter\expandafter\expandafter\endgroup
6575 \expandafter\ifx\csname thepage\endcsname\relax
6576 \Hy@pdfpagelabelsfalse
6577 \Hy@WarningNoLine{%
6578 Option 'pdfpagelabels' is turned off\MessageBreak
6579 because \string\thepage\space is undefined%
6580 }%
6581 \csname fi\endcsname
6582 \csname iffalse\expandafter\endcsname
6583 \fi

```

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

```

6584 \def\thispdfpagelabel#1{%
6585 \gdef\HyPL@thisLabel{#1}%
6586 }%
6587 \global\let\HyPL@thisLabel\relax

```

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

```

6588 \let\HyPL@Labels\ltx@empty

```

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

```

6589 \newcount\Hy@abspage
6590 \Hy@abspage=0 %

```

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

```

6591 \def\HyPL@LastType{init}%
6592 \def\HyPL@LastNumber{0}%
6593 \let\HyPL@LastPrefix\ltx@empty

```



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

```

6594 \def\HyPL@arabic{D}%
6595 \def\HyPL@Roman{R}%
6596 \def\HyPL@roman{r}%
6597 \def\HyPL@Alph{A}%
6598 \def\HyPL@alph{a}%

6599 \let\HyPL@SlidesSetPage\ltx@empty
6600 \ltx@ifclassloaded{slides}{%
6601   \def\HyPL@SlidesSetPage{%
6602     \advance\c@page\ltx@one
6603     \ifnum\value{page}>\ltx@one
6604       \protected@edef\HyPL@SlidesOptionalPage{%
6605         \Hy@SlidesFormatOptionalPage{thepage}%
6606       }%
6607     \else
6608       \let\HyPL@SlidesOptionalPage\ltx@empty
6609     \fi
6610     \advance\c@page-\ltx@one
6611     \def\HyPL@page{%
6612       \csname the\Hy@SlidesPage\endcsname
6613       \HyPL@SlidesOptionalPage
6614     }%
6615   }%
6616 }{}%
```

`\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.

```

6617 \def\HyPL@EveryPage{%
6618   \begingroup
6619   \ifx\HyPL@thisLabel\relax
6620     \let\HyPL@page\thepage
6621     \HyPL@SlidesSetPage
6622   \else
6623     \let\HyPL@page\HyPL@thisLabel
6624     \global\let\HyPL@thisLabel\relax
6625   \fi
6626   \let\HyPL@Type\relax
6627   \ifnum\c@page>0 %
6628     \ifx\HyPL@SlidesSetPage\ltx@empty
6629       \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6630     \fi
6631   \fi
6632   \let\Hy@temp Y%
6633   \ifx\HyPL@Type\HyPL@LastType
6634   \else
6635     \let\Hy@temp N%
6636   \fi
6637   \ifx\HyPL@Type\relax
6638     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6639   \else
6640     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6641   \fi
6642   \ifx\HyPL@Prefix\HyPL@LastPrefix
6643   \else
6644     \let\Hy@temp N%
6645   \fi
6646   \if Y\Hy@temp
```

```

6647 \advance\c@page by -1 %
6648 \ifnum\HyPL@LastNumber=\the\c@page\relax
6649 \else
6650 \let\Hy@temp N%
6651 \fi
6652 \Hy@StepCount\c@page
6653 \fi
6654 \if N\Hy@temp
6655 \ifx\HyPL@Type\relax
6656 \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
6657 \else
6658 \HyPL@StorePageLabel{%
6659 \ifx\HyPL@Prefix\@empty
6660 \else
6661 /P(\HyPL@Prefix)%
6662 \fi
6663 /S/\csname HyPL\HyPL@Type\endcsname
6664 \ifnum\the\c@page=1 %
6665 \else
6666 \space/St \the\c@page
6667 \fi
6668 }%
6669 \fi
6670 \fi
6671 \xdef\HyPL@LastNumber{\the\c@page}%
6672 \global\let\HyPL@LastType\HyPL@Type
6673 \global\let\HyPL@LastPrefix\HyPL@Prefix
6674 \endgroup
6675 \Hy@GlobalStepCount\Hy@abspage
6676 }%

```

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

```

6677 \def\HyPL@CheckThePage#1\@nil{%
6678 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6679 }%

```

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

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

```

6680 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6681 \def\Hy@tempa{#4}%
6682 \def\Hy@tempb{\csname\endcsname\c@page}%
6683 \ifx\Hy@tempa\Hy@tempb
6684 \expandafter\ifx\csname HyPL#3\endcsname\relax
6685 \else
6686 \def\HyPL@Type{#3}%
6687 \def\HyPL@Prefix{#2}%
6688 \fi
6689 \else
6690 \begingroup
6691 \let\Hy@next\endgroup
6692 \let\HyPL@found\@undefined
6693 \def\arabic{\HyPL@Format{arabic}}%
6694 \def\Roman{\HyPL@Format{Roman}}%
6695 \def\roman{\HyPL@Format{roman}}%

```

```

6696 \def\Alph{\HyPL@Format{Alph}}%
6697 \def\alph{\HyPL@Format{alph}}%
6698 \protected@edef\Hy@temp{#1}%
6699 \ifx\HyPL@found\relax
6700 \toks@{\expandafter{\Hy@temp}}%
6701 \edef\Hy@next{\endgroup
6702 \noexpand\HyPL@@@CheckThePage\the\toks@
6703 \noexpand\HyPL@found\relax\noexpand\@nil
6704 }%
6705 \fi
6706 \Hy@next
6707 \fi
6708 }%

```

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

```

6709 \def\HyPL@Format#1#2{%
6710 \ifx\HyPL@found\@undefined
6711 \expandafter\ifx\csname c@#2\endcsname\c@page
6712 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6713 \else
6714 \expandafter\noexpand\csname#1\endcsname{#2}%
6715 \fi
6716 \else
6717 \expandafter\noexpand\csname#1\endcsname{#2}%
6718 \fi
6719 }%

```

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

```

6720 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6721 \def\Hy@tempa{#3}%
6722 \def\Hy@tempb{\HyPL@found\relax}%
6723 \ifx\Hy@tempa\Hy@tempb
6724 \def\HyPL@Type{#2}%
6725 \def\HyPL@Prefix{#1}%
6726 \fi
6727 }%

```

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

```

6728 \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`.

```

6729 \def\HyPL@Useless{0<</S/D>>}%
6730 \@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.

```

6731 \def\HyPL@SetPageLabels{%
6732 \@onelevel@sanitize\HyPL@Labels
6733 \ifx\HyPL@Labels\@empty
6734 \else
6735 \ifx\HyPL@Labels\HyPL@Useless

```

```

6736     \else
6737         \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>>}%
6738     \fi
6739 \fi
6740 }%

6741 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6742 \fi

Option ‘pdfpagelabels’ has been used and is now disabled.
6743 \Hy@DisableOption{pdfpagelabels}
6744 \endpackage

```

### 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
6745 \ifpdf
6746 \pdf@ifdraftmode{%
6747     \let\Hy@PutCatalog\ltx@gobble
6748 }{%
6749     \let\Hy@PutCatalog\pdfcatalog
6750 }
6751 \endpdf

```

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.

```

6752 \ifvtex
6753 \providecommand*\XR@ext{pdf}
6754 \edef\Hy@VTeXversion{%
6755     \ifx\VTeXversion\@undefined
6756         \z@
6757     \else
6758         \ifx\VTeXversion\relax
6759             \z@
6760         \else
6761             \VTeXversion
6762         \fi
6763     \fi
6764 }
6765 \begingroup
6766 \ifnum\Hy@VTeXversion<660 %
6767     \gdef\Hy@PutCatalog#1{%
6768         \Hy@WarningNoLine{%
6769             VTeX 6.59g or above required for pdfpagelabels%
6770         }%
6771     }%
6772 \else
6773     \gdef\Hy@PutCatalog#1{%
6774         \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6775     }%
6776     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%

```

```

6777 \ifx\|#2\%
6778 \else
6779 \immediate\special{!pdfpagelabels #2}%
6780 \fi
6781 }%
6782 \fi
6783 \endgroup
6784 \</vtex>

6785 \< *pdftex | vtex>

```

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

```

6786 \ifHy@pdfpagelabels
6787 \def\HyPL@StorePageLabel#1{%
6788 \toks@ \expandafter{\HyPL@Labels}%
6789 \xdef\HyPL@Labels{%
6790 \the\toks@
6791 \the\Hy@abspage<<#1>>%
6792 }%
6793 }%

```

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.

```

6794 \RequirePackage{atveryend}[2009/12/07]%
6795 \AtVeryEndDocument{%
6796 \HyPL@SetPageLabels
6797 }%

6798 \fi
6799 \</pdftex | vtex>

```

### 28.1.2 xetex

```

6800 \< *xetex>
6801 \HyPsd@LoadUnicode
6802 \Hy@unicodetrue
6803 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6804 \else
6805 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6806 \fi
6807 \HyPsd@LoadStringEnc
6808 \define@key{Hyp}{unicode}[true]{%
6809 \Hy@boolkey{unicode}{#1}%
6810 \ifHy@unicode
6811 \else
6812 \Hy@Warning{%
6813 XeTeX driver only supports 'unicode=true'. Ignoring\MessageBreak
6814 option setting 'unicode=false'%
6815 }%
6816 \Hy@unicodetrue
6817 \fi
6818 }
6819 \define@key{Hyp}{pdfencoding}{%
6820 \edef\HyPsd@temp{#1}%
6821 \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6822 \let\HyPsd@pdfencoding\HyPsd@temp
6823 \else

```

```

6824 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6825 \let\HyPsd@pdfencoding\HyPsd@temp
6826 \else
6827 \Hy@Warning{%
6828 XeTeX driver only supports\MessageBreak
6829 'pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6830 setting 'pdfencoding=\HyPsd@temp'%
6831 }%
6832 \fi
6833 \fi
6834 }
6835 \let\HyXeTeX@CheckUnicode\relax
6836 \</xetex>

```

### 28.1.3 pdfmarkbase, dvipdfm, xetex

```

6837 (*pdfmarkbase)
6838 \begingroup
6839 \@ifundefined{headerps@out}{\}%
6840 \toks@\expandafter{\Hy@FirstPageHook}%
6841 \xdef\Hy@FirstPageHook{%
6842 \noexpand\headerps@out{%
6843 systemdict /pdfmark known%
6844 {%
6845 userdict /?pdfmark systemdict /exec get put%
6846 }{%
6847 userdict /?pdfmark systemdict /pop get put %
6848 userdict /pdfmark systemdict /cleartomark get put%
6849 }%
6850 ifelse%
6851 }%
6852 \the\toks@
6853 }%
6854 }%
6855 \endgroup
6856 \</pdfmarkbase>

\Hy@PutCatalog
6857 \<dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfm@mark{docview << #1 >>}}
6858 (*pdfmarkbase)
6859 \def\Hy@PutCatalog#1{%
6860 \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
6861 }
6862 \</pdfmarkbase>

6863 (*pdfmarkbase | dvipdfm | xetex)
6864 \ifHy@pdfpagelabels

```

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

```

6865 \def\HyPL@StorePageLabel#1{%
6866 \if@filesw
6867 \begingroup
6868 \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6869 \immediate\write\@mainaux{%
6870 \string\HyPL@Entry{\Hy@tempa}%
6871 }%
6872 \endgroup
6873 \fi
6874 }%

```

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.

```

6875 \Hy@AtBeginDocument{%
6876   \if@filesw
6877     \immediate\write\@mainaux{%
6878       \string\providecommand\string*\string\HyPL@Entry[1]{}%
6879     }%
6880   \fi
6881   \ifx\HyPL@Labels\@empty
6882     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6883   \else
6884     \HyPL@SetPageLabels
6885   \fi
6886   \let\HyPL@Entry\@gobble
6887 }%
```

`\HyPL@Entry`

```

6888 \def\HyPL@Entry#1{%
6889   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6890     \HyPL@Labels
6891     #1%
6892   }%
6893 }%

6894 \fi
6895 </pdfmarkbase | dvipdfm | xetex>

6896 <*package>

6897 \ifx\MaybeStopEarly\relax
6898 \else
6899   \Hy@stoppedearlytrue
6900   \expandafter\MaybeStopEarly
6901 \fi
6902 \Hy@stoppedearlyfalse
```

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

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

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

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

Start with a fallback for equations

```

6903 \def\Hy@CounterExists#1{%
6904   \begingroup\expandafter\expandafter\expandafter\endgroup
6905   \expandafter\ifx\csname c@#1\endcsname\relax
6906     \expandafter\@gobble
6907   \else
6908     \begingroup\expandafter\expandafter\expandafter\endgroup
6909     \expandafter\ifx\csname the#1\endcsname\relax
6910       \expandafter\expandafter\expandafter\@gobble
6911     \else
6912       \expandafter\expandafter\expandafter\@firstofone
6913     \fi
6914   \fi
6915 }
6916 \Hy@CounterExists{section}{%
6917   \providecommand\theHequation{\theHsection.\arabic{equation}}}%
6918 }
6919 \Hy@CounterExists{part}{%
6920   \providecommand\theHpart{\arabic{part}}}%
6921 }
6922 \ltx@ifundefined{thechapter}{%
6923   \providecommand\theHsection   {\arabic{section}}}%
6924   \providecommand\theHfigure    {\arabic{figure}}}%
6925   \providecommand\theHtable     {\arabic{table}}}%
6926 }{%
6927   \providecommand\theHchapter   {\arabic{chapter}}}%
6928   \providecommand\theHfigure    {\theHchapter.\arabic{figure}}}%
6929   \providecommand\theHtable     {\theHchapter.\arabic{table}}}%
6930   \providecommand\theHsection   {\theHchapter.\arabic{section}}}%
6931 }
6932 \providecommand\theHsubsection  {\theHsection.\arabic{subsection}}
6933 \providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6934 \providecommand\theHparagraph   {\theHsubsubsection.\arabic{paragraph}}
6935 \providecommand\theHsubparagraph{\theHparagraph.\arabic{subparagraph}}
6936 \providecommand\theHtheorem     {\theHsection.\arabic{theorem}}
6937 \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.

6938 \let\H@item\item
6939 \newcounter{Item}
6940 \def\theHItem{\arabic{Item}}
6941 \def\item{%
6942   \@hyper@itemfalse
6943   \if@nmbrlist\@hyper@itemtrue\fi
6944   \H@item
6945 }

6946 \providecommand\theHenumi      {\theHItem}
6947 \providecommand\theHenumii     {\theHItem}
6948 \providecommand\theHenumiii    {\theHItem}
6949 \providecommand\theHenumiv     {\theHItem}
6950 \providecommand\theHHfootnote  {\arabic{Hfootnote}}
6951 \providecommand\theHmpfootnote{\arabic{mpfootnote}}
6952 \@ifundefined{theHHmpfootnote}{%
6953   \let\theHHmpfootnote\theHHfootnote
6954 }{}

```



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.

```
6955 \let\H@refstepcounter\refstepcounter
6956 \edef\name@of@eq{equation}%
6957 \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.

```
6958 \newif\if@hyper@item
6959 \newif\if@skiphyperref
6960 \@hyper@itemfalse
6961 \@skiphyperreffalse
6962 \def\refstepcounter#1{%
6963   \ifHy@pdfstring
6964   \else
6965     \H@refstepcounter{#1}%
6966     \edef\This@name{#1}%
6967     \ifx\This@name\name@of@slide
6968     \else
6969       \if@skiphyperref
6970       \else
6971         \if@hyper@item
6972         \stepcounter{Item}%
6973         \hyper@refstepcounter{Item}%
6974         \@hyper@itemfalse
6975       \else
6976         \hyper@refstepcounter{#1}%
6977       \fi
6978     \fi
6979   \fi
6980 \fi
6981 }
6982 \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.

```
6983 \@ifpackageloaded{amsmath}{-}{\newif\ifmeasuring@\measuring@false}
```

`\hyper@refstepcounter`

```
6984 \def\hyper@refstepcounter#1{%
6985   \edef\This@name{#1}%
6986   \ifx\This@name\name@of@eq
6987     \@ifundefined{theHequation}{%
6988       \make@stripped@name{\theequation}%
6989       \let\theHequation\newname
6990     }{}%
6991   \fi
6992   \HyCnt@ProvideTheHCounter{#1}%
6993   \hyper@makecurrent{#1}%
6994   \ifmeasuring@
6995   \else
6996     \Hy@raisedlink{%
6997       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6998     }%
```

```

6999 \fi
7000 }

```

`\Hy@ProvideTheHCounter` `\theH<counter>` is not set for counters that are defined before ‘hyperref’ is loaded. In `\cl@ckpt`, the clear counter list of the artificial counter `@ckpt`, L<sup>A</sup>T<sub>E</sub>X 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 L<sup>A</sup>T<sub>E</sub>X’, substring search `\in@` can be used.

```

7001 \def\HyCnt@ProvideTheHCounter#1{%
7002   \@ifundefined{theH#1}{%
7003     \expandafter\def\csname theH#1\endcsname{%
7004       \def\Hy@temp{\@elt{#1}}%
7005       \ltx@onelevel@sanitize\Hy@temp
7006       \let\HyOrg@elt\@elt
7007       \edef\@elt{%
7008         \noexpand\HyCnt@LookForParentCounter
7009         \expandafter\noexpand\csname theH#1\endcsname
7010       }%
7011       \cl@ckpt
7012       \let\@elt\HyOrg@elt
7013       \expandafter
7014       \ltx@LocalAppendToMacro\csname theH#1\expandafter\endcsname
7015       \expandafter{%
7016         \expandafter\@arabic\csname c@#1\endcsname
7017       }%
7018     }{%
7019   }

```

`\Hy@LookForParentCounter`

```

7020 \def\HyCnt@LookForParentCounter#1#2{%
7021   \expandafter\let\expandafter\Hy@temp@A\csname cl@#2\endcsname
7022   \ltx@ifundefined{cl@#2}{%
7023   }{%
7024     \ltx@onelevel@sanitize\Hy@temp@A
7025     \edef\Hy@temp@A{%
7026       \noexpand\in@{\Hy@temp}{\Hy@temp@A}%
7027     }\Hy@temp@A
7028     \ifin@
7029     \ltx@ifundefined{theH#2}{%
7030       \expandafter\ltx@LocalAppendToMacro\expandafter#1%
7031       \expandafter{%
7032         \expandafter\@arabic\csname c@#2\endcsname.%
7033       }%
7034     }{%
7035       \expandafter\ltx@LocalAppendToMacro\expandafter#1%
7036       \expandafter{%
7037         \csname theH#2\endcsname.%
7038       }%
7039     }%
7040   \fi
7041   }%
7042 }

```

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.

```

7043 \begingroup\expandafter\expandafter\expandafter\endgroup
7044 \expandafter\ifx\csname chapter\endcsname\relax
7045   \def\Hy@chapterstring{section}%
7046 \else
7047   \def\Hy@chapterstring{chapter}%
7048 \fi
7049 \def\Hy@appendixstring{appendix}
7050 \def\Hy@chapapp{\Hy@chapterstring}
7051 \ltx@ifundefined{appendix}{%
7052 }{%
7053   \let\HyOrg@appendix\appendix
7054   \def\Hy@AlphNoErr#1{%
7055     \ifnum\value{#1}>26 %
7056       Alph\number\value{#1}%
7057     \else
7058       \ifnum\value{#1}<1 %
7059         Alph\number\value{#1}%
7060       \else
7061         \Alph{#1}%
7062       \fi
7063     \fi
7064   }%
7065   \def\appendix{%
7066     \ltx@ifundefined{chapter}{%
7067       \gdef\theHsection{\Hy@AlphNoErr{section}}}%
7068     }{%
7069       \gdef\theHchapter{\Hy@AlphNoErr{chapter}}}%
7070   }%
7071   \xdef\Hy@chapapp{\Hy@appendixstring}%
7072   \HyOrg@appendix
7073 }%
7074 }

```

\Hy@Test@alph

```

7075 \def\Hy@Test@alph#1{%
7076   \ifcase#1\or
7077     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
7078     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
7079     u\or v\or w\or x\or y\or z%
7080   \else
7081     \@ctrerr
7082   \fi
7083 }

```

\Hy@Test@Alph

```

7084 \def\Hy@Test@Alph#1{%
7085   \ifcase#1\or
7086     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
7087     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
7088     U\or V\or W\or X\or Y\or Z%
7089   \else
7090     \@ctrerr
7091   \fi

```

7092 }

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

```
7093 \def\hyper@makecurrent#1{%
7094   \begingroup
7095   \Hy@safe@activetrue
7096   \edef\Hy@param{#1}%
7097   \ifx\Hy@param\Hy@chapterstring
7098     \let\Hy@param\Hy@chapapp
7099   \fi
7100   \ifHy@hypertextnames
7101     \let\@number\@firstofone
7102     \def\@fnsymbol##1{fnsymbol\number##1}%
7103     \def\@arabic##1{\number##1}%
7104     \ifx\@alph\Hy@Test@alph
7105       \else
7106         \def\@alph{alph\number}%
7107       \fi
7108     \ifx\@Alph\Hy@Test@Alph
7109       \else
7110         \def\@Alph{Alph\number}%
7111       \fi
7112     \ifHy@naturalnames
7113       \let\textlatin\@firstofone
7114       \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
7115     \else
7116       \xdef\HyperGlobalCurrentHref{%
7117         \csname
7118           the%
7119           \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
7120           #1%
7121         \endcsname
7122       }%
7123     \fi
7124     \xdef\HyperGlobalCurrentHref{%
7125       \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
7126     }%
7127   \else
7128     \Hy@GlobalStepCount\Hy@linkcounter
7129     \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
7130   \fi
7131 \endgroup
7132 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7133 \ifHy@localanchorname
7134   \let\@currentHref\HyperLocalCurrentHref
7135 \else
7136   \global\let\@currentHref\HyperGlobalCurrentHref
7137 \fi
7138 }
```

\Hy@MakeCurrentHref

```
7139 \def\Hy@MakeCurrentHref#1{%
7140   \edef\HyperLocalCurrentHref{#1}%
7141   \@onelevel@sanitize\HyperLocalCurrentHref
7142   \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
7143   \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7144 }
```

```

7144 \ifHy@localanchorname
7145   \let\@currentHref\HyperLocalCurrentHref
7146 \else
7147   \global\let\@currentHref\HyperGlobalCurrentHref
7148 \fi
7149 }

```

\Hy@MakeCurrentHrefAuto

```

7150 \def\Hy@MakeCurrentHrefAuto#1{%
7151   \Hy@GlobalStepCount\Hy@linkcounter
7152   \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
7153 }

```

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

```

7154 \def\@currentHlabel{\@currentHref}

7155 \ifpackageloaded{fancyvrb}{%
7156   \@ifpackagelater{fancyvrb}{1998/05/20}{-}{-}%
7157   \def\FV@StepLineNo{%
7158     \FV@SetLineNo
7159     \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
7160     \FV@StepLineNo
7161   }%
7162 }%
7163 }{}

```

## 30 Package lastpage support

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

\lastpage@putlabel

```

7164 \Hy@AtBeginDocument{%
7165   \@ifclassloaded{revtex4}{-}%
7166   \@namedef{ver@lastpage.sty}{1994/06/25}%
7167 }{}%
7168 \ifpackageloaded{lastpage}{%
7169   \ifHy@pageanchor
7170   \else
7171     \Hy@WarningNoLine{%
7172       The \string\pageref{LastPage} link doesn't work\MessageBreak
7173       with disabled option 'pageanchor'%
7174     }%
7175   \fi
7176   \def\lastpage@putlabel{%
7177     \addtocounter{page}{-1}%
7178     \if@filesw
7179       \begingroup
7180       \let\@number\@firstofone
7181       \ifHy@pageanchor
7182       \ifHy@hypertexnames

```

```

7183         \ifHy@plainpages
7184         \def\Hy@temp{\arabic{page}}}%
7185     \else
7186         \Hy@unicodedefalse
7187         \pdfstringdef\Hy@temp{\thepage}%
7188     \fi
7189 \else
7190     \def\Hy@temp{\the\Hy@pagecounter}%
7191 \fi
7192 \fi
7193 \immediate\write\@auxout{%
7194     \string\newlabel
7195     {LastPage}{\thepage}}}%
7196     \ifHy@pageanchor page.\Hy@temp\fi}}}%
7197 }%
7198 \endgroup
7199 \fi
7200 \addtocounter{page}{1}%
7201 }%
7202 \@ifclassloaded{revtex4}{%
7203     \begingroup
7204     \toks@{\expandafter\lastpage@putlabel}%
7205     \edef\x{\endgroup
7206         \def\noexpand\lastpage@putlabel{%
7207             \noexpand\stepcounter{page}%
7208             \the\toks@
7209             \noexpand\addtocounter{page}\noexpand\m@ne
7210         }%
7211     }%
7212     \x
7213 }{}%
7214 }{}%
7215 }
7216 \</package>
7217 \<{*check>
7218 \checkpackage{lastpage}[1994/06/25]
7219 \checkcommand\def\lastpage@putlabel{%
7220     \addtocounter{page}{-1}%
7221     \immediate\write\@auxout{%
7222         \string\newlabel{LastPage}{\thepage}}}%
7223 }%
7224 \addtocounter{page}{1}%
7225 }
7226 \</check>
7227 \<{*package>

```

## 31 Package ifthen support

Since version 6.75a this is done in package nameref.

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

```

7228 \def\hypergetref#1{\getrefbykeydefault{#1}{}}{}
7229 \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:

```
7230 \@ifpackageloaded{titlesec}{%
7231   \def\ttl@Hy@steplink#1{%
7232     \Hy@MakeCurrentHrefAuto{#1*}%
7233     \edef\ttl@Hy@saveanchor{%
7234       \noexpand\Hy@raisedlink{%
7235         \noexpand\hyper@anchorstart{\@currentHref}%
7236         \noexpand\hyper@anchorend
7237       \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
7238       \noexpand\ttl@Hy@PatchSaveWrite
7239     }%
7240   }%
7241 }%
7242 \def\ttl@Hy@PatchSaveWrite{%
7243   \begingroup
7244   \toks@{\expandafter\ttl@savewrite}%
7245   \edef\x{\endgroup
7246     \def\noexpand\ttl@savewrite{%
7247       \let\noexpand\@currentHref
7248       \noexpand\ttl@Hy@SavedCurrentHref
7249       \the\toks@
7250     }%
7251   }%
7252   \x
7253 }%
7254 \def\ttl@Hy@refstepcounter#1{%
7255   \let\ttl@b\Hy@raisedlink
7256   \def\Hy@raisedlink##1{%
7257     \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
7258   }%
7259   \refstepcounter{#1}%
7260   \let\Hy@raisedlink\ttl@b
7261 }%
7262 }
```

Package titletoc support:

```
7263 \@ifpackageloaded{titletoc}{%
7264   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
7265 }
```

## 33 Package varioref support

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

```
7266 \def\Hy@varioref@undefined{??}{??}{-}{-}{-}
7267 \@ifpackageloaded{varioref}{%
7268   \def\vref@pagenum#1#2{%
7269     \@ifundefined{r@#2}{%
7270       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
7271     }{}%
7272     \edef#1{\getpagerefnumber{#2}}%
7273   }%
7274 }
```

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

```

7275 \def\Hy@varioref@refstepcounter#1{%
7276   \stepcounter{#1}%
7277   \protected@edef\@currentlabel{%
7278     \csname p@#1\expandafter\endcsname\csname the#1\endcsname
7279   }%
7280 }
7281 \AtBeginDocument{%
7282   \ifx\refstepcounter\Hy@varioref@refstepcounter
7283     \let\H@refstepcounter\refstepcounter
7284     \let\refstepcounter\Hy@saved@refstepcounter
7285   \fi
7286 }
```

## 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

```

7287 \@ifpackageloaded{longtable}{%
7288   \begingroup
7289   \def\y{\LT@array}%
7290   \@ifundefined{scr@LT@array}{%
7291     \@ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}{%
7292     }\def\y{\scr@LT@array}}%
7293   \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
7294     \expandafter\endgroup
7295     \expandafter\def\y[##1]##2{%
7296       \H@refstepcounter{#1}%
7297       \hyper@makecurrent{table}%
7298       \let\Hy@LT@currentHref\@currentHref
7299       #2\@sharp###4%
7300     }%
7301   }%
7302   \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil
```

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

```

7303   \begingroup
7304   \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
7305     \endgroup
7306     \def\LT@start{%
7307       #1%
7308       \ifvoid\LT@foot#2\fi
7309       \let\@currentHref\Hy@LT@currentHref
7310       \Hy@raisedlink{%
7311         \hyper@anchorstart{\@currentHref}\hyper@anchorend
7312       }%
7313       #3%
7314     }%
7315   }%
7316   \expandafter\x\LT@start\@nil
7317 }
```



## 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.

```

7318 \let\new@refstepcounter\refstepcounter
7319 \let\H@equation\equation
7320 \let\H@endequation\endequation

7321 \@ifpackageloaded{amsmath}{%
7322   \long\def\Hy@temp{%
7323     \incr@eqnum
7324     \mathdisplay@push
7325     \st@rredfalse \global\@eqnswtrue
7326     \mathdisplay{equation}%
7327   }%
7328   \ifx\Hy@temp\equation
7329     \expandafter\ifx\csname if@fleqn\expandafter\endcsname
7330       \csname iftrue\endcsname
7331   \else
7332     \long\def\equation{%
7333       \mathdisplay@push
7334       \st@rredfalse \global\@eqnswtrue
7335       \mathdisplay{equation}%
7336       \incr@eqnum
7337     }%
7338   \fi
7339 \fi
7340 }{%
7341 \def\equation{%
7342   \let\refstepcounter\H@refstepcounter
7343   \H@equation
7344   \@ifundefined{theHequation}{%
7345     \make@stripped@name{\theequation}%
7346     \let\theHequation\newname
7347   }{%
7348     \hyper@makecurrent{equation}%

```

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

```

7349   \mathopen{%
7350     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
7351   }%
7352   \let\refstepcounter\new@refstepcounter
7353 }%
7354 \def\endequation{%
7355   \ifx\Hy@raisedlink\ltx@empty
7356     \hyper@anchorend
7357   \else
7358     \mathclose{\Hy@raisedlink{\hyper@anchorend}}%
7359   \fi
7360   \H@endequation
7361 }%
7362 }

```

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.

```

7363 \newif\if@eqnstar
7364 \@eqnstarfalse
7365 \let\H@eqnarray\eqnarray
7366 \let\H@endeqnarray\endeqnarray
7367 \def\eqnarray{%
7368   \let\Hy@reserved@a\relax
7369   \def\@currentHref{%
7370     \H@eqnarray
7371     \if@eqnstar
7372     \else
7373       \ifx\@currentHref\%
7374       \else
7375         \ifundefined{theHequation}{%
7376           \make@stripped@name{\theequation}%
7377           \let\theHequation\newname
7378         }{%
7379           \hyper@makecurrent{equation}%
7380           \mathopen{%
7381             \Hy@raisedlink{%
7382               \hyper@anchorstart{\@currentHref}\hyper@anchorend
7383             }%
7384           }%
7385         \fi
7386       \fi
7387     }
7388   \def\endeqnarray{%
7389     \H@endeqnarray
7390   }

```

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.

```

7391 \@namedef{eqnarray*}{%
7392   \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
7393 }
7394 \@namedef{endeqnarray*}{%
7395   \nonumber\endeqnarray\@eqnstarfalse
7396 }

```

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

```

7397 \ltx@ifundefined{subeqnarray}{-}{%
7398   \let\H@subeqnarray\subeqnarray
7399   \let\H@endsubeqnarray\endsubeqnarray
7400   \def\subeqnarray{%
7401     \let\Hy@reserved@a\relax
7402     \H@subeqnarray
7403     \@ifundefined{theHequation}{%
7404       \make@stripped@name{\theequation}%
7405       \let\theHequation\newname
7406     }{%
7407       \hyper@makecurrent{equation}%
7408       \hyper@anchorstart{\@currentHref}\hyper@anchorend
7409     }%
7410   \def\endsubeqnarray{%

```

```

7411 \H@endsubeqnarray
7412 }%
7413 \providecommand\theHsubequation{\theHequation\alph{subequation}}}%
7414 }

```

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

```

7415 \def\make@stripped@name#1{%
7416 \begingroup
7417 \escapechar\m@ne
7418 \global\let\newname\@empty
7419 \protected@edef\Hy@tempa{#1}%
7420 \edef\@tempb{%
7421 \noexpand\@tfor\noexpand\Hy@tempa:=%
7422 \expandafter\strip@prefix\meaning\Hy@tempa
7423 }%
7424 \@tempb\do{%
7425 \if{\Hy@tempa\else
7426 \if}\Hy@tempa\else
7427 \xdef\newname{\newname\Hy@tempa}%
7428 \fi
7429 \fi
7430 }%
7431 \endgroup
7432 }

```

Support for amsmath's subequations:

```

7433 \begingroup\expandafter\expandafter\expandafter\endgroup
7434 \expandafter\ifx\csname subequations\endcsname\relax
7435 \else
7436 \let\HyOrg@subequations\subequations
7437 \def\subequations{%
7438 \stepcounter{equation}%
7439 \protected@edef\theHparentequation{%
7440 \ifundefined{theHequation}\theequation\theHequation
7441 }%
7442 \addtocounter{equation}{-1}%
7443 \HyOrg@subequations
7444 \def\theHequation{\theHparentequation\alph{equation}}}%
7445 \ignorespaces
7446 }%
7447 \fi

```

Support for package `amsthm` (Daniel Müllner):

```

7448 \@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

7449 \def\Hy@temp#1#2#3{%
7450 \ifhmode\unskip\unskip\par\fi
7451 \normalfont
7452 \trivlist
7453 \let\thmheadnl\relax
7454 \let\thm@swap\@gobble
7455 \let\thm@indent\indent % indent
7456 \thm@headfont{\scshape}% heading font small caps

```

```

7457 \thm@notefont{\fontseries\mddefault\upshape}%
7458 \thm@headpunct{.}% add period after heading
7459 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7460 \thm@space@setup
7461 #1% style overrides
7462 \@topsep \thm@preskip % used by thm head
7463 \@topsepadd \thm@postskip % used by \@endparenv
7464 \def\@tempa{#2}\ifx\@empty\@tempa
7465 \def\@tempa{\@oparg{\@begintheorem{#3}{}}}%
7466 \else
7467 \refstepcounter{#2}%
7468 \def\@tempa{%
7469 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}}%
7470 }%
7471 \fi
7472 \@tempa
7473 }%
7474 \ifx\Hy@temp\@thm
7475 \def\@thm#1#2#3{%
7476 \ifhmode
7477 \unskip\unskip\par
7478 \fi
7479 \normalfont
7480 \trivlist
7481 \let\thmheadnl\relax
7482 \let\thm@swap\@gobble
7483 \let\thm@indent\indent % indent
7484 \thm@headfont{\scshape}% heading font small caps
7485 \thm@notefont{\fontseries\mddefault\upshape}%
7486 \thm@headpunct{.}% add period after heading
7487 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7488 \thm@space@setup
7489 #1% style overrides
7490 \@topsep \thm@preskip % used by thm head
7491 \@topsepadd \thm@postskip % used by \@endparenv
7492 \def\@thmcounter{#2}%
7493 \ifx\@empty\@thmcounter
7494 \def\@tempa{%
7495 \@oparg{\@begintheorem{#3}{}}}%
7496 }%
7497 \else
7498 \H@refstepcounter{#2}%
7499 \hyper@makecurrent{#2}%
7500 \let\Hy@dth@currentHref\@currentHref
7501 \def\@tempa{%
7502 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}}%
7503 }%
7504 \fi
7505 \@tempa
7506 }%
7507 \else
7508 \def\@thm#1#2#3{%
7509 \ifhmode
7510 \unskip\unskip\par
7511 \fi
7512 \normalfont
7513 \trivlist

```

```

7514 \let\thmheadnl\relax
7515 \let\thm@swap\@gobble
7516 \thm@notefont{\fontseries\mddefault\upshape}%
7517 \thm@headpunct{.}% add period after heading
7518 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7519 \thm@space@setup
7520 #1% style overrides
7521 \@topsep \thm@preskip % used by thm head
7522 \@topsepadd \thm@postskip % used by \@endparenv
7523 \def\dth@counter{#2}%
7524 \ifx\@empty\dth@counter
7525 \def\@tempa{%
7526 \@oparg{\@begintheorem{#3}{}}{}%
7527 }%
7528 \else
7529 \H@refstepcounter{#2}%
7530 \hyper@makecurrent{#2}%
7531 \let\Hy@dth@currentHref\@currentHref
7532 \def\@tempa{%
7533 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7534 }%
7535 \fi
7536 \@tempa
7537 }%
7538 \fi
7539 \dth@everypar={%
7540 \@minipagefalse
7541 \global\@newlistfalse
7542 \@noperitemfalse
7543 \if@inlabel
7544 \global\@inlabelfalse
7545 \begingroup
7546 \setbox\z@\lastbox
7547 \ifvoid\z@
7548 \kern-\itemindent
7549 \fi
7550 \endgroup
7551 \ifx\@empty\dth@counter
7552 \else
7553 \Hy@raisedlink{%
7554 \hyper@anchorstart{%
7555 \ltx@ifundefined{Hy@dth@currentHref}%
7556 \@currentHref\Hy@dth@currentHref
7557 }\hyper@anchorend
7558 }%
7559 \fi
7560 \unhbox\@labels
7561 \fi
7562 \if@nobreak
7563 \@nobreakfalse \clubpenalty\@M
7564 \else
7565 \clubpenalty\@clubpenalty \everypar{}%
7566 \fi
7567 }%
7568 }{}

```

## 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.

```

7569 \ifHy@hyperfootnotes
7570   \newcounter{Hfootnote}%
7571   \let\H@@@footnotetext\@footnotetext
7572   \let\H@@@footnotemark\@footnotemark
7573   \def\@xfootnotenext[#1]{%
7574     \begingroup
7575       \csname c@\@mpfn\endcsname #1\relax
7576       \unrestored@protected@xdef\@thefnmark{\thempfn}%
7577     \endgroup
7578     \ifx\@footnotetext\@mpfootnotetext
7579       \expandafter\H@@@mpfootnotetext
7580     \else
7581       \expandafter\H@@@footnotetext
7582     \fi
7583   }%
7584   \def\@xfootnotemark[#1]{%
7585     \begingroup
7586       \c@footnote #1\relax
7587       \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7588     \endgroup
7589     \H@@@footnotemark
7590   }%
7591   \let\H@@@mpfootnotetext\@mpfootnotetext
7592   \long\def\@mpfootnotetext#1{%
7593     \H@@@mpfootnotetext{%
7594       \ifHy@nesting
7595         \expandafter\ltx@firstoftwo
7596       \else
7597         \expandafter\ltx@secondoftwo
7598       \fi
7599     }%
7600     \expandafter\hyper@@@anchor\expandafter{%
7601       \Hy@footnote@currentHref
7602     }{#1}%
7603   }{%
7604     \Hy@raisedlink{%
7605       \expandafter\hyper@@@anchor\expandafter{%
7606         \Hy@footnote@currentHref
7607       }{\relax}%
7608     }#1%
7609   }%
7610 }%
7611 }%
7612 \long\def\@footnotetext#1{%
7613   \H@@@footnotetext{%
7614     \ifHy@nesting
7615       \expandafter\ltx@firstoftwo
7616     \else
7617       \expandafter\ltx@secondoftwo
7618     \fi

```

```

7619  {%
7620    \expandafter\hyper@@anchor\expandafter{%
7621      \Hy@footnote@currentHref
7622    }{#1}%
7623  }{%
7624    \Hy@raisedlink{%
7625      \expandafter\hyper@@anchor\expandafter{%
7626        \Hy@footnote@currentHref
7627      }\relax}%
7628    }%
7629    \let\@currentHref\Hy@footnote@currentHref
7630    \let\@currentlabelname\@empty
7631    #1%
7632  }%
7633 }%
7634 }%

```

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.

```

7635 \def\@footnotemark{%
7636   \leavevmode
7637   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7638   \stepcounter{Hfootnote}%
7639   \global\let\Hy@saved@currentHref\@currentHref
7640   \hyper@makecurrent{Hfootnote}%
7641   \global\let\Hy@footnote@currentHref\@currentHref
7642   \global\let\@currentHref\Hy@saved@currentHref
7643   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7644   \@makefnmark
7645   \hyper@linkend
7646   \ifhmode\spacefactor\@x@sf\fi
7647   \relax
7648 }%

```

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

```

7649 \@ifpackageloaded{tabularx}{%
7650   \let\HyOrg@TX@endtabularx\TX@endtabularx
7651   \def\Hy@tabularx@hook{%
7652     \let\@footnotetext\H@@footnotetext
7653     \let\@footnotemark\H@@footnotemark
7654     \let\@mpfootnotetext\H@@mpfootnotetext
7655   }%
7656   \begingroup
7657     \toks@\expandafter{\TX@endtabularx}%
7658     \xdef\Hy@gtemp{%
7659       \noexpand\Hy@tabularx@hook
7660       \the\toks@
7661     }%
7662   \endgroup
7663   \let\TX@endtabularx\Hy@gtemp
7664 }{}%

```

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

```

7665 \ifpackageloaded{longtable}{%
7666   \CheckCommand*{\LT@p@ftntext}[1]{%
7667     \edef\@tempa{%
7668       \the\LT@p@ftn
7669       \noexpand\footnotetext[\the\c@footnote]%
7670     }%
7671     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7672   }%
7673   \long\def\LT@p@ftntext#1{%
7674     \edef\@tempa{%
7675       \the\LT@p@ftn
7676       \begingroup
7677         \noexpand\c@footnote=\the\c@footnote\relax
7678         \noexpand\protected@xdef\noexpand\@thefnmark{%
7679           \noexpand\thempfn
7680         }%
7681         \noexpand\Hy@LT@footnotetext{%
7682           \Hy@footnote@currentHref
7683         }%
7684       }%
7685       \global\LT@p@ftn\expandafter{%
7686         \@tempa{#1}%
7687       \endgroup
7688     }%
7689   }%
7690   \long\def\Hy@LT@footnotetext#1#2{%
7691     \H@@@footnotetext{%
7692       \ifHy@nesting
7693         \hyper@@@anchor{#1}{#2}%
7694       \else
7695         \Hy@raisedlink{%
7696           \hyper@@@anchor{#1}{\relax}%
7697         }%
7698         \def\@currentHref{#1}%
7699         \let\@currentlabelname\@empty
7700         #2%
7701       \fi
7702     }%
7703   }%
7704 }{}%
```

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

```

7705 \@ifpackageloaded{fancyvrb}{%
7706   \def\V@@@footnotetext{%
7707     \insert\footins\bgroup
7708     \csname reset@font\endcsname
7709     \footnotesize
7710     \interlinepenalty\interfootnotelinepenalty
7711     \splittopskip\footnotesep
7712     \splitmaxdepth\dp\strutbox
7713     \floatingpenalty \@MM
7714     \hsize\columnwidth
7715     \@parboxrestore
7716     \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
7717     \@makefnmark{}%
7718     \rule{\z@}{\footnotesep}%

```



```

7719 \bgroup
7720 \aftergroup\V@@@footnotetext
7721 \Hy@raisedlink{%
7722   \expandafter\hyper@@anchor\expandafter{%
7723     \Hy@footnote@currentHref
7724   }\relax}%
7725 }%
7726 \let\@currentHref\Hy@footnote@currentHref
7727 \let\@currentlabelname\@empty
7728 \ignorespaces
7729 }%
7730 }{}%

```

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

```

7731 \def\Hy@temp#1{%
7732   \begingroup
7733   \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7734   \endgroup
7735   \@footnotemark
7736 }%
7737 \ifx\Hy@temp\footref
7738   \def\footref#1{%
7739     \begingroup
7740     \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7741     \endgroup
7742     \H@@@footnotemark
7743   }%
7744   \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.

```

7745 \let\HyOrg@maketitle\maketitle
7746 \def\maketitle{%
7747   \let\Hy@saved@footnotemark\@footnotemark
7748   \let\Hy@saved@footnotetext\@footnotetext
7749   \let\@footnotemark\H@@@footnotemark
7750   \let\@footnotetext\H@@@footnotetext
7751   \@ifnextchar[\Hy@maketitle@optarg{% ]
7752   \HyOrg@maketitle
7753   \Hy@maketitle@end
7754 }%
7755 }%
7756 \def\Hy@maketitle@optarg[#1]{%
7757   \HyOrg@maketitle[{#1}]%
7758   \Hy@maketitle@end
7759 }%
7760 \def\Hy@maketitle@end{%
7761   \ifx\@footnotemark\H@@@footnotemark
7762     \let\@footnotemark\Hy@saved@footnotemark
7763   \fi
7764   \ifx\@footnotetext\H@@@footnotetext
7765     \let\@footnotetext\Hy@saved@footnotetext
7766   \fi
7767 }%

```

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

```

7768 \def\realfootnote{%
7769   \ifnextchar[\@xfootnote{%
7770     \stepcounter{\@mpfn}%
7771     \protected@xdef\@thefnmark{\thempfn}%
7772     \H@@footnotemark\H@@footnotetext
7773   }%
7774 }%

7775 \fi
7776 \Hy@DisableOption{hyperfootnotes}

7777 </package>
7778 <*check>
7779 \checklatex
7780 \checkcommand\def\@xfootnotenext[#1]{%
7781   \begingroup
7782     \csname c@\@mpfn\endcsname #1\relax
7783     \unrestored@protected@xdef\@thefnmark{\thempfn}%
7784   \endgroup
7785   \@footnotetext
7786 }
7787 \checkcommand\def\@xfootnotemark[#1]{%
7788   \begingroup
7789     \c@footnote #1\relax
7790     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7791   \endgroup
7792   \@footnotemark
7793 }
7794 \checkcommand\def\@footnotemark{%
7795   \leavevmode
7796   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7797   \@makefnmark
7798   \ifhmode\spacefactor\@x@sf\fi
7799   \relax
7800 }
7801 </check>
7802 <*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.

```

7803 \def\caption{%
7804   \ifx\@capytype\@undefined
7805     \@latex@error{\noexpand\caption outside float}\@ehd
7806     \expandafter\@gobble
7807   \else
7808     \H@refstepcounter\@capytype
7809     \let\Hy@tempa\@caption
7810     \@ifundefined{float@caption}{%
7811       }{%
7812         \expandafter\ifx\csname @float@c@\@capytype\endcsname
7813           \float@caption
7814         \let\Hy@tempa\Hy@float@caption
7815       }%
7816     }%
7817     \expandafter\@firstofone

```

```

7818 \fi
7819 {\@dblarg{\Hy@tempa\@captype}}%
7820 }
7821 \long\def\@caption#1[#2]#3{%
7822 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7823 \csname iftrue\endcsname
7824 \global\let\@currentHref\hc@currentHref
7825 \else
7826 \hyper@makecurrent{\@captype}%
7827 \fi
7828 \@ifundefined{NR@gettitle}{%
7829 \def\@currentlabelname{#2}%
7830 }{%
7831 \NR@gettitle{#2}%
7832 }%
7833 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7834 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7835 }%
7836 \begingroup
7837 \@parboxrestore
7838 \if@minipage
7839 \setminipage
7840 \fi
7841 \normalsize
7842 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7843 \csname iftrue\endcsname
7844 \global\@capstartfalse
7845 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7846 \else
7847 \@makecaption{\csname fnum@#1\endcsname}{%
7848 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7849 \ifHy@nesting
7850 \expandafter\hyper@@@anchor\expandafter{\@currentHref}{#3}%
7851 \else
7852 \Hy@raisedlink{%
7853 \expandafter\hyper@@@anchor\expandafter{%
7854 \@currentHref
7855 }\relax}%
7856 }%
7857 #3%
7858 \fi
7859 }%
7860 \fi
7861 \par
7862 \endgroup
7863 }

```

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’.

```

7864 \let\Hy@float@caption\@caption
7865 \newcommand{\HyNew@float@makebox}[1]{%
7866 \HyOrg@float@makebox{%
7867 #1\relax

```

```

7868 \ifx\Hy@float@currentHref\@undefined
7869 \else
7870 \expandafter\hyper@anchor\expandafter{%
7871 \Hy@float@currentHref
7872 }{\relax}%
7873 \global\let\Hy@float@currentHref\@undefined
7874 \fi
7875 }%
7876 }%
7877 \@ifpackageloaded{float}{%
7878 \def\Hy@float@caption{%
7879 \ifx\Hy@float@currentHref\@undefined
7880 \hyper@makecurrent{\@capttype}%
7881 \global\let\Hy@float@currentHref\@currentHref
7882 \else
7883 \let\@currentHref\Hy@float@currentHref
7884 \fi
7885 \float@caption
7886 }%
7887 \let\HyOrg@float@makebox\float@makebox
7888 \let\float@makebox\HyNew@float@makebox
7889 }{}

7890 \endpackage
7891 \ifcheck
7892 \checklatex[1999/06/01 - 2000/06/01]
7893 \checkcommand\def\caption{%
7894 \ifx\@capttype\@undefined
7895 \@latexerror{\noexpand\caption outside float}\@ehd
7896 \expandafter\@gobble
7897 \else
7898 \refstepcounter\@capttype
7899 \expandafter\@firstofone
7900 \fi
7901 {\@dblarg{\@caption\@capttype}}%
7902 }
7903 \checkcommand\long\def\@caption#1[#2]#3{%
7904 \par
7905 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7906 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7907 }%
7908 \begingroup
7909 \@parboxrestore
7910 \if@minipage
7911 \@setminipage
7912 \fi
7913 \normalsize
7914 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7915 \endgroup
7916 }
7917 \endcheck
7918 \ifcheck

```

## 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 `\babcite`; 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.

```

7919 \def\hyper@natlinkstart#1{%
7920   \Hy@backout{#1}%
7921   \hyper@linkstart{cite}{cite.#1}%
7922   \def\hyper@nat@current{#1}%
7923 }
7924 \def\hyper@natlinkend{%
7925   \hyper@linkend
7926 }
7927 \def\hyper@natlinkbreak#1#2{%
7928   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7929 }
7930 \def\hyper@natanchorstart#1{%
7931   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7932 }
7933 \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.

```

7934 \ltx@ifundefined{NAT@parse}{%
7935   \providecommand*\@extra@binfo{}%
7936   \providecommand*\@extra@b@citeb{}%
7937   \def\babcite#1#2{%
7938     \@newl@bel{b}{#1\@extra@binfo}{%
7939       \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
7940     }%
7941   }%
7942   \gdef\@extra@binfo{}%

```

Package *babel* redefines `\babcite` with macro `\bbl@cite@choice`. It needs to be overwritten to avoid the warning “Label(s) may have changed.”.

```

7943 \let\Hy@babcite\babcite
7944 \begingroup
7945   \@ifundefined{bbl@cite@choice}{}{%
7946     \g@addto@macro\bbl@cite@choice{%
7947       \let\babcite\Hy@babcite
7948     }%
7949   }%
7950 \endgroup

```

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

```

7951 \providecommand*\@BIBLABEL{\@biblabel}%
7952 \def\@bibitem[#1]#2{%
7953   \@skiphyperrreftrue
7954   \H@item[%
7955     \ifx\Hy@raisedlink\@empty
7956       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7957       \@BIBLABEL{#1}%
7958     \hyper@anchorend
7959   \else
7960     \Hy@raisedlink{%

```

```

7961     \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7962   }%
7963   \@BIBLABEL{#1}%
7964   \fi
7965   \hfill
7966   ]%
7967   \@skiphyperreffalse
7968   \if@filesw
7969     \begingroup
7970     \let\protect\noexpand
7971     \immediate\write\@auxout{%
7972       \string\bibcite{#2}{#1}%
7973     }%
7974     \endgroup
7975   \fi
7976   \ignorespaces
7977 }%

```

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

```

7978 \def\@bibitem#1{%
7979   \@skiphyperrefftrue\H@item\@skiphyperreffalse
7980   \Hy@raisedlink{%
7981     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7982   }%
7983   \if@filesw
7984     \begingroup
7985     \let\protect\noexpand
7986     \immediate\write\@auxout{%
7987       \string\bibcite{#1}{\the\value{\@listctr}}%
7988     }%
7989     \endgroup
7990   \fi
7991   \ignorespaces
7992 }%
7993 }{}

7994 \</package>
7995 \<*check>
7996 \checklatex
7997 \checkcommand\def\@lbibitem[#1]#2{%
7998   \item[\@biblabel{#1}\hfill]%
7999   \if@filesw
8000     {%
8001       \let\protect\noexpand
8002       \immediate\write\@auxout{%
8003         \string\bibcite{#2}{#1}%
8004       }%
8005     }%
8006   \fi
8007   \ignorespaces
8008 }
8009 \checkcommand\def\@bibitem#1{%
8010   \item
8011   \if@filesw
8012     \immediate\write\@auxout{%
8013       \string\bibcite{#1}{\the\value{\@listctr}}%
8014     }%

```

```

8015 \fi
8016 \ignorespaces
8017 }
8018 </check>
8019 <*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.

```

8020 \ifclassloaded{revtex}{%
8021 \Hy@Info{*** compatibility with revtex **** }%
8022 \def\revtex@checking#1#2{%
8023 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
8024 \expandafter\def\csname b@#1\endcsname{#2}%
8025 \@SetMaxRnhefLabel{#1}%
8026 \expandafter\let\csname b@#1\endcsname\T@temp
8027 }%

```

Tanmoy provided this replacement for CITE<sub>X</sub>. Lord knows what it does. For chapterbib added: `extra@b@citeb`

```

8028 \@ifundefined{CITE}{\def\CITE{\@cite}}{}%
8029 \providecommand*\@extra@b@citeb{}%
8030 \def\CITEX[#1]#2{%
8031 \let\@citea\@empty
8032 \leavevmode
8033 \unskip
8034 $\{
8035 \scriptstyle
8036 \@CITE{
8037 \@for\@citeb:=#2\do{
8038 \@citea
8039 \def\@citea{,\penalty\@m\ }
8040 \edef\@citeb{\expandafter\@firstofone\@citeb}%
8041 \if@filesw
8042 \immediate\write\@auxout{\string\citation{\@citeb}}%
8043 \fi
8044 \@ifundefined{b@\@citeb\extra@b@citeb}{%
8045 \mbox{\reset@font\bfseries ?}%
8046 \G@refundefinedtrue
8047 \@latex@warning{%
8048 Citation ‘\@citeb’ on page \thepage \space undefined%
8049 }%
8050 }%
8051 {\csname b@\@citeb\@extra@b@citeb\endcsname}%
8052 }%
8053 }%
8054 }{#1}%
8055 }$%
8056 }%

```

No, life is too short. I am not going to understand the Revtex `\@collapse` macro, I shall just restore the original behaviour of `\@citex`; sigh. This is SO vile.

```

8057 \def\@citex[#1]#2{%
8058 \let\@citea\@empty
8059 \@cite{
8060 \@for\@citeb:=#2\do{
8061 \@citea
8062 \def\@citea{,\penalty\@m\ }%

```

```

8063 \edef\@citeb{\expandafter\@firstofone\@citeb}%
8064 \if@filesw
8065 \immediate\write\@auxout{\string\citation{\@citeb}}%
8066 \fi
8067 \ifundefined{b@\@citeb\@extra@b@citeb}{%
8068 \mbox{\reset@font\bfseries ?}%
8069 \G@refundefinedtrue
8070 \@latex@warning{%
8071 Citation '\@citeb' on page \thepage \space undefined%
8072 }%
8073 }%
8074 \hbox{\csname b@\@citeb\@extra@b@citeb\endcsname}%
8075 }%
8076 }%
8077 }{#1}%
8078 }%
8079 }{}

```

## 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.

```

8080 \@ifpackageloaded{harvard}{%
8081 \Hy@AtBeginDocument{%
8082 \Hy@Info{*** compatibility with harvard **** }%
8083 \Hy@raiselinksfalse
8084 \def\harvardcite#1#2#3#4{%
8085 \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{#1}{#2}}%
8086 \global\@namedef{HAR@an@#1}{\hyper@link[cite]{#1}{#3}}%
8087 \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{#1}{#4}}%
8088 \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
8089 }%
8090 \def\HAR@citetoaux#1{%
8091 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
8092 \ifHy@backref
8093 \ifx\@empty\@currentlabel
8094 \else
8095 \@bsphack
8096 \if@filesw
8097 \protected@write\@auxout{}{%
8098 \string\@writefile{brf}{%
8099 \string\backcite{#1}{%
8100 {\thepage}{\@currentlabel}{\@currentHref}%
8101 }%
8102 }%
8103 }%
8104 \fi
8105 \@esphack
8106 \fi
8107 \fi
8108 }%

```



```

8109 \def\harvarditem{%
8110 \ifnextchar[{\@harvarditem}{\@harvarditem[\null]}}%
8111 }%
8112 \def\@harvarditem[#1]#2#3#4#5\par{%
8113 \item[]%
8114 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
8115 \if@filesw
8116 \begingroup
8117 \def\protect##1{\string ##1\space}%
8118 \ifthenelse\equal{#1}{\null}}%
8119 {\def\next{{#4}{#2}{#2}{#3}}}%
8120 {\def\next{{#4}{#2}{#1}{#3}}}%
8121 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
8122 \endgroup
8123 \fi
8124 \protect\hspace*{-\labelwidth}%
8125 \protect\hspace*{-\labelsep}%
8126 \ignorespaces
8127 #5%
8128 \ifHy@backref
8129 \newblock
8130 \backref{\csname br@#4\endcsname}%
8131 \fi
8132 \par
8133 }%

```

\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:

```

8134 \long\def\HAR@checkcitations#1#2#3#4{%
8135 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
8136 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
8137 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
8138 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
8139 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
8140 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
8141 \else
8142 \@tempswatrue
8143 \fi
8144 \else
8145 \@tempswatrue
8146 \fi
8147 \else
8148 \@tempswatrue
8149 \fi
8150 }%
8151 }%

8152 }{}

```

## 38.2 Package chicago

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

```

8153 \@ifpackageloaded{chicago}{%

```

\citeN

```

8154 \def\citeN{%

```

```

8155 \def\@citeseppen{-1000}%
8156 \def\@cite##1##2{##1}%
8157 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
8158 \@citedata@opt
8159 }%

\shortciteN
8160 \def\shortciteN{%
8161 \def\@citeseppen{-1000}%
8162 \def\@cite##1##2{##1}%
8163 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
8164 \@citedata@opt
8165 }%

\@citedata@opt
8166 \def\@citedata@opt{%
8167 \let\@cite@opt\@empty
8168 \@ifnextchar [{%
8169 \@tempswatrue
8170 \@citedatax@opt
8171 }{%
8172 \@tempswafalse
8173 \@citedatax[]%
8174 }%
8175 }%

\@citedatax@opt
8176 \def\@citedatax@opt[#1]{%
8177 \def\@cite@opt{, #1}%
8178 \@citedatax[{#1}]%
8179 }%

8180 }{}

```

## 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.

```

8181 \ltx@ifclassloaded{slides}{%
8182 \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
8183 \def\Hy@PageAnchorSlidesPlain{%
8184 \advance\c@page\ltx@one
8185 \edef\Hy@TempPageAnchor{%
8186 \noexpand\hyper@@anchor{%
8187 page.\the\c@slide.\the\c@overlay.\the\c@note%
8188 \ifnum\c@page=\ltx@one
8189 \else
8190 .\the\c@page
8191 \fi
8192 }%
8193 }%
8194 \advance\c@page-\ltx@one

```

```

8195 }%
8196 \def\Hy@PageAnchorSlide{%
8197   \advance\c@page\ltx@one
8198   \ifnum\c@page>\ltx@one
8199     \ltx@ifundefined{theHpage}{%
8200       \protected@edef\Hy@TheSlideOptionalPage{%
8201         \Hy@SlidesFormatOptionalPage{thepage}%
8202       }%
8203     }{%
8204       \protected@edef\Hy@TheSlideOptionalPage{%
8205         \Hy@SlidesFormatOptionalPage{theHpage}%
8206       }%
8207     }%
8208   \else
8209     \def\Hy@TheSlideOptionalPage{}%
8210   \fi
8211   \advance\c@page-\ltx@one
8212   \pdfstringdef\@the@H@page{%
8213     \csname
8214       the%
8215       \ltx@ifundefined{theH\Hy@SlidesPage}{H}%
8216       \Hy@SlidesPage
8217     \endcsname
8218     \Hy@TheSlideOptionalPage
8219   }%
8220   \ltx@gobblethree
8221 }%
8222 \def\Hy@SlidesPage{slide}%
8223 \g@addto@macro\slide{%
8224   \def\Hy@SlidesPage{slide}%
8225 }%
8226 \g@addto@macro\overlay{%
8227   \def\Hy@SlidesPage{overlay}%
8228 }%
8229 \g@addto@macro\note{%
8230   \def\Hy@SlidesPage{note}%
8231 }%
8232 }{%
8233   \def\Hy@PageAnchorSlidesPlain{}%
8234   \def\Hy@PageAnchorSlide{}%
8235 }
8236 \def\Hy@EveryPageAnchor{%
8237   \Hy@DistillerDestFix
8238   \ifHy@pageanchor
8239     \ifHy@hypertextnames
8240       \ifHy@plainpages
8241         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
8242         \Hy@PageAnchorSlidesPlain
8243       \else
8244         \begingroup
8245           \let\@number\@firstofone
8246           \Hy@unicodedefalse
8247           \Hy@PageAnchorSlide
8248           \pdfstringdef\@the@H@page{\thepage}%
8249         \endgroup
8250         \EdefUnescapeString\@the@H@page{\@the@H@page}%
8251         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%

```

```

8252 \fi
8253 \else
8254 \Hy@GlobalStepCount\Hy@pagecounter
8255 \def\Hy@TempPageAnchor{%
8256 \hyper@@anchor{page.\the\Hy@pagecounter}%
8257 }%
8258 \fi
8259 \vbox to 0pt{%
8260 \kern\voffset
8261 \kern\topmargin
8262 \kern-1bp\relax
8263 \hbox to 0pt{%
8264 \kern\hoffset
8265 \kern\ifodd\value{page}%
8266 \oddsidemargin
8267 \else
8268 \evensidemargin
8269 \fi
8270 \kern-1bp\relax
8271 \Hy@TempPageAnchor\relax
8272 \hss
8273 }%
8274 \vss
8275 }%
8276 \fi
8277 }
8278 \g@addto@macro\Hy@EveryPageBoxHook{%
8279 \Hy@EveryPageAnchor
8280 }

```

## 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.

```

8281 \def\addcontentsline#1#2#3{% toc extension, type, tag
8282 \begingroup
8283 \let\label\@gobble
8284 \ifx\@currentHref\@empty
8285 \Hy@Warning{%
8286 No destination for bookmark of \string\addcontentsline,%
8287 \MessageBreak destination is added%
8288 }%
8289 \phantomsection
8290 \fi
8291 \expandafter\ifx\csname toplevel@#2\endcsname\relax
8292 \begingroup
8293 \def\Hy@tempa{#1}%
8294 \ifx\Hy@tempa\Hy@bookmarkstype
8295 \Hy@WarningNoLine{%
8296 bookmark level for unknown #2 defaults to 0%
8297 }%
8298 \else
8299 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
8300 \fi
8301 \endgroup

```

```

8302 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
8303 \fi
8304 \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%
8305 \Hy@writebookmark{\csname the#2\endcsname}%
8306 {#3}%
8307 {\@currentHref}%
8308 {\Hy@toplevel}%
8309 {#1}%
8310 \ifHy@verbose
8311 \begingroup
8312 \def\Hy@tempa{#3}%
8313 \@onelevel@sanitize\Hy@tempa
8314 \let\temp@online\on@line
8315 \let\on@line\@empty
8316 \Hy@Info{%
8317 bookmark\temp@online:\MessageBreak
8318 thecounter {\csname the#2\endcsname}\MessageBreak
8319 text {\Hy@tempa}\MessageBreak
8320 reference {\@currentHref}\MessageBreak
8321 toplevel {\Hy@toplevel}\MessageBreak
8322 type {#1}%
8323 }%
8324 \endgroup
8325 \fi
8326 \addtocontents{#1}{%
8327 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
8328 }%
8329 \endgroup
8330 }
8331 \def\contentsline#1#2#3#4{%
8332 \begingroup
8333 \Hy@safe@activetrue
8334 \edef\x{\endgroup
8335 \def\noexpand\Hy@tocdestname{#4}%
8336 }\x
8337 \ifx\Hy@tocdestname\ltx@empty
8338 \csname l@#1\endcsname{#2}{#3}%
8339 \else
8340 \ifcase\Hy@linktoc % none
8341 \csname l@#1\endcsname{#2}{#3}%
8342 \or % section
8343 \csname l@#1\endcsname{%
8344 \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend
8345 }{#3}%
8346 \or % page
8347 \csname l@#1\endcsname{{#2}}{%
8348 \hyper@linkstart{link}{\Hy@tocdestname}{#3}\hyper@linkend
8349 }%
8350 \else % all
8351 \csname l@#1\endcsname{%
8352 \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend
8353 }{%
8354 \hyper@linkstart{link}{\Hy@tocdestname}{#3}\hyper@linkend
8355 }%
8356 \fi
8357 \fi
8358 }

```

```

8359 \package
8360 \*check
8361 \checklatex
8362 \checkcommand\def\addcontentsline#1#2#3{%
8363   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}}%
8364 }
8365 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
8366 \check
8367 \*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.

```

8368 \let\H@definecounter\@definecounter
8369 \def\@definecounter#1{%
8370   \H@definecounter{#1}%
8371   \expandafter\gdef\csname theH#1\endcsname{\arabic{#1}}%
8372 }

```

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.

```

8373 \let\H@newctr\@newctr
8374 \def\@newctr#1[#2]{%
8375   \H@newctr#1[#2]%
8376   \expandafter\gdef\csname theH#1\endcsname{%
8377     \csname the\@ifundefined{theH#2}{H}{#2}\endcsname.\arabic{#1}%
8378   }%
8379 }

```

## 42 AMS $\LaTeX$ compatibility

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

Version 6.77p uses a patch by Ross Moore.

```

8380 \@ifpackageloaded{amsmath}{%
8381   \def\Hy@make@anchor{%
8382     \Hy@MakeCurrentHrefAuto{AMS}%
8383     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
8384   }%
8385   \def\Hy@make@df@tag@@#1{%
8386     \gdef\df@tag{%
8387       \maketag@@@{\Hy@make@anchor#1}%
8388       \def\@currentlabel{#1}%
8389     }%
8390   }%
8391   \def\Hy@make@df@tag@@@#1{%
8392     \gdef\df@tag{%
8393       \tagform@{\Hy@make@anchor#1}%
8394       \toks@{\xp{p@equation{#1}}}%
8395       \edef\@currentlabel{\the\toks@}%
8396     }%

```

```

8397 }%
8398 \let\HyOrg@make@df@tag@@\make@df@tag@@
8399 \let\HyOrg@make@df@tag@@@\make@df@tag@@@
8400 \let\make@df@tag@@\Hy@make@df@tag@@
8401 \let\make@df@tag@@@\Hy@make@df@tag@@@
8402 }{}

```

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

```

8403 \@ifpackagewith{hyperref}{pdftex}{%
8404   \let\H@seteqlabel\@seteqlabel
8405   \def\@seteqlabel#1{%
8406     \H@seteqlabel{#1}%
8407     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
8408     \Hy@raisedlink{%
8409       \hyper@anchorstart{\@currentHref}\hyper@anchorend
8410     }%
8411   }%
8412 }{}

```

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.

```

8413 \let\HyOrg@addtoreset\@addtoreset
8414 \def\@addtoreset#1#2{%
8415   \HyOrg@addtoreset{#1}{#2}%
8416   \expandafter\xdef\csname theH#1\endcsname{%
8417     \expandafter\noexpand
8418     \csname the\@ifundefined{theH#2}{}H#2\endcsname
8419     .\noexpand\the\noexpand\value{#1}%
8420   }%
8421 }

```

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

```

8422 \</package>
8423 \<{*check>
8424 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
8425 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
8426   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8427     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8428       \@addtoreset{#2}{#3}%
8429       \@xp\xdef\csname the#2\endcsname{%
8430         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8431       }%

```

```

8432 }%
8433 }%
8434 }%
8435 </check>
8436 <*package>
8437 \ifpackageloaded{amsmath}{%
8438 \ifpackagelater{amsmath}{1999/12/14}{%
8439 \renewcommand*{\numberwithin}[3][\arabic]{%
8440 \ifundefined{c@#2}{\@nocounterr{#2}}{%
8441 \ifundefined{c@#3}{\@nocnterr{#3}}{%
8442 \HyOrg@addtoreset{#2}{#3}%
8443 \@xp\xdef\csname the#2\endcsname{%
8444 \@xp\@nx\csname the#3\endcsname.\@nx#1{#2}%
8445 }%
8446 \@xp\xdef\csname theH#2\endcsname{%
8447 \@xp\@nx
8448 \csname the\ifundefined{theH#3}{H#3\endcsname
8449 .\@nx#1{#2}%
8450 }%
8451 }%
8452 }%
8453 }%
8454 }{%
8455 \Hy@WarningNoLine{%
8456 \string\numberwithin\space of package 'amsmath' %
8457 only fixed\MessageBreak
8458 for version 2000/06/06 v2.12 or newer%
8459 }%
8460 }%
8461 }{}

```

## 43 Included figures

Simply intercept the low level graphics package macro.

```

8462 \ifHy@hyperfigures
8463 \let\Hy@Gin@setfile\Gin@setfile
8464 \def\Gin@setfile#1#2#3{%
8465 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
8466 }%
8467 \fi
8468 \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.

```

8469 \ifHy@hyperindex

```



```

8470 \def\HyInd@ParenLeft{({}%
8471 \def\HyInd@ParenRight{)}}%
8472 \def\hyperindexformat#1#2{%
8473   \let\HyOrg@hyperpage\hyperpage
8474   \let\hyperpage\@firstofone
8475   #1{\HyOrg@hyperpage{#2}}%
8476   \let\hyperpage\HyOrg@hyperpage
8477 }%
8478 \Hy@nextfalse
8479 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
8480 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
8481 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
8482 \begingroup
8483 \lccode'\|=\expandafter'\HyInd@EncapChar\relax
8484 \lccode'\|/'=\|\\relax
8485 \lowercase{\endgroup
8486 \ifHy@next
8487   \let\HyInd@org@wrindex\@wrindex
8488   \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\\}%
8489   \def\HyInd@@wrindex#1#2|#3|#4\\{%
8490     \ifx\\#3\\%
8491       \HyInd@org@wrindex{#1}{#2|hyperpage}%
8492     \else
8493       \HyInd@@@wrindex{#1}{#2}#3\\%
8494     \fi
8495   }%
8496   \def\HyInd@@@wrindex#1#2#3#4\\{%
8497     \def\Hy@temp@A{#3}%
8498     \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8499       \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8500       \relax
8501       \HyInd@org@wrindex{#1}{%
8502         #2|hyperindexformat{/#3#4}%
8503       }%
8504     \else
8505       \ifx\\#4\\%
8506         \ifx\Hy@temp@A\HyInd@ParenRight
8507           \HyInd@org@wrindex{#1}{#2|#3}%
8508         \else
8509           \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
8510         \fi
8511       \else
8512         \HyInd@org@wrindex{#1}{%
8513           #2|#3hyperindexformat{/#4}%
8514         }%
8515       \fi
8516     \fi
8517   }%
8518   \else
8519     \def\@wrindex#1{\@wrindex#1||\\}%
8520     \def\@wrindex#1|#2|#3\\{%
8521       \if@filesw
8522         \ifx\\#2\\%
8523           \protected@write\@indexfile{}{%
8524             \string\indexentry{#1|hyperpage}{\thepage}%
8525           }%
8526         \else

```

```

8527     \HyInd@@@wrindex{#1}#2\\%
8528     \fi
8529     \fi
8530     \endgroup
8531     \@esphack
8532 }%
8533 \def\HyInd@@@wrindex#1#2#3\\{%
8534     \def\Hy@temp@A{#2}%
8535     \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8536         \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8537         \relax
8538     \protected@write\@indexfile{}{%
8539         \string\indexentry{%
8540             #1|hyperindexformat{/#2#3}%
8541         }\thepage}%
8542     }%
8543     \else
8544         \ifx\\#3\\%
8545             \ifx\Hy@temp@A\HyInd@ParenRight
8546                 \protected@write\@indexfile{}{%
8547                     \string\indexentry{#1|#2}\thepage}%
8548                 }%
8549             \else
8550                 \protected@write\@indexfile{}{%
8551                     \string\indexentry{#1|#2hyperpage}\thepage}%
8552                 }%
8553             \fi
8554         \else
8555             \protected@write\@indexfile{}{%
8556                 \string\indexentry{%
8557                     #1|#2hyperindexformat{/#3}%
8558                 }\thepage}%
8559             }%
8560         \fi
8561     \fi
8562 }%
8563 \fi
8564 }%
8565 \fi
8566 \Hy@DisableOption{hyperindex}
8567 \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.

```
8568 \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.

```

8569 \def\hyperpage#1{%
8570     \HyInd@hyperpage#1\nohyperpage{}\@nil
8571 }
8572 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8573     \HyInd@@@hyperpage{#1}%
8574     #2%
8575     \def\Hy@temp{#3}%
8576     \ifx\Hy@temp\@empty
8577     \else

```

```

8578 \ltx@ReturnAfterFi{%
8579 \HyInd@hyperpage#3\@nil
8580 }%
8581 \fi
8582 }
8583 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8584 \def\@hyperpage#1--#2--#3\{%
8585 \ifx\#2\%
8586 \@commahyperpage{#1}%
8587 \else
8588 \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8589 \fi
8590 }
8591 \def\@commahyperpage#1{\@commahyperpage#1, \}
8592 \def\@commahyperpage#1, #2,#3\{%
8593 \ifx\#2\%
8594 \HyInd@pagelink{#1}%
8595 \else
8596 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8597 \fi
8598 }

```

The argument of `\hyperpage` can be empty. And the line breaking algorithm of `Makeindex` can introduce spaces. So we have to remove them.

```

8599 \def\HyInd@pagelink#1{%
8600 \begingroup
8601 \toks@={}%
8602 \HyInd@removespaces#1 \@nil
8603 \endgroup
8604 }
8605 \def\HyInd@removespaces#1 #2\@nil{%
8606 \toks@=\expandafter{\the\toks@#1}%
8607 \ifx\#2\%
8608 \edef\x{\the\toks@}%
8609 \ifx\x\@empty
8610 \else
8611 \hyperlink{page.\the\toks@}{\the\toks@}%
8612 \fi
8613 \else
8614 \ltx@ReturnAfterFi{%
8615 \HyInd@removespaces#2\@nil
8616 }%
8617 \fi
8618 }

```

## 45 Compatibility with foiltex

```

8619 \@ifclassloaded{foils}{%
8620 \providecommand*\ext@table{lot}%
8621 \providecommand*\ext@figure{lof}%
8622 }{}

```

## 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)).

```

8623 \@ifclassloaded{seminar}{%
8624   \Hy@seminarslidestrue
8625   \providecommand\theHslide{\arabic{slide}}}%
8626 }{%
8627   \Hy@seminarslidesfalse
8628 }
8629 \@ifpackageloaded{slidesec}{%
8630   \providecommand\theHslidesection {\arabic{slidesection}}%
8631   \providecommand\theHslidesubsection{%
8632     \theHslidesection.\arabic{slidesubsection}}%
8633 }%
8634 \def\slide@heading[#1]#2{%
8635   \H@refstepcounter{slidesection}%
8636   \@addtoreset{slidesubsection}{slidesection}%
8637   \addtocontents{los}{%
8638     \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
8639     {\@SCTR}{\slideheading.\theslidesection}}%
8640 }%
8641 \def\Hy@tempa{#2}%
8642 \ifx\Hy@tempa\@empty
8643   \else
8644     {%
8645       \edef\@currentlabel{%
8646         \csname p@slidesection\endcsname\theslidesection
8647       }%
8648       \makeslideheading{#2}%
8649     }%
8650   \fi
8651   \gdef\theslideheading{#1}%
8652   \gdef\theslidesubheading{}%
8653   \ifHy@bookmarksnumbered
8654     \def\Hy@slidetitle{\theslidesection\space #1}%
8655   \else
8656     \def\Hy@slidetitle{#1}%
8657   \fi
8658   \ifHy@hypertextnames
8659     \ifHy@naturalnames
8660       \hyper@@@anchor{slideheading.\theslidesection}{\relax}%
8661       \Hy@writebookmark
8662         {\theslidesection}%
8663         {\Hy@slidetitle}%
8664         {slideheading.\theslidesection}%
8665         {1}%
8666         {toc}%
8667     \else
8668       \hyper@@@anchor{slideheading.\theHslidesection}{\relax}%
8669       \Hy@writebookmark
8670         {\theslidesection}%
8671         {\Hy@slidetitle}%
8672         {slideheading.\theHslidesection}%
8673         {1}%
8674         {toc}%
8675     \fi
8676   \else
8677     \Hy@GlobalStepCount\Hy@linkcounter
8678     \hyper@@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8679     \Hy@writebookmark

```

```

8680     {\theslidesubsection}%
8681     {\Hy@slidetitle}%
8682     {slideheading.\the\Hy@linkcounter}%
8683     {1}%
8684     {toc}%
8685   \fi
8686 }%
8687 \def\slide@subheading[#1]#2{%
8688   \H@refstepcounter{slidesubsection}%
8689   \addtocontents{los}{%
8690     \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
8691     {\@SCTR}{slideheading.\theslidesubsection}%
8692   }%
8693   \def\Hy@tempa{#2}%
8694   \ifx\Hy@tempa\@empty
8695   \else
8696     {%
8697       \edef\@currentlabel{%
8698         \csname p@slidesubsection\endcsname\theslidesubsection
8699       }%
8700       \makeslidesubheading{#2}%
8701     }%
8702   \fi
8703   \gdef\theslidesubheading{#1}%
8704   \ifHy@bookmarksnumbered
8705     \def\Hy@slidetitle{\theslidesubsection\space #1}%
8706   \else
8707     \def\Hy@slidetitle{#1}%
8708   \fi
8709   \ifHy@hypertextnames
8710     \ifHy@naturalnames
8711       \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
8712       \Hy@writebookmark
8713         {\theslidesubsection}%
8714         {\Hy@slidetitle}%
8715         {slideheading.\theslidesubsection}%
8716         {2}%
8717         {toc}%
8718     \else
8719       \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
8720       \Hy@writebookmark
8721         {\theslidesubsection}%
8722         {\Hy@slidetitle}%
8723         {slideheading.\theHslidesubsection}%
8724         {2}%
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 \providecommand*{\listslidenamename}{List of Slides}%
8739 \def\listofslides{%
8740   \section*{%
8741     \listslidenamename
8742     \@mkboth{%
8743       \expandafter\MakeUppercase\listslidenamename
8744     }{%
8745       \expandafter\MakeUppercase\listslidenamename
8746     }%
8747   }%
8748   \def\l@slide##1##2##3##4{%
8749     \slide@undottedcline{%
8750       \slidenumberline{##3}{\hyperlink{##4}{##2}}}%
8751     }{%
8752   }%
8753   \let\l@subslide\l@slide
8754   \@startlos
8755 }%
8756 \def\slide@contents{%
8757   \def\l@slide##1##2##3##4{%
8758     \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
8759   }%
8760   \let\l@subslide\@gobblefour
8761   \@startlos
8762 }%
8763 \def\Slide@contents{%
8764   \def\l@slide##1##2##3##4{%
8765     \ifcase\lslide@flag
8766       \message{##1 ** \the\c@slide@section}%
8767       \ifnum##1>\c@slide@section
8768         \def\lslide@flag{1}%
8769       {%
8770         \large
8771         \slide@ccline{%
8772           \slidenumberline{$\rightarrow\bullet$}%
8773           {\hyperlink{##4}{##2}}}%
8774         }{##3}%
8775       }%
8776     \else
8777       {%
8778         \large
8779         \slide@ccline{%
8780           \slidenumberline{$\surd\bullet$}%
8781           {\hyperlink{##4}{##2}}}%
8782         }{##3}%
8783       }%
8784     \fi
8785   \or
8786   \def\lslide@flag{2}%
8787   {%
8788     \large
8789     \slide@ccline{%
8790       \slidenumberline{$\bullet$}%
8791       {\hyperlink{##4}{##2}}}%
8792     }{##3}%
8793   }%

```

```

8794 \or
8795 {%
8796 \large
8797 \slide@cline{%
8798 \slidenumberline{$\bullet$}%
8799 {\hyperlink{##4}{##2}}%
8800 }{##3}%
8801 }%
8802 \fi
8803 }%
8804 \def\l@subslide##1##2##3##4{%
8805 \ifnum\lslide@flag=1 %
8806 \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}}%
8807 \fi
8808 }%
8809 \def\lslide@flag{0}%
8810 \@startlos
8811 }%
8812 }{}

```

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.)

```

8813 \ifHy@texht
8814 \expandafter\endinput
8815 \fi
8816 \let\real@setref\@setref
8817 \def\@setref#1#2#3{% csname, extract group, refname
8818 \ifx#1\relax
8819 \protect\G@refundefinedtrue
8820 \nfss@text{\reset@font\bfseries ??}%
8821 \@latex@warning{%
8822 Reference ‘#3’ on page \thepage \space undefined%
8823 }%
8824 \else
8825 \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
8826 \fi
8827 }

```

`\Hy@setref@link` extracts the reference information entries, because `\hyper@link` does not expand arguments for the automatic link type detection.

```

8828 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8829 \begingroup
8830 \toks0={\hyper@link{#5}{#4}}%
8831 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8832 \edef\x{\endgroup
8833 \the\toks0 {\the\toks1 }%
8834 }%
8835 \x
8836 }
8837 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8838 \ifx#1\relax
8839 \protect\G@refundefinedtrue
8840 \nfss@text{\reset@font\bfseries ??}%
8841 \@latex@warning{%
8842 Reference ‘#3’ on page \thepage \space undefined%
8843 }%
8844 \else

```

```

8845 \protect\hyper@@link
8846 {\expandafter\@fifthoffive#1}%
8847 {page.\expandafter\@secondoffive#1}%
8848 {\expandafter\@secondoffive#1}%
8849 \fi
8850 }

8851 </package>
8852 <*check>
8853 \checklatex
8854 \checkcommand\def\@setref#1#2#3{%
8855 \ifx#1\relax
8856 \protect\G@refundefinedtrue
8857 \nfss@text{\reset@font\bfseries ??}%
8858 \@latex@warning{%
8859 Reference ‘#3’ on page \thepage\space undefined%
8860 }%
8861 \else
8862 \expandafter#2#1\null
8863 \fi
8864 }
8865 </check>
8866 <*package>

```

Now some extended referencing. `\ref*` and `\pageref*` are not linked, and `\autoref` prefixes with a tag based on the type.

```

8867 \def\HyRef@StarSetRef#1{%
8868 \begingroup
8869 \Hy@safe@activestru
8870 \edef\x{#1}%
8871 \@onelevel@sanitize\x
8872 \edef\x{\endgroup
8873 \noexpand\HyRef@@StarSetRef
8874 \expandafter\noexpand\csname r@\x\endcsname{\x}%
8875 }%
8876 \x
8877 }
8878 \def\HyRef@@StarSetRef#1#2#3{%
8879 \ifx#1\@undefined
8880 \let#1\relax
8881 \fi
8882 \real@setref#1#3{#2}%
8883 }
8884 \def\@refstar#1{%
8885 \HyRef@StarSetRef{#1}\@firstoffive
8886 }
8887 \def\@pagerefstar#1{%
8888 \HyRef@StarSetRef{#1}\@secondoffive
8889 }
8890 \def\@namerefstar#1{%
8891 \HyRef@StarSetRef{#1}\@thirdoffive
8892 }
8893 \Hy@AtBeginDocument{%
8894 \@ifpackageloaded{varioref}{%
8895 \def\@Refstar#1{%
8896 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8897 }%
8898 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%

```



```

8899 \MakeUppercase#1%
8900 }%
8901 \DeclareRobustCommand*{\Ref}{%
8902 \ifstar\@Refstar\HyRef@Ref
8903 }%
8904 \def\HyRef@Ref#1{%
8905 \hyperref[{#1}]{\Ref*{#1}}%
8906 }%
8907 \def\Vr@f#1{%
8908 \leavevmode\unskip\vref@space
8909 \hyperref[{#1}]{%
8910 \Ref*{#1}%
8911 \let\vref@space\nobreakspace
8912 \@vpageref[\unskip]{#1}%
8913 }%
8914 }%
8915 \def\vr@f#1{%
8916 \leavevmode\unskip\vref@space
8917 \begingroup
8918 \let\T@pageref\@pagerefstar
8919 \hyperref[{#1}]{%
8920 \ref*{#1}%
8921 \vpageref[\unskip]{#1}%
8922 }%
8923 \endgroup
8924 }%
8925 }{}%
8926 }
8927 \DeclareRobustCommand*{\autopageref}{%
8928 \ifstar{%
8929 \HyRef@autopagerefname\pageref*%
8930 }\HyRef@autopageref
8931 }
8932 \def\HyRef@autopageref#1{%
8933 \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
8934 }
8935 \def\HyRef@autopagerefname{%
8936 \ltx@ifundefined{pageautorefname}{%
8937 \ltx@ifundefined{pagename}{%
8938 \Hy@Warning{No autoref name for 'page'}%
8939 }{}%
8940 \pagename\nobreakspace
8941 }%
8942 }{}%
8943 \pageautorefname\nobreakspace
8944 }%
8945 }

```

\leavevmode is added to make package wrapfigure happy, if \autoref starts a paragraph.

```

8946 \DeclareRobustCommand*{\autoref}{%
8947 \leavevmode
8948 \ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@{link}}%
8949 }
8950 \def\HyRef@autoref#1#2{%
8951 \begingroup
8952 \Hy@safe@activetrue
8953 \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%

```

```

8954 \endgroup
8955 }
8956 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8957 \HyRef@ShowKeysRef{#2}%
8958 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
8959 \edef\HyRef@thisref{%
8960 \expandafter\@fourthoffive#1\@empty\@empty\@empty
8961 }%
8962 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8963 \Hy@safe@activesfalse
8964 #3{%
8965 \expandafter\@fifthoffive#1\@empty\@empty\@empty
8966 }{%
8967 \expandafter\@fourthoffive#1\@empty\@empty\@empty
8968 }{%
8969 \HyRef@currentHtag
8970 \expandafter\@firstoffive#1\@empty\@empty\@empty
8971 \null
8972 }%
8973 \else
8974 \protect\G@refundefinedtrue
8975 \nfss@text{\reset@font\bfseries ??}%
8976 \@latex@warning{%
8977 Reference ‘#2’ on page \thepage\space undefined%
8978 }%
8979 \fi
8980 }
8981 \def\HyRef@testreftype#1.#2\{\{%
8982 \ltx@ifundefined{#1autorefname}{%
8983 \ltx@ifundefined{#1name}{%
8984 \HyRef@StripStar#1\*\@nil{#1}%
8985 \ltx@ifundefined{\HyRef@name autorefname}{%
8986 \ltx@ifundefined{\HyRef@name name}{%
8987 \def\HyRef@currentHtag{%
8988 \Hy@Warning{No autoref name for ‘#1’}%
8989 }{%
8990 \edef\HyRef@currentHtag{%
8991 \expandafter\noexpand\csname\HyRef@name name\endcsname
8992 \noexpand~%
8993 }%
8994 }%
8995 }{%
8996 \edef\HyRef@currentHtag{%
8997 \expandafter\noexpand
8998 \csname\HyRef@name autorefname\endcsname
8999 \noexpand~%
9000 }%
9001 }%
9002 }{%
9003 \edef\HyRef@currentHtag{%
9004 \expandafter\noexpand\csname#1name\endcsname
9005 \noexpand~%
9006 }%
9007 }%
9008 }{%
9009 \edef\HyRef@currentHtag{%
9010 \expandafter\noexpand\csname#1autorefname\endcsname

```

```

9011 \noexpand-%
9012 }%
9013 }%
9014 }
9015 \def\HyRef@StripStar#1*\#2\@nil#3{%
9016 \def\HyRef@name{#2}%
9017 \ifx\HyRef@name\HyRef@CaseStar
9018 \def\HyRef@name{#1}%
9019 \else
9020 \def\HyRef@name{#3}%
9021 \fi
9022 }
9023 \def\HyRef@CaseStar{*\\}
9024 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

9025 \let\HyRef@ShowKeysRef\@gobble
9026 \def\HyRef@ShowKeysInit{%
9027 \begingroup\expandafter\expandafter\expandafter\endgroup
9028 \expandafter\ifx\csname SK@@label\endcsname\relax
9029 \else
9030 \ifx\SK@ref\@empty
9031 \else
9032 \def\HyRef@ShowKeysRef{%
9033 \SK@\SK@@ref
9034 }%
9035 \fi
9036 \fi
9037 }
9038 \@ifpackageloaded{showkeys}{%
9039 \HyRef@ShowKeysInit
9040 }{%
9041 \Hy@AtBeginDocument{%
9042 \@ifpackageloaded{showkeys}{%
9043 \HyRef@ShowKeysInit
9044 }{}%
9045 }%
9046 }

```

Defaults for the names that \autoref uses.

```

9047 \providecommand*\AMSautorefname{\equationautorefname}
9048 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
9049 \providecommand*\Itemautorefname{\itemautorefname}
9050 \providecommand*\itemautorefname{item}
9051 \providecommand*\equationautorefname{Equation}
9052 \providecommand*\footnoteautorefname{footnote}
9053 \providecommand*\itemautorefname{item}
9054 \providecommand*\figureautorefname{Figure}
9055 \providecommand*\tableautorefname{Table}
9056 \providecommand*\partautorefname{Part}
9057 \providecommand*\appendixautorefname{Appendix}
9058 \providecommand*\chapterautorefname{chapter}
9059 \providecommand*\sectionautorefname{section}
9060 \providecommand*\subsectionautorefname{subsection}
9061 \providecommand*\subsubsectionautorefname{subsubsection}
9062 \providecommand*\paragraphautorefname{paragraph}

```

```

9063 \providecommand*\subparagraphautorefname{subparagraph}
9064 \providecommand*\FancyVerbLineautorefname{line}
9065 \providecommand*\theoremautorefname{Theorem}
9066 \providecommand*\pageautorefname{page}
9067 \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 pdf<sub>T</sub><sub>E</sub>X offers `\pdfescapestring`.

```

9068 <*pdfTEX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
9069 \begingroup\expandafter\expandafter\expandafter\endgroup
9070 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
9071 \begingroup
9072 \catcode'\| =0 %
9073 \@makeother\| %
9074 \@firstofone{\endgroup
9075 |def|Hy@pstringdef#1#2{%
9076 |begingroup
9077 |edef~{|string~}%
9078 |xdef|Hy@gtemp{#2}%
9079 |endgroup
9080 |let#1|Hy@gtemp
9081 |@onelevel@sanitize#1%
9082 |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
9083 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
9084 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
9085 }%
9086 |def|Hy@ExchangeBackslash#1\#2|@nil{%
9087 #1%
9088 |ifx|\#2|\%
9089 |else
9090 \\\%
9091 |ltx@ReturnAfterFi{%
9092 |Hy@ExchangeBackslash#2|@nil
9093 }%
9094 |fi
9095 }%
9096 }%
9097 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
9098 #1%
9099 \ifx\#2\%
9100 \else
9101 \@backslashchar(%
9102 \ltx@ReturnAfterFi{%
9103 \Hy@ExchangeLeftParenthesis#2\@nil
9104 }%
9105 \fi
9106 }%

```

```

9107 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
9108   #1%
9109   \ifx\|#2\|%
9110     \else
9111       \@backslashchar)%
9112       \ltx@ReturnAfterFi{%
9113         \Hy@ExchangeRightParenthesis#2\@nil
9114       }%
9115     \fi
9116   }%
9117 \else
9118   \def\Hy@pstringdef#1#2{%
9119     \begingroup
9120     \edef~{\string~}%
9121     \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
9122     \endgroup
9123     \let#1\Hy@gtemp
9124   }%
9125 \fi
9126 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

## 47.2 pdfTeX

```

9127 <*pdfTeX>
9128 \providecommand*\XR@ext}{pdf}
9129 \Hy@setbreaklinks{true}
9130 \def\HyPat@ObjRef{%
9131   [0-9]*[1-9][0-9]* 0 R%
9132 }

```

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`

```

9133 \let\Hy@pdfminorversion\relax
9134 \begingroup\expandafter\expandafter\expandafter\endgroup
9135 \expandafter\ifx\csname pdfminorversion\endcsname\relax
9136   \begingroup\expandafter\expandafter\expandafter\endgroup
9137   \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
9138     \else
9139       \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
9140     \fi
9141   \else
9142     \def\Hy@pdfminorversion{\pdfminorversion}%
9143   \fi
9144   \@ifundefined{Hy@pdfminorversion}{%
9145     \PackageInfo{hyperref}{%
9146       PDF version is not set, because pdfTeX is too old (<1.10a)%
9147     }%
9148   }{%
9149     \ifHy@ocgcolorlinks
9150       \ifnum\Hy@pdfminorversion<5 %
9151         \kvsetkeys{Hyp}{pdfversion=1.5}%
9152       \fi

```

```

9153 \fi
9154 \ifHy@setpdfversion
9155 \ifnum\Hy@pdfversion<5 %
9156 \ltx@ifundefined{pdfobjcompresslevel}{%
9157 }{%
9158 \ifHy@verbose
9159 \Hy@InfoNoLine{%
9160 PDF object streams are disabled, because they are%
9161 \MessageBreak
9162 not supported in requested PDF version %
9163 1.\Hy@pdfversion
9164 }%
9165 \fi
9166 \pdfobjcompresslevel=\ltx@zero
9167 }%
9168 \fi
9169 \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
9170 \else
9171 \let\Hy@temp\ltx@empty
9172 \def\Hy@temp@A#1#2{%
9173 \ifnum#1>\ltx@zero
9174 \edef\Hy@temp{%
9175 \Hy@temp
9176 \space\space
9177 \the#1\space #2%
9178 \ifnum#1=\ltx@one\else s\fi
9179 \MessageBreak
9180 }%
9181 \fi
9182 }%
9183 \Hy@temp@A\pdflastobj{PDF object}%
9184 \Hy@temp@A\pdflastxform{formXObject}%
9185 \Hy@temp@A\pdflastximage{imageXObject}%
9186 \Hy@temp@A\pdflastannot{annotation}%
9187 \ltx@ifundefined{pdflastlink}{%
9188 }{%
9189 \Hy@temp@A\pdflastlink{link}%
9190 }%
9191 \ifx\Hy@temp\ltx@empty
9192 \Hy@pdfminorversion=\Hy@pdfversion\relax
9193 \else
9194 \let\Hy@temp@A\ltx@empty
9195 \ifnum\Hy@pdfversion=4 %
9196 \IfFileExists{pdf14.sty}{%
9197 \def\Hy@temp@A{%
9198 \MessageBreak
9199 Or \string\RequirePackage{pdf14} can be used%
9200 \MessageBreak
9201 before \string\documentclass\space as shortcut%
9202 }%
9203 }{}%
9204 \fi
9205 \Hy@WarningNoLine{%
9206 The PDF version number could not be set,\MessageBreak
9207 because some PDF objects are already written:%
9208 \MessageBreak
9209 \Hy@temp

```

```

9210      The version should be set as early as possible:%
9211      \MessageBreak
9212      \space\space
9213      \expandafter\string\Hy@pdfminorversion=\Hy@pdfversion
9214      \string\relax
9215      \ifnum\Hy@pdfversion<5 %
9216      \ltx@ifundefined{pdfobjcompresslevel}{%
9217      }{%
9218      \MessageBreak
9219      \space\space
9220      \string\pdfobjcompresslevel=0\string\relax
9221      }%
9222      \fi
9223      \Hy@temp@A
9224      }%
9225      \fi
9226      \fi
9227      \PackageInfo{hyperref}{%
9228      \expandafter\string\Hy@pdfminorversion
9229      :=\number\Hy@pdfversion\space
9230      }%
9231      \fi
9232      \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
9233      }
9234      \Hy@DisableOption{pdfversion}%
9235      \ifHy@ocgcolorlinks
9236      \pdf@ifdraftmode{}{%
9237      \immediate\pdfobj{%
9238      <<%
9239      /Type/OCG%
9240      /Name(View)%
9241      /Usage<<%
9242      /Print<<%
9243      /PrintState/OFF%
9244      >>%
9245      /View<<%
9246      /ViewState/ON%
9247      >>%
9248      >>%
9249      >>%
9250      }%
9251      \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
9252      \immediate\pdfobj{%
9253      <<%
9254      /Type/OCG%
9255      /Name(Print)%
9256      /Usage<<%
9257      /Print<<%
9258      /PrintState/ON%
9259      >>%
9260      /View<<%
9261      /ViewState/OFF%
9262      >>%
9263      >>%
9264      >>%
9265      }%
9266      \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%

```

```

9267 \immediate\pdfobj{%
9268 [%
9269 \OBJ@OCG@view\space\OBJ@OCG@print
9270 ]%
9271 }%
9272 \edef\OBJ@OCGs{\the\pdfastobj\space 0 R}%
9273 \pdfcatalog{%
9274 /OCProperties<<%
9275 /OCGs \OBJ@OCGs
9276 /D<<%
9277 /OFF[\OBJ@OCG@print]%
9278 /AS[%
9279 <<%
9280 /Event/View%
9281 /OCGs \OBJ@OCGs
9282 /Category[/View]%
9283 >>%
9284 <<%
9285 /Event/Print%
9286 /OCGs \OBJ@OCGs
9287 /Category[/Print]%
9288 >>%
9289 <<%
9290 /Event/Export%
9291 /OCGs \OBJ@OCGs
9292 /Category[/Print]%
9293 >>%
9294 ]%
9295 >>%
9296 >>%
9297 }%
9298 \begingroup
9299 \edef\x{\endgroup
9300 \pdfpageresources{%
9301 /Properties<<%
9302 /OCView \OBJ@OCG@view
9303 /OCPrint \OBJ@OCG@print
9304 >>%
9305 }%
9306 }%
9307 \x
9308 }%
9309 \Hy@AtBeginDocument{%
9310 \def\Hy@colorlink#1{%
9311 \begingroup
9312 \ifHy@ocgcolorlinks
9313 \def\Hy@ocgcolor{#1}%
9314 \setbox0=\hbox\bgroup\color@begingroup
9315 \else
9316 \HyColor@UseColor#1%
9317 \fi
9318 }%
9319 \def\Hy@endcolorlink{%
9320 \ifHy@ocgcolorlinks
9321 \color@endgroup\egroup
9322 \mbox{%
9323 \pdfliteral page{/OC/OCPrint BDC}%

```



```

9324      \rlap{\copy0}%
9325      \pdfliteral page{EMC/OC/OCView BDC}%
9326      \begingroup
9327        \expandafter\HyColor@UseColor\Hy@ocgcolor
9328        \box0 %
9329      \endgroup
9330      \pdfliteral page{EMC}%
9331    }%
9332  \fi
9333  \endgroup
9334 }%
9335 }%
9336 \else
9337   \Hy@DisableOption{ocgcolorlinks}%
9338 \fi

```

First, allow for some changes and additions to pdftex syntax:

```

9339 \def\setpdfinkmargin#1{\pdfinkmargin#1}
9340 \ifx\pdfstartlink\@undefined% less than version 14
9341   \let\pdfstartlink\pdfannotlink
9342   \let\pdfinkmargin\@tempdima
9343   \let\pdfxform\pdfform
9344   \let\pdfastxform\pdfastform
9345   \let\pdfrefxform\pdfrefform
9346 \else
9347   \pdfinkmargin1pt %
9348 \fi

```

First set up the default linking

```

9349 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

9350 \Hy@WrapperDef\new@pdfink#1{%
9351   \ifhmode
9352     \@savsf\spacefactor
9353   \fi
9354   \Hy@SaveLastskip
9355   \Hy@VerboseAnchor{#1}%
9356   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9357   \Hy@DestName\Hy@pstringDest\@pdfview
9358   \Hy@RestoreLastskip
9359   \ifhmode
9360     \spacefactor\@savsf
9361   \fi
9362 }
9363 \let\pdf@endanchor\@empty

```

`\Hy@DestName` Wrap the call of `\pdfdest name` in `\Hy@DestName`. Then it can easier be caught by package `hypdestopt`.

```

9364 \def\Hy@DestName#1#2{%
9365   \pdfdest name{#1}#2\relax
9366 }

```

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.

```

9367 \providecommand*\@pdfborder{0 0 1}

```

```

9368 \providecommand*\@pdfborderstyle{}
9369 \def\Hy@undefinedname{UNDEFINED}
9370 \def\find@pdflink#1#2{%
9371   \leavevmode
9372   \protected@edef\Hy@testname{#2}%
9373   \ifx\Hy@testname\@empty
9374     \Hy@Warning{%
9375       Empty destination name,\MessageBreak
9376       using '\Hy@undefinedname'%
9377     }%
9378     \let\Hy@testname\Hy@undefinedname
9379   \else
9380     \Hy@pstringdef\Hy@testname{%
9381       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
9382     }%
9383   \fi
9384   \Hy@StartlinkName{%
9385     \ifHy@pdfa /F 4\fi
9386     \Hy@setpdfborder
9387     \ifx\@pdfhighlight\@empty
9388       \else
9389         /H\@pdfhighlight
9390       \fi
9391       \ifx\CurrentBorderColor\relax
9392         \else
9393           /C[\CurrentBorderColor]%
9394         \fi
9395     }\Hy@testname
9396     \expandafter\Hy@colorlink\csname @#1color\endcsname
9397   }
9398 \def\Hy@StartlinkName#1#2{%
9399   \pdfstartlink attr{#1}goto name{#2}\relax
9400 }
9401 \def\close@pdfink{%
9402   \Hy@endcolorlink
9403   \Hy@VerboseLinkStop
9404   \pdfendlink
9405 }
9406 \def\hyper@anchor#1{%
9407   \new@pdfink{#1}\anchor@spot\pdf@endanchor
9408 }
9409 \def\hyper@anchorstart#1{%
9410   \new@pdfink{#1}%
9411   \Hy@activeanchortrue
9412 }
9413 \def\hyper@anchorend{%
9414   \pdf@endanchor
9415   \Hy@activeanchorfalse
9416 }
9417 \def\hyper@linkstart#1#2{%
9418   \Hy@VerboseLinkStart{#1}{#2}%
9419   \ltx@ifundefined{@#1bordercolor}{%
9420     \let\CurrentBorderColor\relax
9421   }{%
9422     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9423   }%
9424   \find@pdfink{#1}{#2}%

```

```

9425 }
9426 \def\hyper@linkend{\close@pdfink}
9427 \def\hyper@link#1#2#3{%
9428   \Hy@VerboseLinkStart{#1}{#2}%
9429   \ltx@ifundefined{@#1bordercolor}{%
9430     \let\CurrentBorderColor\relax
9431   }{%
9432     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9433   }%
9434   \find@pdfink{#1}{#2}#3\Hy@xspace@end
9435   \close@pdfink
9436 }
9437 \let\CurrentBorderColor\@linkbordercolor
9438 \def\hyper@linkurl#1#2{%
9439   \begingroup
9440     \Hy@pstringdef\Hy@pstringURI{#2}%
9441     \hyper@chars
9442     \leavevmode
9443     \pdfstartlink
9444       attr{%
9445         \Hy@setpdfborder
9446         \ifx\@pdfhighlight\@empty
9447           \else
9448             /H\@pdfhighlight
9449           \fi
9450         \ifx\@urlbordercolor\relax
9451           \else
9452             /C[\@urlbordercolor]%
9453           \fi
9454       }%
9455       user{%
9456         /Subtype/Link%
9457         \ifHy@pdfa /F 4\fi
9458         /A<<%
9459         /Type/Action%
9460         /S/URI%
9461         /URI(\Hy@pstringURI)%
9462         \ifHy@href@cismap
9463           /IsMap true%
9464         \fi
9465         \Hy@href@nextactionraw
9466       >>%
9467     }%
9468     \relax
9469     \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9470     \close@pdfink
9471   \endgroup
9472 }
9473 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
9474   \begingroup
9475     \def\Hy@pstringF{#2}%
9476     \Hy@CleanupFile\Hy@pstringF
9477     \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9478     \Hy@pstringdef\Hy@pstringD{#3}%
9479     \Hy@MakeRemoteAction
9480     \leavevmode
9481     \pdfstartlink

```

```

9482 attr{%
9483   \Hy@setpdfborder
9484   \ifx\@pdfhighlight\@empty
9485   \else
9486     /H\@pdfhighlight
9487   \fi
9488   \ifx\@filebordercolor\relax
9489   \else
9490     /C[\@filebordercolor]%
9491   \fi
9492 }%
9493 user {%
9494   /Subtype/Link%
9495   \ifHy@pdfa /F 4\fi
9496   /A<<%
9497   /F(\Hy@pstringF)%
9498   /S/GoToR%
9499   \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}

```

```

9500   \ifx\#3\%
9501     /D[\Hy@href@page\@pdfremotestartview]%
9502   \else
9503     /D(\Hy@pstringD)%
9504   \fi
9505   \Hy@href@nextactionraw
9506   >>%
9507 }%
9508 \relax
9509 \Hy@colorlink\@filecolor#1\Hy@xspace@end
9510 \close@pdflink
9511 \endgroup
9512 }
9513 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
9514 \begingroup
9515   \Hy@pstringdef\Hy@pstringF{#1}%
9516   \Hy@pstringdef\Hy@pstringP{#3}%
9517   \leavevmode
9518   \pdfstartlink
9519   attr{%
9520     \Hy@setpdfborder
9521     \ifx\@pdfhighlight\@empty
9522     \else
9523       /H\@pdfhighlight
9524     \fi
9525     \ifx\@runbordercolor\relax
9526     \else

```

```

9527      /C[\@runbordercolor]%
9528      \fi
9529    }%
9530    user {%
9531      /Subtype/Link%
9532      \ifHy@pdfa /F 4\fi
9533      /A<<%
9534      /F(\Hy@pstringF)%
9535      /S/Launch%
9536      \Hy@SetNewWindow
9537      \ifx\#3\%
9538      \else
9539      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9540      \fi
9541      \Hy@href@nextactionraw
9542    >>%
9543  }%
9544  \relax
9545  \Hy@colorlink\@runcolor#2\Hy@xspace@end
9546  \close@pdflink
9547 \endgroup
9548 }

```

\@pdfproducer

```

9549 \ifx\@pdfproducer\relax
9550   \begingroup\expandafter\expandafter\expandafter\endgroup
9551   \expandafter\ifx\csname luatexversion\endcsname\relax
9552     \def\@pdfproducer{pdfTeX}%
9553     \ifx\eTeXversion\@undefined
9554       \else
9555         \ifx\eTeXversion\relax
9556         \else
9557           \ifnum\eTeXversion>0 %
9558             \def\@pdfproducer{pdfTeX}%
9559           \fi
9560         \fi
9561       \fi
9562     \ifx\pdfTeXversion\@undefined
9563     \else
9564       \ifnum\pdfTeXversion<100 %
9565         \edef\@pdfproducer{%
9566           \@pdfproducer
9567           \the\pdfTeXversion.\pdfTeXrevision
9568         }%
9569       \else
9570         \ifnum\pdfTeXversion<130 %
9571         \edef\@pdfproducer{%
9572           \@pdfproducer-
9573           \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9574           \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
9575           \pdfTeXrevision
9576         }%
9577       \else
9578         \ifnum\pdfTeXversion<140 %
9579         \else
9580           \def\@pdfproducer{pdfTeX}%
9581         \fi

```

```

9582     \edef\@pdfproducer{%
9583         \@pdfproducer-%
9584         \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9585         \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
9586         \pdfTeXrevision
9587     }%
9588     \fi
9589     \fi
9590     \fi
9591     \else
9592     \begingroup
9593         \count@=\luatexversion
9594         \divide\count@ by 100 %
9595         \edef\x{\the\count@}%
9596         \count@=-\x\relax
9597         \multiply\count@ by 100 %
9598         \advance\count@ by \luatexversion
9599         \edef\x{\endgroup
9600             \def\noexpand\@pdfproducer{%
9601                 LuaTeX-\x.\the\count@.\luatexrevision
9602             }%
9603         }%
9604         \x
9605     \fi
9606 \fi

```

\PDF@SetupDox

```

9607 \def\PDF@SetupDoc{%
9608     \ifx\@pdfpagescrop\@empty
9609     \else
9610         \edef\process@me{%
9611             \pdfpagesattr={%
9612                 /CropBox[\@pdfpagescrop]%
9613                 \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
9614                 \else
9615                     ^^J\the\pdfpagesattr
9616                 \fi
9617             }%
9618         }%
9619         \process@me
9620     \fi
9621     \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9622     \pdfcatalog{%
9623         /PageMode/\@pdfpagemode
9624         \ifx\@baseurl\@empty
9625         \else
9626             /URI<</Base(\Hy@pstringB)>>%
9627         \fi
9628     }%
9629     \ifx\@pdfstartpage\@empty
9630     \else
9631         \ifx\@pdfstartview\@empty
9632         \else
9633             openaction goto page\@pdfstartpage{\@pdfstartview}%
9634         \fi
9635     \fi
9636     \edef\Hy@temp{%
9637         \ifHy@pdftoolbar\else /HideToolbar true\fi

```

```

9638 \ifHy@pdfmenubar\else /HideMenubar true\fi
9639 \ifHy@pdfwindowui\else /HideWindowUI true\fi
9640 \ifHy@pdffitwindow /FitWindow true\fi
9641 \ifHy@pdfcenterwindow /CenterWindow true\fi
9642 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9643 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9644 \Hy@UseNameKey{Direction}\@pdfdirection
9645 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9646 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9647 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9648 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9649 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9650 \Hy@UseNameKey{Duplex}\@pdfduplex
9651 \ifx\@pdfpicktraybypdfsize\@empty
9652 \else
9653 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9654 \fi
9655 \ifx\@pdfprintpagerange\@empty
9656 \else
9657 /PrintPageRange[\@pdfprintpagerange]%
9658 \fi
9659 \ifx\@pdfnumcopies\@empty
9660 \else
9661 /NumCopies \@pdfnumcopies
9662 \fi
9663 }%
9664 \pdfcatalog{%
9665 \ifx\Hy@temp\@empty
9666 \else
9667 /ViewerPreferences<<\Hy@temp>>%
9668 \fi
9669 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9670 \ifx\@pdflang\@empty
9671 \else
9672 /Lang(\@pdflang)%
9673 \fi
9674 }%
9675 }

```

\PDF@FinishDoc

```

9676 \def\PDF@FinishDoc{%
9677 \pdf@ifdraftmode{ }{%
9678 \Hy@UseMaketitleInfos
9679 \HyInfo@GenerateAddons
9680 \pdfinfo{%
9681 /Author(\@pdfauthor)%
9682 /Title(\@pdftitle)%
9683 /Subject(\@pdfsubject)%
9684 /Creator(\@pdfcreator)%
9685 \ifx\@pdfcreationdate\@empty
9686 \else
9687 /CreationDate(\@pdfcreationdate)%
9688 \fi
9689 \ifx\@pdfmoddate\@empty
9690 \else
9691 /ModDate(\@pdfmoddate)%
9692 \fi
9693 \ifx\@pdfproducer\relax

```

```

9694 \else
9695 /Producer(\@pdfproducer)%
9696 \fi
9697 /Keywords(\@pdfkeywords)%
9698 \ifx\@pdftrapped\@empty
9699 \else
9700 /Trapped/\@pdftrapped
9701 \fi
9702 \HyInfo@Addons
9703 }%
9704 }%
9705 \Hy@DisableOption{pdfauthor}%
9706 \Hy@DisableOption{pdftitle}%
9707 \Hy@DisableOption{pdfsubject}%
9708 \Hy@DisableOption{pdfcreator}%
9709 \Hy@DisableOption{pdfcreationdate}%
9710 \Hy@DisableOption{pdfmoddate}%
9711 \Hy@DisableOption{pdfproducer}%
9712 \Hy@DisableOption{pdfkeywords}%
9713 \Hy@DisableOption{pdftrapped}%
9714 \Hy@DisableOption{pdfinfo}%
9715 }

```

`\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`.

```

9716 \def\hyper@pagetransition{%
9717 \ifx\@pdfpagetransition\relax
9718 \else
9719 \expandafter\Hy@RemoveTransPageAttr
9720 \the\pdfpageattr^^J/Trans{}>>\END
9721 \ifx\@pdfpagetransition\@empty
9722 \else
9723 \edef\@processme{%
9724 \global\pdfpageattr{%
9725 \the\pdfpageattr
9726 ^^J/Trans << /S /\@pdfpagetransition\space >>%
9727 }%
9728 }%
9729 \@processme
9730 \fi
9731 \fi
9732 }

```

`\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.

```

9733 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9734 \ifx\#2\%
9735 \global\pdfpageattr{#1}%
9736 \else
9737 \Hy@RemoveTransPageAttr#1#4\END
9738 \fi
9739 }

```



`\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`.

```

9740 \def\hyper@pageduration{%
9741   \ifx\@pdfpageduration\relax
9742   \else
9743     \expandafter
9744     \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
9745   \ifx\@pdfpageduration\@empty
9746   \else
9747     \edef\@processme{%
9748       \global\pdfpageattr{%
9749         \the\pdfpageattr
9750         ^^J/Dur \@pdfpageduration\space
9751       }%
9752     }%
9753     \@processme
9754   \fi
9755 \fi
9756 }
```

`\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.

```

9757 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9758   \ifx\#2\%
9759     \global\pdfpageattr{#1}%
9760   \else
9761     \Hy@RemoveDurPageAttr#1#4\END
9762   \fi
9763 }
```

`\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).

```

9764 \def\hyper@pagehidden{%
9765   \ifHy@useHidKey
9766   \expandafter
9767   \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
9768   \ifHy@pdfpagehidden
9769   \edef\@processme{%
9770     \global\pdfpageattr{%
9771       \the\pdfpageattr
9772       ^^J/Hid true % SPACE
9773     }%
9774   }%
9775   \@processme
9776 \fi
9777 \fi
9778 }
```

`\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.

```

9779 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
9780   \ifx\#2\%
9781     \global\pdfpageattr{#1}%
9782   \else
9783     \Hy@RemoveHidPageAttr#1#4\END
9784   \fi
9785 }

9786 \pdf@ifdraftmode{}{%
9787   \g@addto@macro\Hy@EveryPageHook{%
9788     \hyper@pagetransition
9789     \hyper@pageduration
9790     \hyper@pagehidden
9791   }%
9792 }

```

Also XeTeX support `\pdfpagewidth` and `\pdfpageheight`, but it does not provide `\pdfhorigin` and `\pdfvorigin`.

```

9793 \pdfTeX
9794 \ifx\pdfTeX\XeTeX
9795   \Hy@AtBeginDocument{%
9796     \ifHy@setpagesize
9797       \expandafter\@firstofone
9798     \else
9799       \expandafter\@gobble
9800     \fi
9801   }%
9802   \ifclassloaded{seminar}{%
9803     \pdfTeX
9804       \setlength{\pdfhorigin}{1truein}%
9805       \setlength{\pdfvorigin}{1truein}%
9806     \pdfTeX
9807     \ifportrait
9808       \ifdim\paperwidth=\z@
9809       \else
9810         \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9811       \fi
9812       \ifdim\paperheight=\z@
9813       \else
9814         \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9815       \fi
9816     \else
9817       \ifdim\paperheight=\z@
9818       \else
9819         \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9820       \fi
9821       \ifdim\paperwidth=\z@
9822       \else
9823         \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9824       \fi
9825     \fi
9826   }{%
9827     \ltx@ifundefined{stockwidth}{%
9828       \ifdim\paperwidth>\z@
9829         \setlength{\pdfpagewidth}{\paperwidth}%
9830       \fi
9831       \ifdim\paperheight>\z@
9832         \setlength{\pdfpageheight}{\paperheight}%

```

```

9833     \fi
9834   }{%
9835     \ifdim\stockwidth>\z@
9836       \setlength{\pdfpagewidth}{\stockwidth}%
9837     \fi
9838     \ifdim\stockheight>\z@
9839       \setlength{\pdfpageheight}{\stockheight}%
9840     \fi
9841   }%
9842 }%
9843 }%
9844 \Hy@DisableOption{setpagesize}%
9845 }
9846 </pdfTeX | xetex>
9847 (*pdfTeX)
9848 \def\Acrobatmenu#1#2{%
9849   \Hy@Acrobatmenu{#1}{#2}{%
9850     \leavevmode
9851     \EdefEscapeName\Hy@temp@menu{#1}%
9852     \pdfstartlink
9853       attr{%
9854         \Hy@setpdfborder
9855         \ifx\@pdfhighlight\@empty
9856           \else
9857             /H\@pdfhighlight
9858           \fi
9859         \ifx\@menubordercolor\relax
9860           \else
9861             /C[\@menubordercolor]%
9862           \fi
9863         }%
9864       user{%
9865         /Subtype/Link%
9866         \ifHy@pdfa /F 4\fi
9867         /A<<%
9868         /S/Named%
9869         /N/\Hy@temp@menu
9870         \Hy@href@nextactionraw
9871       >>%
9872     }%
9873     \relax
9874     \Hy@colorlink\@menucolor#2%
9875     \close@pdflink
9876   }%
9877 }

```

#### 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.

```

9878 \def\Hy@FixNotFirstPage{%
9879   \gdef\Hy@FixNotFirstPage{%
9880     \setbox\AtBeginShipoutBox=\hbox{%
9881       \copy\AtBeginShipoutBox
9882     }%
9883   }%
9884 }
9885 \ltx@ifpackagelater{atbegshi}{2011/10/05}{%
9886 }{%
9887   \AtBeginShipout{\Hy@FixNotFirstPage}%
9888 }
9889 \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.

```

9890 \*hypertex
9891 \providecommand*\XR@ext{}{dvi}
9892 \let\PDF@FinishDoc\ltx@empty
9893 \def\PDF@SetupDoc{%
9894   \ifx\@baseurl\@empty
9895   \else
9896     \special{html:<base href="\@baseurl">}}%
9897 \fi

```

```

9898 }
9899 \Hy@WrapperDef\hyper@anchor#1{%
9900 \Hy@SaveLastskip
9901 \Hy@VerboseAnchor{#1}%
9902 \begingroup
9903 \let\protect=\string
9904 \hyper@chars
9905 \special{html:<a name=%
9906 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9907 \endgroup
9908 \Hy@activeanchortrue
9909 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9910 \special{html:</a>}%
9911 \Hy@activeanchorfalse
9912 \Hy@RestoreLastskip
9913 }
9914 \Hy@WrapperDef\hyper@anchorstart#1{%
9915 \Hy@SaveLastskip
9916 \Hy@VerboseAnchor{#1}%
9917 \begingroup
9918 \hyper@chars
9919 \special{html:<a name=%
9920 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9921 \endgroup
9922 \Hy@activeanchortrue
9923 }
9924 \def\hyper@anchorend{%
9925 \special{html:</a>}%
9926 \Hy@activeanchorfalse
9927 \Hy@RestoreLastskip
9928 }
9929 \def\@urlltype{url}
9930 \def\hyper@linkstart#1#2{%
9931 \Hy@VerboseLinkStart{#1}{#2}%
9932 \expandafter\Hy@colorlink\csname @#1color\endcsname
9933 \def\Hy@tempa{#1}%
9934 \ifx\Hy@tempa\@urlltype
9935 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9936 \else
9937 \begingroup
9938 \hyper@chars
9939 \special{html:<a href=%
9940 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
9941 \endgroup
9942 \fi
9943 }
9944 \def\hyper@linkend{%
9945 \special{html:</a>}%
9946 \Hy@endcolorlink
9947 }
9948 \def\hyper@linkfile#1#2#3{%
9949 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9950 }
9951 \def\hyper@linkurl#1#2{%

```

If we want to raise up the final link `\special`, we need to get its height; ask me why  $\text{\LaTeX}$  constructs make this totally foul up, and make us revert to basic  $\text{\TeX}$ . I do not know.

```

9952 \leavevmode
9953 \ifHy@raiselinks
9954   \Hy@SaveSpaceFactor
9955   \Hy@SaveSavedSpaceFactor
9956   \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9957   \Hy@RestoreSavedSpaceFactor
9958   \@linkdim\dp\@tempboxa
9959   \lower\@linkdim\hbox{%
9960     \hyper@chars
9961     \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9962   }%
9963   \Hy@colorlink\@urlcolor
9964   \Hy@RestoreSpaceFactor
9965   #1%
9966   \Hy@SaveSpaceFactor
9967   \@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).

```

9968   \advance\@linkdim by -6.5\p@
9969   \raise\@linkdim\hbox{\special{html:</a>}}%
9970   \Hy@endcolorlink
9971   \Hy@RestoreSpaceFactor
9972 \else
9973   \begingroup
9974     \hyper@chars
9975     \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9976     \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9977     \special{html:</a>}}%
9978     \Hy@endcolorlink
9979   \endgroup
9980 \fi
9981 }

```

Very poor implementation of `\hyper@link` without considering #1.

```

9982 \def\hyper@link#1#2#3{%
9983   \Hy@VerboseLinkStart{#1}{#2}%
9984   \hyper@linkurl{#3}{\# \Hy@DestNameFilter{#2}}%
9985 }

9986 \def\hyper@image#1#2{%
9987   \begingroup
9988     \hyper@chars
9989     \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
9990   \endgroup
9991 }
9992 </hypertex>
9993 <*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, L<sup>A</sup>T<sub>E</sub>X 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.

```

9994 \providecommand*\XR@ext}{dvi}
9995 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9996 \Hy@WrapperDef\hyper@anchor#1{%
9997   \Hy@SaveLastskip
9998   \Hy@VerboseAnchor{#1}%
9999   \begingroup
10000   \let\protect=\string
10001   \special{mark: #1}%
10002   \endgroup
10003   \Hy@activeanchortrue
10004   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10005   \Hy@activeanchorfalse
10006   \Hy@RestoreLastskip
10007 }
10008 \Hy@WrapperDef\hyper@anchorstart#1{%
10009   \Hy@SaveLastskip
10010   \Hy@VerboseAnchor{#1}%
10011   \special{mark: #1}%
10012   \Hy@activeanchortrue
10013 }
10014 \def\hyper@anchorend{%
10015   \Hy@activeanchorfalse
10016   \Hy@RestoreLastskip
10017 }
10018 \def\hyper@linkstart#1#2{%
10019   \Hy@VerboseLinkStart{#1}{#2}%
10020   \expandafter\Hy@colorlink\csname @#1color\endcsname
10021   \special{button: %
10022     10000000 %
10023     \number\baselineskip\space
10024     #2%
10025   }%
10026 }
10027 \def\hyper@linkend{%
10028   \Hy@endcolorlink
10029 }
10030 \def\hyper@link#1#2#3{%
10031   \Hy@VerboseLinkStart{#1}{#2}%
10032   \leavevmode
10033   \ifHy@raiselinks
10034     \Hy@SaveSpaceFactor
10035     \Hy@SaveSavedSpaceFactor
10036     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
10037     \Hy@RestoreSavedSpaceFactor
10038     \@linkdim\dp\@tempboxa
10039     \lower\@linkdim\hbox{%
10040       \special{button: %
10041         \number\wd\@tempboxa\space
10042         \number\ht\@tempboxa\space
10043         #2%
10044       }%
10045     \expandafter\Hy@colorlink\csname @#1color\endcsname

```

```

10046 \Hy@RestoreSpaceFactor
10047 #3\Hy@xspace@end
10048 \Hy@SaveSpaceFactor
10049 \Hy@endcolorlink
10050 }%
10051 \@linkdim\ht\@tempboxa
10052 \advance\@linkdim by -6.5\p@
10053 \raise\@linkdim\hbox{}%
10054 \Hy@RestoreSpaceFactor
10055 \else
10056 \special{button: %
10057 \number\wd\@tempboxa\space
10058 \number\ht\@tempboxa\space
10059 #2%
10060 }%
10061 \expandafter\Hy@colorlink\csname @#1color\endcsname
10062 #3\Hy@xspace@end
10063 \Hy@endcolorlink
10064 \fi
10065 }
10066 \def\hyper@linkurl#1#2{%
10067 \begingroup
10068 \hyper@chars
10069 \leavevmode
10070 \ifHy@raiselinks
10071 \Hy@SaveSpaceFactor
10072 \Hy@SaveSavedSpaceFactor
10073 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
10074 \Hy@RestoreSavedSpaceFactor
10075 \@linkdim\dp\@tempboxa
10076 \lower\@linkdim\hbox{%
10077 \special{button: %
10078 \number\wd\@tempboxa\space
10079 \number\ht\@tempboxa\space
10080 launch: \wwwbrowser\space
10081 #2%
10082 }%
10083 \Hy@colorlink\@urlcolor
10084 \Hy@RestoreSpaceFactor
10085 #1\Hy@xspace@end
10086 \Hy@SaveSpaceFactor
10087 \Hy@endcolorlink
10088 }%
10089 \@linkdim\ht\@tempboxa
10090 \advance\@linkdim by -6.5\p@
10091 \raise\@linkdim\hbox{}%
10092 \Hy@RestoreSpaceFactor
10093 \else
10094 \special{button: %
10095 \number\wd\@tempboxa\space
10096 \number\ht\@tempboxa\space
10097 launch: \wwwbrowser\space
10098 #2%
10099 }%
10100 \Hy@colorlink\@urlcolor
10101 #1\Hy@xspace@end
10102 \Hy@endcolorlink

```



```

10103 \fi
10104 \endgroup
10105 }
10106 \def\hyper@linkfile#1#2#3{%
10107 \begingroup
10108 \hyper@chars
10109 \leavevmode
10110 \ifHy@raiselinks
10111 \Hy@SaveSpaceFactor
10112 \Hy@SaveSavedSpaceFactor
10113 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
10114 \Hy@RestoreSavedSpaceFactor
10115 \@linkdim\dp\@tempboxa
10116 \lower\@linkdim\hbox{%
10117 \special{button: %
10118 \number\wd\@tempboxa\space
10119 \number\ht\@tempboxa\space
10120 #3,%
10121 file: #2%
10122 }%
10123 \Hy@colorlink\@filecolor
10124 \Hy@RestoreSpaceFactor
10125 #1\Hy@xspace@end
10126 \Hy@SaveSpaceFactor
10127 \Hy@endcolorlink
10128 }%
10129 \@linkdim\ht\@tempboxa
10130 \advance\@linkdim by -6.5\p@
10131 \raise\@linkdim\hbox{}%
10132 \Hy@RestoreSpaceFactor
10133 \else
10134 \special{button: %
10135 \number\wd\@tempboxa\space
10136 \number\ht\@tempboxa\space
10137 #3,%
10138 file: #2%
10139 }%
10140 \Hy@colorlink\@filecolor
10141 #1\Hy@xspace@end
10142 \Hy@endcolorlink
10143 \fi
10144 \endgroup
10145 }
10146 \ifx\@pdfproducer\relax
10147 \def\@pdfproducer{dviwindo + Distiller}%
10148 \fi
10149 \HyInfo@AddonUnsupportedtrue
10150 \def\PDF@FinishDoc{%
10151 \Hy@UseMaketitleInfos
10152 \HyInfo@TrappedUnsupported
10153 \special{PDF: Keywords \@pdfkeywords}%
10154 \special{PDF: Title \@pdftitle}%
10155 \special{PDF: Creator \@pdfcreator}%
10156 \ifx\@pdfcreationdate\@empty
10157 \else
10158 \special{PDF: CreationDate \@pdfcreationdate}%
10159 \fi

```

```

10160 \ifx\@pdfmoddate\@empty
10161 \else
10162   \special{PDF: ModDate \@pdfmoddate}%
10163 \fi
10164 \special{PDF: Author \@pdfauthor}%
10165 \ifx\@pdfproducer\relax
10166 \else
10167   \special{PDF: Producer \@pdfproducer}%
10168 \fi
10169 \special{PDF: Subject \@pdfsubject}%
10170 \Hy@DisableOption{pdfauthor}%
10171 \Hy@DisableOption{pdftitle}%
10172 \Hy@DisableOption{pdfsubject}%
10173 \Hy@DisableOption{pdfcreator}%
10174 \Hy@DisableOption{pdfcreationdate}%
10175 \Hy@DisableOption{pdfmoddate}%
10176 \Hy@DisableOption{pdfproducer}%
10177 \Hy@DisableOption{pdfkeywords}%
10178 \Hy@DisableOption{pdftrapped}%
10179 \Hy@DisableOption{pdfinfo}%
10180 }
10181 \def\PDF@SetupDoc{%
10182   \ifx\@baseurl\@empty
10183   \else
10184     \special{PDF: Base \@baseurl}%
10185   \fi
10186   \ifx\@pdfpagescrop\@empty\else
10187     \special{PDF: BBox \@pdfpagescrop}%
10188   \fi
10189   \def\Hy@temp{}%
10190   \ifx\@pdfstartpage\@empty
10191   \else
10192     \ifx\@pdfstartview\@empty
10193     \else
10194       \edef\Hy@temp{%
10195         ,Page=\@pdfstartpage
10196         ,View=\@pdfstartview
10197       }%
10198     \fi
10199   \fi
10200   \edef\Hy@temp{%
10201     \noexpand\pdfmark{%
10202       pdfmark=/DOCVIEW,%
10203       PageMode=/\@pdfpagemode
10204       \Hy@temp
10205     }%
10206   }%
10207   \Hy@temp
10208   \ifx\@pdfpagescrop\@empty
10209   \else
10210     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10211   \fi
10212   \edef\Hy@temp{%
10213     \ifHy@pdftoolbar\else /HideToolbar true\fi
10214     \ifHy@pdfmenubar\else /HideMenubar true\fi
10215     \ifHy@pdfwindowui\else /HideWindowUI true\fi
10216     \ifHy@pdffitwindow /FitWindow true\fi

```

```

10217 \ifHy@pdfcenterwindow /CenterWindow true\fi
10218 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10219 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10220 \Hy@UseNameKey{Direction}\@pdfdirection
10221 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10222 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10223 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10224 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10225 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10226 \Hy@UseNameKey{Duplex}\@pdfduplex
10227 \ifx\@pdfpicktraybypdfsize\@empty
10228 \else
10229 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10230 \fi
10231 \ifx\@pdfprintpagerange\@empty
10232 \else
10233 /PrintPageRange[\@pdfprintpagerange]%
10234 \fi
10235 \ifx\@pdfnumcopies\@empty
10236 \else
10237 /NumCopies \@pdfnumcopies
10238 \fi
10239 }%
10240 \pdfmark{pdfmark=/PUT,%
10241 Raw={%
10242 \string{Catalog}\string}<<%
10243 \ifx\Hy@temp\@empty
10244 \else
10245 /ViewerPreferences<<\Hy@temp>>%
10246 \fi
10247 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10248 \ifx\@pdflang\@empty
10249 \else
10250 /Lang(\@pdflang)%
10251 \fi
10252 >>%
10253 }%
10254 }%
10255 }
10256 </dviwindo>
10257 <*\dvipdfm|xetex>

```

## 47.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

10258 \providecommand*\XR@ext}{pdf}
10259 \Hy@setbreaklinks{true}
10260 \def\HyPat@ObjRef{%
10261   @[^ ]+}%
10262 }
10263 \newsavebox{\pdfm@box}
10264 \def\@pdfm@mark#1{\special{pdf:#1}}
10265 \Hy@WrapperDef\@pdfm@dest#1{%
10266   \Hy@SaveLastskip
10267   \Hy@VerboseAnchor{#1}%
10268   \begingroup
10269   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%

```

```

10270 \def\x{XYZ}%
10271 \ifx\x\@pdfview
10272 \def\x{XYZ @xpos @ypos null}%
10273 \else
10274 \def\x{FitH}%
10275 \ifx\x\@pdfview
10276 \def\x{FitH @ypos}%
10277 \else
10278 \def\x{FitBH}%
10279 \ifx\x\@pdfview
10280 \def\x{FitBH @ypos}%
10281 \else
10282 \def\x{FitV}%
10283 \ifx\x\@pdfview
10284 \def\x{FitV @xpos}%
10285 \else
10286 \def\x{FitBV}%
10287 \ifx\x\@pdfview
10288 \def\x{FitBV @xpos}%
10289 \else
10290 \def\x{Fit}%
10291 \ifx\x\@pdfview
10292 \let\x\@pdfview
10293 \else
10294 \def\x{FitB}%
10295 \ifx\x\@pdfview
10296 \let\x\@pdfview
10297 \else
10298 \def\x{FitR}%
10299 \ifx\x\@pdfview
10300 \Hy@Warning{'pdfview=FitR' is not supported}%
10301 \def\x{XYZ @xpos @ypos null}%
10302 \else
10303 \@onelevel@sanitize\@pdfview
10304 \Hy@Warning{%
10305   Unknown value '\@pdfview' for pdfview%
10306 }%
10307 \def\x{XYZ @xpos @ypos null}%
10308 \fi
10309 \fi
10310 \fi
10311 \fi
10312 \fi
10313 \fi
10314 \fi
10315 \fi
10316 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
10317 \endgroup
10318 \Hy@RestoreLastskip
10319 }
10320 \providecommand*\@pdfview{XYZ}
10321 \providecommand*\@pdfborder{0 0 1}
10322 \providecommand*\@pdfborderstyle{}
10323 \def\hyper@anchor#1{%
10324 \@pdfm@dest{#1}%
10325 }
10326 \def\hyper@anchorstart#1{%

```

```

10327 \Hy@activeanchortrue
10328 \@pdfm@dest{#1}%
10329 }
10330 \def\hyper@anchorend{%
10331 \Hy@activeanchorfalse
10332 }
10333 \newcounter{Hy@AnnotLevel}
10334 \ifHy@ocgcolorlinks
10335 \def\OBJ@OCG@view{@OCG@view}%
10336 \@pdfm@mark{%
10337 obj \OBJ@OCG@view <<%
10338 /Type/OCG%
10339 /Name(View)%
10340 /Usage<<%
10341 /Print<<%
10342 /PrintState/OFF%
10343 >>%
10344 /View<<%
10345 /ViewState/ON%
10346 >>%
10347 >>%
10348 >>%
10349 }%
10350 \@pdfm@mark{close \OBJ@OCG@view}%
10351 \def\OBJ@OCG@print{@OCG@print}%
10352 \@pdfm@mark{%
10353 obj \OBJ@OCG@print <<%
10354 /Type/OCG%
10355 /Name(Print)%
10356 /Usage<<%
10357 /Print<<%
10358 /PrintState/ON%
10359 >>%
10360 /View<<%
10361 /ViewState/OFF%
10362 >>%
10363 >>%
10364 >>%
10365 }%
10366 \@pdfm@mark{close \OBJ@OCG@print}%
10367 \def\OBJ@OCGs{@OCGs}%
10368 \@pdfm@mark{%
10369 obj \OBJ@OCGs [%
10370 \OBJ@OCG@view\space\OBJ@OCG@print
10371 ]%
10372 }%
10373 \@pdfm@mark{close \OBJ@OCGs}%
10374 \@pdfm@mark{%
10375 put @catalog <<%
10376 /OCProperties<<%
10377 /OCGs \OBJ@OCGs
10378 /D<<%
10379 /OFF[\OBJ@OCG@print]%
10380 /AS[%
10381 <<%
10382 /Event/View%
10383 /OCGs \OBJ@OCGs

```

```

10384         /Category[/View]%
10385     >>%
10386     <<%
10387         /Event/Print%
10388         /OCGs \OBJ@OCGs
10389         /Category[/Print]%
10390     >>%
10391     <<%
10392         /Event/Export%
10393         /OCGs \OBJ@OCGs
10394         /Category[/Print]%
10395     >>%
10396     ]%
10397     >>%
10398     >>%
10399     >>%
10400 }%
10401 \AtBeginShipout{%
10402     \setbox\AtBeginShipoutBox=\hbox{%
10403         \copy\AtBeginShipoutBox
10404         \@pdfm@mark{%
10405             put @resources <<%
10406                 /Properties<<%
10407                 /OCView \OBJ@OCG@view
10408                 /OCPrint \OBJ@OCG@print
10409             >>%
10410             >>%
10411         }%
10412     }%
10413 }%
10414 \Hy@AtBeginDocument{%
10415     \def\Hy@colorlink#1{%
10416         \begingroup
10417         \ifHy@ocgcolorlinks
10418             \def\Hy@ocgcolor{#1}%
10419             \setbox0=\hbox\bgroup\color@begingroup
10420         \else
10421             \HyColor@UseColor#1%
10422         \fi
10423     }%
10424     \def\Hy@endcolorlink{%
10425         \ifHy@ocgcolorlinks
10426             \color@endgroup\egroup
10427             \mbox{%
10428                 \@pdfm@mark{content /OC/OCPrint BDC}%
10429                 \rlap{\copy0}%
10430                 \@pdfm@mark{content EMC/OC/OCView BDC}%
10431             \begingroup
10432                 \expandafter\HyColor@UseColor\Hy@ocgcolor
10433                 \box0 %
10434             \endgroup
10435             \@pdfm@mark{content EMC}%
10436         }%
10437     \fi
10438     \endgroup
10439 }%
10440 }%

```

```

10441 \else
10442   \Hy@DisableOption{ocgcolorlinks}%
10443 \fi

10444 \def\Hy@BeginAnnot#1{%
10445   \stepcounter{Hy@AnnotLevel}%
10446   \ifnum\value{Hy@AnnotLevel}=\@ne
10447     #1%
10448   \fi
10449 }
10450 \def\Hy@endAnnot{%
10451   \ifnum\value{Hy@AnnotLevel}=\@ne
10452     \Hy@endcolorlink
10453     \@pdfm@mark{eann}%
10454   \fi
10455   \addtocounter{Hy@AnnotLevel}\m@ne
10456 }

10457 \def\Hy@undefinedname{UNDEFINED}
10458 \def\hyper@linkstart#1#2{%
10459   \Hy@VerboseLinkStart{#1}{#2}%
10460   \leavevmode
10461   \Hy@BeginAnnot{%
10462     \protected@edef\Hy@testname{#2}%
10463     \ifx\Hy@testname\@empty
10464       \Hy@Warning{%
10465         Empty destination name,\MessageBreak
10466         using '\Hy@undefinedname'%
10467       }%
10468       \let\Hy@testname\Hy@undefinedname
10469     \else
10470       \Hy@pstringdef\Hy@testname{%
10471         \expandafter\HyperDestNameFilter\expandafter{%
10472           \Hy@testname
10473         }%
10474       }%
10475     \fi
10476     \@pdfm@mark{%
10477       bann<<%
10478       /Type/Annot%
10479       /Subtype/Link%
10480       \ifHy@pdfa /F 4\fi
10481       \Hy@setpdfborder
10482       \expandafter\ifx\csname @#1bordercolor\endcsname\relax
10483       \else
10484         /C[\csname @#1bordercolor\endcsname]%
10485       \fi
10486       /A<<%
10487       /S/GoTo%
10488       /D(\Hy@testname)%
10489       \Hy@href@nextactionraw
10490       >>%
10491       >>%
10492     }%
10493     \expandafter\Hy@colorlink\csname @#1color\endcsname
10494   }%
10495 }
10496 \def\hyper@linkend{\Hy@endAnnot}%
10497 \def\hyper@link#1#2#3{%

```

```

10498 \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
10499 }
10500 \def\hyper@linkfile#1#2#3{%
10501   \leavevmode
10502   \Hy@BeginAnnot{%
10503     \def\Hy@pstringF{#2}%
10504     \Hy@CleanupFile\Hy@pstringF
10505     \Hy@pstringdef\Hy@pstringF\Hy@pstringF
10506     \Hy@pstringdef\Hy@pstringD{#3}%
10507     \Hy@MakeRemoteAction
10508     \@pdfm@mark{%
10509       bann<<%
10510         /Type/Annot%
10511         /Subtype/Link%
10512         \ifHy@pdfa /F 4\fi
10513         \Hy@setpdfborder
10514         \ifx\@filebordercolor\relax
10515           \else
10516             /C[\@filebordercolor]%
10517           \fi
10518         /A<<%
10519         /S/GoToR%
10520         /F(\Hy@pstringF)%
10521         /D%
10522         \ifx\#3\%
10523           [\Hy@href@page\@pdfremotestartview]%
10524         \else
10525           (\Hy@pstringD)%
10526         \fi
10527         \Hy@SetNewWindow
10528         \Hy@href@nextactionraw
10529       >>%
10530     >>%
10531   }%
10532   \Hy@colorlink\@filecolor
10533 }%
10534 #1\Hy@xspace@end
10535 \Hy@EndAnnot
10536 }
10537 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
10538   \leavevmode
10539   \Hy@BeginAnnot{%
10540     \Hy@pstringdef\Hy@pstringF{#1}%
10541     \Hy@pstringdef\Hy@pstringP{#3}%
10542     \@pdfm@mark{%
10543       bann<<%
10544         /Type/Annot%
10545         /Subtype/Link%
10546         \ifHy@pdfa /F 4\fi
10547         \Hy@setpdfborder
10548         \ifx\@runbordercolor\relax
10549           \else
10550             /C[\@runbordercolor]%
10551           \fi
10552         /A<<%
10553         /F(\Hy@pstringF)%
10554         /S/Launch%

```



```

10555     \Hy@SetNewWindow
10556     \ifx\|#3\|
10557     \else
10558         /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10559     \fi
10560     \Hy@href@nextactionraw
10561     >>%
10562     >>%
10563     }%
10564     \Hy@colorlink\@runcolor
10565     }%
10566     #2\Hy@xspace@end
10567     \Hy@EndAnnot
10568 }
10569 \def\hyper@linkurl#1#2{%
10570     \leavevmode
10571     \Hy@BeginAnnot{%
10572         \Hy@pstringdef\Hy@pstringURI{#2}%
10573         \@pdfm@mark{%
10574             bann<<%
10575                 /Type/Annot%
10576                 /Subtype/Link%
10577                 \ifHy@pdfa /F 4\fi
10578                 \Hy@setpdfborder
10579                 \ifx\@urlbordercolor\relax
10580                 \else
10581                     /C[\@urlbordercolor]%
10582                 \fi
10583                 /A<<%
10584                 /S/URI%
10585                 /URI(\Hy@pstringURI)%
10586                 \ifHy@href@ismap
10587                     /IsMap true%
10588                 \fi
10589                 \Hy@href@nextactionraw
10590             >>%
10591             >>%
10592         }%
10593         \Hy@colorlink\@urlcolor
10594     }%
10595     #1\Hy@xspace@end
10596     \Hy@EndAnnot
10597 }
10598 \def\Acrobatmenu#1#2{%
10599     \Hy@Acrobatmenu{#1}{#2}{%
10600         \Hy@BeginAnnot{%
10601             \EdefEscapeName\Hy@temp@menu{#1}%
10602             \@pdfm@mark{%
10603                 bann<<%
10604                     /Type/Annot%
10605                     /Subtype/Link%
10606                     \ifHy@pdfa /F 4\fi
10607                     \Hy@setpdfborder
10608                     \ifx\@menubordercolor\relax
10609                     \else
10610                         /C[\@menubordercolor]%
10611                     \fi

```

```

10612      /A<<%
10613      /S/Named%
10614      /N/\Hy@temp@menu
10615      \Hy@href@nextactionraw
10616      >>%
10617      >>%
10618      }%
10619      \Hy@colorlink\@menucolor
10620      }%
10621      #2\Hy@xspace@end
10622      \Hy@endAnnot
10623      }%
10624      }
10625      \ifx\@pdfproducer\relax
10626      \def\@pdfproducer{dvipdfm}%

```

Detect Xe<sub>T</sub><sub>E</sub>X. However, but xdvipdfmx will overwrite it in the final PDF file.

```

10627      \begingroup\expandafter\expandafter\expandafter\endgroup
10628      \expandafter\ifx\csname XeTeXversion\endcsname\relax
10629      \else
10630      \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
10631      \fi
10632      \fi
10633      \def\PDF@FinishDoc{%
10634      \Hy@UseMaketitleInfos
10635      \HyInfo@GenerateAddons
10636      \@pdfm@mark{%
10637      docinfo<<%
10638      /Title(\@pdftitle)%
10639      /Subject(\@pdfsubject)%
10640      /Creator(\@pdfcreator)%
10641      \ifx\@pdfcreationdate\@empty
10642      \else
10643      /CreationDate(\@pdfcreationdate)%
10644      \fi
10645      \ifx\@pdfmoddate\@empty
10646      \else
10647      /ModDate(\@pdfmoddate)%
10648      \fi
10649      /Author(\@pdfauthor)%
10650      \ifx\@pdfproducer\relax
10651      \else
10652      /Producer(\@pdfproducer)%
10653      \fi
10654      /Keywords(\@pdfkeywords)%
10655      \ifx\@pdftrapped\@empty
10656      \else
10657      /Trapped/\@pdftrapped
10658      \fi
10659      \HyInfo@Addons
10660      >>%
10661      }%
10662      \Hy@DisableOption{pdfauthor}%
10663      \Hy@DisableOption{pdftitle}%
10664      \Hy@DisableOption{pdfsubject}%
10665      \Hy@DisableOption{pdfcreator}%
10666      \Hy@DisableOption{pdfcreationdate}%
10667      \Hy@DisableOption{pdfmoddate}%

```

```

10668 \Hy@DisableOption{pdfproducer}%
10669 \Hy@DisableOption{pdfkeywords}%
10670 \Hy@DisableOption{pdftrapped}%
10671 \Hy@DisableOption{pdfinfo}%
10672 }

10673 \def\PDF@SetupDoc{%
10674   \edef\Hy@temp{%
10675     \ifHy@pdftoolbar\else /HideToolbar true\fi
10676     \ifHy@pdfmenubar\else /HideMenubar true\fi
10677     \ifHy@pdfwindowui\else /HideWindowUI true\fi
10678     \ifHy@pdfwindow /FitWindow true\fi
10679     \ifHy@pdfcenterwindow /CenterWindow true\fi
10680     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10681     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10682     \Hy@UseNameKey{Direction}\@pdfdirection
10683     \Hy@UseNameKey{ViewArea}\@pdfviewarea
10684     \Hy@UseNameKey{ViewClip}\@pdfviewclip
10685     \Hy@UseNameKey{PrintArea}\@pdfprintarea
10686     \Hy@UseNameKey{PrintClip}\@pdfprintclip
10687     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10688     \Hy@UseNameKey{Duplex}\@pdfduplex
10689     \ifx\@pdfpicktraybypdfsize\@empty
10690       \else
10691         /PickTrayByPDFSize \@pdfpicktraybypdfsize
10692       \fi
10693     \ifx\@pdfprintpagerange\@empty
10694       \else
10695         /PrintPageRange[\@pdfprintpagerange]%
10696       \fi
10697     \ifx\@pdfnumcopies\@empty
10698       \else
10699         /NumCopies \@pdfnumcopies
10700       \fi
10701   }%
10702   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10703   \@pdfm@mark{%
10704     docview<<%
10705     \ifx\@pdfstartpage\@empty
10706       \else
10707         \ifx\@pdfstartview\@empty
10708           \else
10709             /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10710           \fi
10711         \fi
10712         \ifx\@baseurl\@empty
10713           \else
10714             /URI<</Base(\Hy@pstringB)>>%
10715           \fi
10716         /PageMode/\@pdfpagemode
10717         \ifx\Hy@temp\@empty
10718           \else
10719             /ViewerPreferences<<\Hy@temp>>%
10720           \fi
10721         \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10722         \ifx\@pdflang\@empty
10723           \else
10724             /Lang(\@pdflang)%

```

```

10725     \fi
10726     >>%
10727 }%
10728 \ifx\@pdfpagescrop\@empty
10729 \else
10730     \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}}%
10731 \fi
10732 }
10733 </dvipdfm | xetex>
10734 < *dvipdfm | xetex>

```

#### \hyper@pagetransition

```

10735 \def\hyper@pagetransition{%
10736     \ifx\@pdfpagetransition\relax
10737     \else
10738         \ifx\@pdfpagetransition\@empty
10739         \else
10740             \special{pdf:put @thispage %
10741                 <</Trans<</S/\@pdfpagetransition>>>>%
10742             }%
10743         \fi
10744     \fi
10745 }

```

#### \hyper@pageduration

```

10746 \def\hyper@pageduration{%
10747     \ifx\@pdfpageduration\relax
10748     \else
10749         \ifx\@pdfpageduration\@empty
10750         \else
10751             \special{pdf:put @thispage %
10752                 <</Dur \@pdfpageduration>>>%
10753             }%
10754         \fi
10755     \fi
10756 }

```

#### \hyper@pagehidden

```

10757 \def\hyper@pagehidden{%
10758     \ifHy@useHidKey
10759         \special{pdf:put @thispage %
10760             <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
10761         }%
10762     \fi
10763 }

10764 \g@addto@macro\Hy@EveryPageBoxHook{%
10765     \hyper@pagetransition
10766     \hyper@pageduration
10767     \hyper@pagehidden
10768 }

10769 </dvipdfm | xetex>

```

XeTeX uses pdfTeX's method \pdfpagewidth and \pdfpageheight for setting the paper size.

```

10770 < *dvipdfm>
10771 \AtBeginShipoutFirst{%

```

```

10772 \ifHy@setpagesize
10773 \begingroup
10774 \ifundefined{stockwidth}{%
10775 \ifdim\paperwidth>\z@
10776 \ifdim\paperheight>\z@
10777 \special{papersize=\the\paperwidth,\the\paperheight}%
10778 \fi
10779 \fi
10780 }{%
10781 \ifdim\stockwidth>\z@
10782 \ifdim\stockheight>\z@
10783 \special{papersize=\the\stockwidth,\the\stockheight}%
10784 \fi
10785 \fi
10786 }%
10787 \endgroup
10788 \fi
10789 \Hy@DisableOption{setpagesize}%
10790 }
10791 </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.

```

10792 <*vtexhtml>
10793 \providecommand*{\XR@ext}{.htm}
10794 \RequirePackage{vtexhtml}
10795 \newif\if@Localurl
10796 \let\PDF@FinishDoc\ltx@empty
10797 \def\PDF@SetupDoc{%
10798 \ifx\@baseurl\@empty
10799 \else
10800 \special{!direct <base href="\@baseurl">}%
10801 \fi
10802 }
10803 \def\@urltype{url}
10804 \def\hyper@link#1#2#3{%
10805 \Hy@VerboseLinkStart{#1}{#2}%
10806 \leavevmode
10807 \special{!direct <a href=%
10808 \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10809 #3\Hy@xspace@end
10810 \special{!direct </a>}%
10811 }
10812 \def\hyper@linkurl#1#2{%
10813 \begingroup
10814 \hyper@chars
10815 \leavevmode
10816 \MathBSuppress=1\relax
10817 \special{!direct <a href=%
10818 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10819 #1\Hy@xspace@end
10820 \MathBSuppress=0\relax
10821 \special{!direct </a>}%
10822 \endgroup
10823 }

```

```

10824 \def\hyper@linkfile#1#2#3{%
10825   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
10826 }
10827 \def\hyper@linkstart#1#2{%
10828   \Hy@VerboseLinkStart{#1}{#2}%
10829   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urlltype
10830     \@Localurltrue
10831     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10832   \else
10833     \@Localurlfalse
10834     \begingroup
10835       \hyper@chars
10836       \special{!aref \HyperDestNameFilter{#2}}%
10837     \endgroup
10838   \fi
10839 }
10840 \def\hyper@linkend{%
10841   \if@Localurl
10842     \special{!endaref}%
10843   \else
10844     \special{!direct </a>}%
10845   \fi
10846 }
10847 \Hy@WrapperDef\hyper@anchorstart#1{%
10848   \Hy@SaveLastskip
10849   \Hy@VerboseAnchor{#1}%
10850   \begingroup
10851     \hyper@chars
10852     \special{!aname #1}%
10853     \special{!direct <a name=%
10854       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10855   \endgroup
10856   \Hy@activeanchortrue
10857 }
10858 \def\hyper@anchorend{%
10859   \special{!direct </a>}%
10860   \Hy@activeanchorfalse
10861   \Hy@RestoreLastskip
10862 }
10863 \Hy@WrapperDef\hyper@anchor#1{%
10864   \Hy@SaveLastskip
10865   \Hy@VerboseAnchor{#1}%
10866   \begingroup
10867     \let\protect=\string
10868     \hyper@chars
10869     \leavevmode
10870     \special{!aname #1}%
10871     \special{!direct <a name=%
10872       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10873   \endgroup
10874   \Hy@activeanchortrue
10875   \bgroup\anchor@spot\egroup
10876   \special{!direct </a>}%
10877   \Hy@activeanchorfalse
10878   \Hy@RestoreLastskip
10879 }
10880 \def\@Form[#1]{%

```

```

10881 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10882 }
10883 \let\@endForm\ltx@empty
10884 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10885 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10886 }
10887 \def\@TextField[#1]#2{% parameters, label
10888 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10889 }
10890 \def\@CheckBox[#1]#2{% parameters, label
10891 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
10892 }
10893 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10894 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10895 }
10896 \def\@PushButton[#1]#2{% parameters, label
10897 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10898 }
10899 \def\@Reset[#1]#2{%
10900 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10901 }
10902 \def\@Submit[#1]#2{%
10903 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10904 }
10905 </vtexhtml>
10906 <*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.

```

10907 \ifx\mediaheight\@undefined
10908 \else
10909 \ifx\mediaheight\relax
10910 \else
10911 \ifHy@setpagesize
10912 \providecommand*\VTeXInitMediaSize{%
10913 \ltx@ifundefined{stockwidth}{%
10914 \ifdim\paperheight>0pt %
10915 \setlength\mediaheight\paperheight
10916 \fi
10917 \ifdim\paperheight>0pt %
10918 \setlength\mediawidth\paperwidth
10919 \fi
10920 }{%
10921 \ifdim\stockheight>0pt %
10922 \setlength\mediaheight\stockheight
10923 \fi
10924 \ifdim\stockwidth>0pt %
10925 \setlength\mediawidth\stockwidth
10926 \fi
10927 }%
10928 }%
10929 \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10930 \fi
10931 \Hy@DisableOption{setpagesize}%
10932 \fi
10933 \fi

```

Older versions of VTeX require xyz in lower case.

```

10934 \providecommand*\@pdfview{xyz}
10935 \providecommand*\@pdfborder{0 0 1}
10936 \providecommand*\@pdfborderstyle{}
10937 \let\CurrentBorderColor\@linkbordercolor
10938 \Hy@WrapperDef\hyper@anchor#1{%
10939   \Hy@SaveLastskip
10940   \Hy@VerboseAnchor{#1}%
10941   \begingroup
10942     \let\protect=\string
10943     \hyper@chars
10944     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10945   \endgroup
10946   \Hy@activeanchortrue
10947   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10948   \Hy@activeanchorfalse
10949   \Hy@RestoreLastskip
10950 }
10951 \Hy@WrapperDef\hyper@anchorstart#1{%
10952   \Hy@SaveLastskip
10953   \Hy@VerboseAnchor{#1}%
10954   \begingroup
10955     \hyper@chars
10956     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10957   \endgroup
10958   \Hy@activeanchortrue
10959 }
10960 \def\hyper@anchorend{%
10961   \Hy@activeanchorfalse
10962   \Hy@RestoreLastskip
10963 }
10964 \def\@urltype{url}
10965 \def\Hy@undefinedname{UNDEFINED}
10966 \def\hyper@linkstart#1#2{%
10967   \Hy@VerboseLinkStart{#1}{#2}%
10968   \Hy@pstringdef\Hy@pstringURI{#2}%
10969   \expandafter\Hy@colorlink\csname @#1color\endcsname
10970   \ltx@ifundefined{#1bordercolor}{%
10971     \let\CurrentBorderColor\relax
10972   }{%
10973     \edef\CurrentBorderColor{%
10974       \csname @#1bordercolor\endcsname
10975     }%
10976   }%
10977   \def\Hy@tempa{#1}%
10978   \ifx\Hy@tempa\@urltype
10979     \special{!%
10980       aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10981       \ifHy@href@ismap
10982         /IsMap true%
10983       \fi
10984       \Hy@href@nextactionraw
10985       >,%
10986       a=<%
10987       \ifHy@pdfa /F 4\fi
10988       \Hy@setpdfborder
10989       \ifx\CurrentBorderColor\relax

```



```

10990     \else
10991     /C [\CurrentBorderColor]%
10992     \fi
10993     >%
10994     }%
10995 \else
10996 \protected@edef\Hy@testname{#2}%
10997 \ifx\Hy@testname\@empty
10998 \Hy@Warning{%
10999     Empty destination name,\MessageBreak
11000     using '\Hy@undefinedname'%
11001     }%
11002 \let\Hy@testname\Hy@undefinedname
11003 \fi
11004 \special{!%
11005     aref \expandafter\HyperDestNameFilter
11006     \expandafter{\Hy@testname};%
11007     a=<%
11008     \ifHy@pdfa /F 4\fi
11009     \Hy@setpdfborder
11010     \ifx\CurrentBorderColor\relax
11011     \else
11012     /C [\CurrentBorderColor]%
11013     \fi
11014     >%
11015     }%
11016 \fi
11017 }
11018 \def\hyper@linkend{%
11019 \special{!endaref}%
11020 \Hy@endcolorlink
11021 }
11022 \def\hyper@linkfile#1#2#3{%
11023 \leavevmode
11024 \def\Hy@pstringF{#2}%
11025 \Hy@CleanupFile\Hy@pstringF
11026 \special{!%
11027     aref <%
11028     \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi\fi
11029     f=\Hy@pstringF>#3;%
11030     a=<%
11031     \ifHy@pdfa /F 4\fi
11032     \Hy@setpdfborder
11033     \ifx\@filebordercolor\relax
11034     \else
11035     /C [\@filebordercolor]%
11036     \fi
11037     >%
11038     }%
11039     \Hy@colorlink\@filecolor
11040     #1\Hy@xspace@end
11041     \Hy@endcolorlink
11042     \special{!endaref}%
11043 }
11044 \def\hyper@linkurl#1#2{%
11045 \begingroup
11046 \Hy@pstringdef\Hy@pstringURI{#2}%

```

```

11047 \hyper@chars
11048 \leavevmode
11049 \special{!%
11050   aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
11051     \ifHy@href@ismap
11052       /IsMap true%
11053     \fi
11054     \Hy@href@nextactionraw
11055   >,%
11056   a=<%
11057     \ifHy@pdfa /F 4\fi
11058     \Hy@setpdfborder
11059     \ifx\@urlbordercolor\relax
11060     \else
11061       /C [\@urlbordercolor]%
11062     \fi
11063   >%
11064 }%
11065 \Hy@colorlink\@urlcolor
11066 #1\Hy@xspace@end
11067 \Hy@endcolorlink
11068 \special{!endaref}%
11069 \endgroup
11070 }
11071 \def\hyper@link#1#2#3{%
11072   \Hy@VerboseLinkStart{#1}{#2}%
11073   \ltx@ifundefined{@#1bordercolor}{%
11074     \let\CurrentBorderColor\relax
11075   }{%
11076     \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
11077   }%
11078   \leavevmode
11079   \protected@edef\Hy@testname{#2}%
11080   \ifx\Hy@testname\@empty
11081     \Hy@Warning{%
11082       Empty destination name,\MessageBreak
11083       using '\Hy@undefinedname'%
11084     }%
11085     \let\Hy@testname\Hy@undefinedname
11086   \fi
11087   \special{!%
11088     aref \expandafter\HyperDestNameFilter
11089       \expandafter{\Hy@testname};%
11090     a=<%
11091       \ifHy@pdfa /F 4\fi
11092       \Hy@setpdfborder
11093       \ifx\CurrentBorderColor\relax
11094       \else
11095         /C [\CurrentBorderColor]%
11096       \fi
11097     >%
11098   }%
11099   \expandafter
11100   \Hy@colorlink\csname @#1color\endcsname
11101   #3\Hy@xspace@end
11102   \Hy@endcolorlink
11103   \special{!endaref}%

```

```

11104 }
11105 \def\hyper@image#1#2{%
11106   \hyper@linkurl{#2}{#1}%
11107 }
11108 \def\@hyper@launch run:#1\#2#3{%
11109   \Hy@pstringdef\Hy@pstringF{#1}%
11110   \Hy@pstringdef\Hy@pstringP{#3}%
11111   \leavevmode
11112   \special{!aref %
11113     <u=%
11114       /Type/Action%
11115       /S/Launch%
11116       /F(\Hy@pstringF)%
11117       \Hy@SetNewWindow
11118       \ifx\#3\%
11119       \else
11120         /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
11121       \fi
11122       \Hy@href@nextactionraw
11123     >,%
11124     a=<%
11125       \ifHy@pdfa /F 4\fi
11126       \Hy@setpdfborder
11127       \ifx\@runbordercolor\relax
11128       \else
11129         /C[\@runbordercolor]%
11130       \fi
11131     >%
11132   }%
11133   \Hy@colorlink\@runcolor
11134   #2\Hy@xspace@end
11135   \Hy@endcolorlink
11136   \special{!endaref}%
11137 }
11138 \def\Acrobatmenu#1#2{%
11139   \EdefEscapeName\Hy@temp@menu{#1}%
11140   \Hy@Acrobatmenu{#1}{#2}{%
11141     \special{!%
11142       aref <u=/S /Named /N /\Hy@temp@menu>;%
11143       a=<%
11144         \ifHy@pdfa /F 4\fi
11145         \Hy@setpdfborder
11146         \ifx\@menubordercolor\relax
11147         \else
11148           /C[\@menubordercolor]%
11149         \fi
11150       >%
11151     }%
11152     \Hy@colorlink\@menucolor
11153     #2\Hy@xspace@end
11154     \Hy@endcolorlink
11155     \special{!endaref}%
11156   }%
11157 }

```

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.

```
11158 \ifnum\Hy@VTeXversion<702 %
11159 \else
11160 \def\hyper@pagetransition{%
11161 \ifx\@pdfpagetransition\relax
11162 \else
11163 \ifx\@pdfpagetransition\@empty
```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```
11164 \else
11165 \hvtex@parse@trans\@pdfpagetransition
11166 \fi
11167 \fi
11168 }%
```

I have to write an “honest” parser to convert raw PDF code into VTeX  
`\special. (AVK)`

Syntax of VTeX `\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:

```
11169 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
11170 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
11171 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
11172 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
11173 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
11174 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
11175 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%
```

Optional parameters:

```
11176 \def\hvtex@par@dimension{/Dm}%
11177 \def\hvtex@par@direction{/Di}%
11178 \def\hvtex@par@duration{/D}%
11179 \def\hvtex@par@motion{/M}%
```

Tokenizer:

```
11180 \def\hvtex@gettoken{%
11181 \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
11182 }%
```

Notice that tokens in the input buffer must be space delimited.

```
11183 \def\hvtex@gettoken@#1 #2\@nil{%
11184 \edef\hvtex@token{#1}%
```

```

11185 \edef\hvtex@buffer{#2}%
11186 }%
11187 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

11188 \let\hvtex@trans@code\@empty
11189 \let\hvtex@param@dimension\@empty
11190 \let\hvtex@param@direction\@empty
11191 \let\hvtex@param@duration\@empty
11192 \let\hvtex@param@motion\@empty
11193 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

11194 \hvtex@gettoken
11195 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

11196 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

11197 \else
11198 \hvtex@gettoken
11199 \fi
11200 \fi
11201 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

11202 \hvtex@trans@params
11203 }%

```

Reentrant macro to parse optional parameters.

```

11204 \def\hvtex@trans@params{%
11205 \ifx\hvtex@buffer\@empty
11206 \else
11207 \hvtex@gettoken
11208 \let\hvtex@trans@par\hvtex@token
11209 \ifx\hvtex@buffer\@empty
11210 \else
11211 \hvtex@gettoken
11212 \ifx\hvtex@trans@par\hvtex@par@duration

```

/D is the effect duration in seconds. V<sub>T</sub><sub>E</sub>X special takes it in milliseconds.

```

11213 \let\hvtex@param@duration\hvtex@token
11214 \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

11215 \expandafter\edef\expandafter\hvtex@param@motion
11216 \expandafter{\expandafter\@gobble\hvtex@token}%
11217 \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

11218 \expandafter\edef\expandafter\hvtex@param@dimension
11219 \expandafter{\expandafter\@gobble\hvtex@token}%
11220 \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).

```

11221 \let\hvtex@param@direction\hvtex@token
11222 \fi\fi\fi\fi
11223 \fi
11224 \fi

```

```

11225 \ifx\hvtex@buffer\@empty
11226 \let\next\hvtex@produce@trans
11227 \else
11228 \let\next\hvtex@trans@params
11229 \fi
11230 \next
11231 }%

```

Merge <transition\_effect> and issue the special when possible. Too lazy to validate optional parameters.

```

11232 \def\hvtex@produce@trans{%
11233 \let\vtex@trans@special\@empty
11234 \if S\hvtex@trans@code
11235 \edef\vtex@trans@special{\hvtex@trans@code
11236 \hvtex@param@dimension\hvtex@param@motion}%
11237 \else\if B\hvtex@trans@code
11238 \edef\vtex@trans@special{%
11239 \hvtex@trans@code\hvtex@param@dimension
11240 }%
11241 \else\if X\hvtex@trans@code
11242 \edef\vtex@trans@special{%
11243 \hvtex@trans@code\hvtex@param@motion
11244 }%
11245 \else\if W\hvtex@trans@code
11246 \edef\vtex@trans@special{%
11247 \hvtex@trans@code\hvtex@param@direction
11248 }%
11249 \else\if D\hvtex@trans@code
11250 \let\vtex@trans@special\hvtex@trans@code
11251 \else\if R\hvtex@trans@code
11252 \let\vtex@trans@special\hvtex@trans@code
11253 \else\if G\hvtex@trans@code
11254 \edef\vtex@trans@special{%
11255 \hvtex@trans@code\hvtex@param@direction
11256 }%
11257 \fi\fi\fi\fi\fi\fi
11258 \ifx\vtex@trans@special\@empty
11259 \else
11260 \ifx\hvtex@param@duration\@empty
11261 \else
11262 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

11263 \multiply\dimen@\@m
11264 \edef\vtex@trans@special{%
11265 \vtex@trans@special,\strip@pt\dimen@
11266 }%
11267 \fi

```

And all the mess is just for this.

```

11268 \special{!trans \vtex@trans@special}%
11269 \fi
11270 }%
11271 \def\hyper@pageduration{%
11272 \ifx\@pdfpageduration\relax
11273 \else
11274 \ifx\@pdfpageduration\@empty
11275 \special{!duration-}%

```

```

11276 \else
11277 \special{!duration \@pdfpageduration}%
11278 \fi
11279 \fi
11280 }%
11281 \def\hyper@pagehidden{%
11282 \ifHy@useHidKey
11283 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
11284 \fi
11285 }%
11286 \g@addto@macro\Hy@EveryPageBoxHook{%
11287 \hyper@pagetransition
11288 \hyper@pageduration
11289 \hyper@pagehidden
11290 }%
11291 \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

```

11292 \ifx\@pdfproducer\relax
11293 \def\@pdfproducer{VTeX}%
11294 \ifnum\Hy@VTeXversion>\z@
11295 \count@\VTeXversion
11296 \divide\count@ 100 %
11297 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
11298 \multiply\count@ -100 %
11299 \advance\count@\VTeXversion
11300 \edef\@pdfproducer{%
11301 \@pdfproducer
11302 .\ifnum\count@<10 0\fi\the\count@
11303 \ifx\VTeXOS\@undefined\else
11304 \ifnum\VTeXOS>0 %
11305 \ifnum\VTeXOS<6 %
11306 \space%
11307 \ifcase\VTeXOS
11308 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
11309 \fi
11310 )%
11311 \fi
11312 \fi
11313 \fi
11314 ,\space
11315 \ifnum\OpMode=\@ne PDF\else PS\fi
11316 \space backend%
11317 \ifx\gexmode\@undefined\else
11318 \ifnum\gexmode>\z@\space with GeX\fi
11319 \fi
11320 }%
11321 \fi

```

11322 \fi

Current !pdfinfo key syntax:

Key	Field	Type
a	Author	String
b	CropBox	String
c	Creator	String
k	Keywords	String
l	PageLayout	PS
p	PageMode	PS
r	Producer	String
s	Subject	String
t	Title	String
u	URI	PS
v	ViewPreferences	PS

Note: PS objects that are dicts are in <<...>> (yuck; no choice).

```

11323 \def\PDF@SetupDoc{%
11324   \ifx\@pdfpagescrop\@empty
11325   \else
11326     \special{!pdfinfo b=<\@pdfpagescrop>}%
11327   \fi
11328   \ifx\@pdfstartpage\@empty
11329   \else
11330     \ifx\@pdfstartview\@empty
11331     \else
11332       \special{!onopen Page\@pdfstartpage}%
11333     \fi
11334   \fi
11335   \special{!pdfinfo p=</\@pdfpagemode>}%
11336   \ifx\@baseurl\@empty
11337   \else
11338     \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
11339   \fi
11340   \special{!pdfinfo v=<<<%
11341     \ifHy@pdftoolbar\else /HideToolbar true\fi
11342     \ifHy@pdfmenubar\else /HideMenubar true\fi
11343     \ifHy@pdfwindowui\else /HideWindowUI true\fi
11344     \ifHy@pdffitwindow /FitWindow true\fi
11345     \ifHy@pdfcenterwindow /CenterWindow true\fi
11346     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11347     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11348     \Hy@UseNameKey{Direction}\@pdfdirection
11349     \Hy@UseNameKey{ViewArea}\@pdfviewarea
11350     \Hy@UseNameKey{ViewClip}\@pdfviewclip
11351     \Hy@UseNameKey{PrintArea}\@pdfprintarea
11352     \Hy@UseNameKey{PrintClip}\@pdfprintclip
11353     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11354     \Hy@UseNameKey{Duplex}\@pdfduplex
11355     \ifx\@pdfpicktraybypdfsize\@empty
11356     \else
11357       /PickTrayByPDFSize \@pdfpicktraybypdfsize
11358     \fi
11359     \ifx\@pdfprintpagerange\@empty
11360     \else
11361       /PrintPageRange[\@pdfprintpagerange]%
11362     \fi
11363     \ifx\@pdfnumcopies\@empty

```



```

11364 \else
11365 /NumCopies \@pdfnumcopies
11366 \fi
11367 >>>}%
11368 \ifx\@pdfpagelayout\@empty
11369 \else
11370 \special{!pdffinfo l=</\@pdfpagelayout\space>}%
11371 \fi
11372 }%
11373 \HyInfo@AddonUnsupportedtrue
11374 \define@key{Hyp}{pdfcreationdate}{%
11375 \Hy@Warning{%
11376 VTeX does not support pdfcreationdate.\MessageBreak
11377 Therefore its setting is ignored%
11378 }%
11379 }
11380 \define@key{Hyp}{pdfmoddate}{%
11381 \Hy@Warning{%
11382 VTeX does not support pdfmoddate.\MessageBreak
11383 Therefore its setting is ignored%
11384 }%
11385 }
11386 \def\PDF@FinishDoc{%
11387 \Hy@UseMaketitleInfos
11388 \HyInfo@TrappedUnsupported
11389 \special{!pdffinfo a=<\@pdfauthor>}%
11390 \special{!pdffinfo t=<\@pdftitle>}%
11391 \special{!pdffinfo s=<\@pdfsubject>}%
11392 \special{!pdffinfo c=<\@pdfcreator>}%
11393 \ifx\@pdfproducer\relax
11394 \else
11395 \special{!pdffinfo r=<\@pdfproducer>}%
11396 \fi
11397 \special{!pdffinfo k=<\@pdfkeywords>}%
11398 \Hy@DisableOption{pdfauthor}%
11399 \Hy@DisableOption{pdftitle}%
11400 \Hy@DisableOption{pdfsubject}%
11401 \Hy@DisableOption{pdfcreator}%
11402 \Hy@DisableOption{pdfcreationdate}%
11403 \Hy@DisableOption{pdfmoddate}%
11404 \Hy@DisableOption{pdfproducer}%
11405 \Hy@DisableOption{pdfkeywords}%
11406 \Hy@DisableOption{pdftrapped}%
11407 \Hy@DisableOption{pdffinfo}%
11408 }
11409 \</vtx>

```

## 47.7 Fix for Adobe bug number 466320

If a destination occurs at the very begin of a page, the destination is moved to the previous page by Adobe Distiller 5. As workaround Adobe suggests:

```

/showpage {
  //showpage
  clippath stroke erasepage
} bind def

```

But unfortunately this fix generates an empty page at the end of the document. Therefore another fix is used by writing some clipped text.

```

11410 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
11411 <package>\providecommand*{\Hy@DistillerDestFix}{%
11412 <*pdfmark | dviwindo>
11413 \def\Hy@DistillerDestFix{%
11414 \begingroup
11415 \let\x\literalps@out

```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```

11416 \ifnum \@ifundefined{OpMode}{0}{%
11417 \ifundefined{gexmode}{0}{%
11418 \ifnum\gexmode>0 \OpMode\else 0\fi
11419 }>1 %
11420 \def\x##1{%
11421 \immediate\special{!=##1}%
11422 }%
11423 \fi
11424 \x{%
11425 /product where{%
11426 pop %
11427 product(Distiller)search{%
11428 pop pop pop %
11429 version(.)search{%
11430 exch pop exch pop%
11431 (3011)eq{%
11432 gsave %
11433 newpath 0 0 moveto closepath clip%
11434 /Courier findfont 10 scalefont setfont %
11435 72 72 moveto(.)show %
11436 grestore%
11437 }if%
11438 }{pop}ifelse%
11439 }{pop}ifelse%
11440 }if%
11441 }%
11442 \endgroup
11443 }
11444 </pdfmark | dviwindo>

```

## 47.8 Direct pdfmark support

Drivers that load `pdfmark.def` have to provide the correct macro definitions of

<code>\@pdfproducer</code>	for document information
<code>\literalps@out</code>	PostScript output
<code>\headerps@out</code>	PostScript output that goes in the header area

and the correct definitions of the following PostScript procedures:

H.S	start of anchor, link or rect
#1 H.A	end of anchor, argument=baselineskip in pt
#1 H.L	end of link, argument=baselineskip in pt
H.R	end of rect
H.B	raw rect code

```

11445 \*pdfmark
11446 \Hy@breaklinks@unsupported
11447 \def\HyPat@ObjRef{%
11448   \[~{}]+\}%
11449 }
11450 \Hy@WrapperDef\hyper@anchor#1{%
11451   \Hy@SaveLastskip
11452   \Hy@VerboseAnchor{#1}%
11453   \begingroup
11454     \pdfmark[\anchor@spot]{%
11455       pdfmark=/DEST,%
11456       linktype=anchor,%
11457       View=/\@pdfview \@pdfviewparams,%
11458       DestAnchor={#1}%
11459     }%
11460   \endgroup
11461   \Hy@RestoreLastskip
11462 }
11463 \ltx@ifundefined{hyper@anchorstart}{\endinput}
11464 \Hy@WrapperDef\hyper@anchorstart#1{%
11465   \Hy@SaveLastskip
11466   \Hy@VerboseAnchor{#1}%
11467   \literalps@out{H.S}%
11468   \Hy@AllowHyphens
11469   \xdef\hyper@currentanchor{#1}%
11470   \Hy@activeanchortrue
11471 }
11472 \def\hyper@anchorend{%
11473   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
11474   \pdfmark{%
11475     pdfmark=/DEST,%
11476     linktype=anchor,%
11477     View=/\@pdfview \@pdfviewparams,%
11478     DestAnchor=\hyper@currentanchor,%
11479   }%
11480   \Hy@activeanchorfalse
11481   \Hy@RestoreLastskip
11482 }
11483 \def\hyper@linkstart#1#2{%
11484   \Hy@VerboseLinkStart{#1}{#2}%
11485   \ifHy@breaklinks
11486   \else
11487     \leavevmode
11488     \ifmmode
11489       \def\Hy@LinkMath{$}%
11490     \else
11491       \let\Hy@LinkMath\ltx@empty
11492     \fi
11493     \Hy@SaveSpaceFactor
11494     \hbox\bgroup
11495     \Hy@RestoreSpaceFactor
11496     \Hy@LinkMath
11497   \fi
11498   \expandafter\Hy@colorlink\csname @#1color\endcsname
11499   \literalps@out{H.S}%
11500   \Hy@AllowHyphens
11501   \xdef\hyper@currentanchor{#2}%

```

```

11502 \gdef\hyper@currentlinktype{#1}%
11503 }
11504 \def\hyper@linkend{%
11505 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
11506 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
11507 \let\Hy@tempcolor\relax
11508 }{%
11509 \edef\Hy@tempcolor{%
11510 \csname @\hyper@currentlinktype bordercolor\endcsname
11511 }%
11512 }%
11513 \pdfmark{%
11514 pdfmark=/ANN,%
11515 linktype=link,%
11516 Subtype=/Link,%
11517 PDFAFlags=4,%
11518 Dest=\hyper@currentanchor,%
11519 AcroHighlight=\@pdfhighlight,%
11520 Border=\@pdfborder,%
11521 BorderStyle=\@pdfborderstyle,%
11522 Color=\Hy@tempcolor,%
11523 Raw=H.B%
11524 }%
11525 \Hy@endcolorlink
11526 \ifHy@breaklinks
11527 \else
11528 \Hy@LinkMath
11529 \Hy@SaveSpaceFactor
11530 \egroup
11531 \Hy@RestoreSpaceFactor
11532 \fi
11533 }

```

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.

```

11534 \begingroup
11535 \catcode'P=12 %
11536 \catcode'T=12 %
11537 \lowercase{\endgroup
11538 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
11539 }
11540 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

11541 \def\hyper@pagetransition{%
11542 \ifx\@pdfpagetransition\relax
11543 \else
11544 \ifx\@pdfpagetransition\@empty
11545 % 1. Does an old entry have to be deleted?
11546 % 2. If 1=yes, how to delete?
11547 \else
11548 \pdfmark{%
11549 pdfmark=/PUT,%
11550 Raw={%
11551 \string{ThisPage\string}%
11552 <</Trans << /S /\@pdfpagetransition\space >> >>%

```

```

11553     }%
11554     }%
11555     \fi
11556     \fi
11557 }

```

\hyper@pageduration

```

11558 \def\hyper@pageduration{%
11559   \ifx\@pdfpageduration\relax
11560   \else
11561     \ifx\@pdfpageduration\@empty
11562       % 1. Does an old entry have to be deleted?
11563       % 2. If 1=yes, how to delete?
11564     \else
11565       \pdfmark{%
11566         pdfmark=/PUT,%
11567         Raw={%
11568           \string{ThisPage\string}%
11569           <</Dur \@pdfpageduration>>%
11570         }%
11571       }%
11572     \fi
11573   \fi
11574 }

```

\hyper@pagehidden

```

11575 \def\hyper@pagehidden{%
11576   \ifHy@useHidKey
11577     \pdfmark{%
11578       pdfmark=/PUT,%
11579       Raw={%
11580         \string{ThisPage\string}%
11581         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
11582       }%
11583     }%
11584   \fi
11585 }

11586 \g@addto@macro\Hy@EveryPageBoxHook{%
11587   \hyper@pagetransition
11588   \hyper@pageduration
11589   \hyper@pagehidden
11590 }

11591 \def\hyper@image#1#2{%
11592   \hyper@linkurl{#2}{#1}%
11593 }
11594 \def\Hy@undefinedname{UNDEFINED}
11595 \def\hyper@link#1#2#3{%
11596   \Hy@VerboseLinkStart{#1}{#2}%
11597   \ltx@ifundefined{@#1bordercolor}{%
11598     \let\Hy@tempcolor\relax
11599   }{%
11600     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11601   }%
11602   \begingroup
11603     \protected@edef\Hy@testname{#2}%
11604     \ifx\Hy@testname\@empty

```

```

11605 \Hy@Warning{%
11606   Empty destination name,\MessageBreak
11607   using '\Hy@undefinedname'%
11608 }%
11609 \let\Hy@testname\Hy@undefinedname
11610 \fi
11611 \pdfmark[#{#3}]{%
11612   Color=\Hy@tempcolor,%
11613   linktype={#1},%
11614   AcroHighlight=\@pdfhighlight,%
11615   Border=\@pdfborder,%
11616   BorderStyle=\@pdfborderstyle,%
11617   pdfmark=/ANN,%
11618   Subtype=/Link,%
11619   PDFAFlags=4,%
11620   Dest=\Hy@testname
11621 }%
11622 \endgroup
11623 }
11624 \newtoks\pdf@docset
11625 \def\PDF@FinishDoc{%
11626   \Hy@UseMaketitleInfos
11627   \HyInfo@GenerateAddons
11628   \let\Hy@temp\@empty
11629   \ifx\@pdfcreationdate\@empty
11630   \else
11631     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11632   \fi
11633   \ifx\@pdfmoddate\@empty
11634   \else
11635     \expandafter\def\expandafter\Hy@temp\expandafter{%
11636       \Hy@temp
11637       ModDate=\@pdfmoddate,%
11638     }%
11639   \fi
11640   \ifx\@pdfproducer\relax
11641   \else
11642     \expandafter\def\expandafter\Hy@temp\expandafter{%
11643       \Hy@temp
11644       Producer=\@pdfproducer,%
11645     }%
11646   \fi
11647   \expandafter
11648   \pdfmark\expandafter{%
11649     \Hy@temp
11650     pdfmark=/DOCINFO,%
11651     Title=\@pdftitle,%
11652     Subject=\@pdfsubject,%
11653     Creator=\@pdfcreator,%
11654     Author=\@pdfauthor,%
11655     Keywords=\@pdfkeywords,%
11656     Trapped=\@pdftrapped
11657   }%
11658   \ifx\HyInfo@Addons\@empty
11659   \else
11660     \pdfmark{%
11661       pdfmark=/DOCINFO,%

```

```

11662     Raw={\HyInfo@Addons}%
11663 }%
11664 \fi
11665 \Hy@DisableOption{pdfauthor}%
11666 \Hy@DisableOption{pdftitle}%
11667 \Hy@DisableOption{pdfsubject}%
11668 \Hy@DisableOption{pdfcreator}%
11669 \Hy@DisableOption{pdfcreationdate}%
11670 \Hy@DisableOption{pdfmoddate}%
11671 \Hy@DisableOption{pdfproducer}%
11672 \Hy@DisableOption{pdfkeywords}%
11673 \Hy@DisableOption{pdftrapped}%
11674 \Hy@DisableOption{pdfinfo}%
11675 }
11676 \def\PDF@SetupDoc{%
11677 \def\Hy@temp{}%
11678 \ifx\@pdfstartpage\@empty
11679 \else
11680 \ifx\@pdfstartview\@empty
11681 \else
11682 \edef\Hy@temp{%
11683     ,Page=\@pdfstartpage
11684     ,View=\@pdfstartview
11685 }%
11686 \fi
11687 \fi
11688 \edef\Hy@temp{%
11689 \noexpand\pdfmark{%
11690     pdfmark=/DOCVIEW,%
11691     PageMode=/\@pdfpagemode
11692 \Hy@temp
11693 }%
11694 }%
11695 \Hy@temp
11696 \ifx\@pdfpagescrop\@empty
11697 \else
11698 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11699 \fi
11700 \edef\Hy@temp{%
11701 \ifHy@pdftoolbar\else /HideToolbar true\fi
11702 \ifHy@pdfmenubar\else /HideMenubar true\fi
11703 \ifHy@pdfwindowui\else /HideWindowUI true\fi
11704 \ifHy@pdfwindow /FitWindow true\fi
11705 \ifHy@pdfcenterwindow /CenterWindow true\fi
11706 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11707 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11708 \Hy@UseNameKey{Direction}\@pdfdirection
11709 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11710 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11711 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11712 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11713 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11714 \Hy@UseNameKey{Duplex}\@pdfduplex
11715 \ifx\@pdfpicktraybypdfsize\@empty
11716 \else
11717 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11718 \fi

```

```

11719 \ifx\@pdfprintpagerange\@empty
11720 \else
11721 /PrintPageRange[\@pdfprintpagerange]%
11722 \fi
11723 \ifx\@pdfnumcopies\@empty
11724 \else
11725 /NumCopies \@pdfnumcopies
11726 \fi
11727 }%
11728 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11729 \pdfmark{%
11730 pdfmark=/PUT,%
11731 Raw={%
11732 \string{Catalog\string}<<%
11733 \ifx\Hy@temp\@empty
11734 \else
11735 /ViewerPreferences<<\Hy@temp>>%
11736 \fi
11737 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11738 \ifx\@pdflang\@empty
11739 \else
11740 /Lang(\@pdflang)%
11741 \fi
11742 \ifx\@baseurl\@empty
11743 \else
11744 /URI<</Base(\Hy@pstringB)>>%
11745 \fi
11746 >>%
11747 }%
11748 }%
11749 }
11750 </pdfmark>
11751 (*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.

```

11752 \newif\ifHy@pdfmarkerror
11753 \def\pdfmark{\@ifnextchar{\pdfmark@}{\pdfmark@[]}}
11754 \def\pdfmark@[#1]#2{%
11755 \Hy@pdfmarkerrorfalse
11756 \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11757 \@processme
11758 \let\pdf@type\relax
11759 \kvsetkeys{PDF}{#2}%
11760 \ifHy@pdfmarkerror
11761 \else
11762 \ifx\pdf@type\relax
11763 \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11764 \ifx\#1\%
11765 \else
11766 \pdf@rect{#1}%
11767 \fi
11768 \else

```



```

11769 \ifx\#1\%
11770 \literalps@out{%
11771   [\the\pdf@toks\space\pdf@type\space pdfmark%
11772   }%
11773 \else
11774 \ltx@ifundefined{@\pdf@linktype color}{%
11775   \Hy@colorlink\@linkcolor
11776 }{%
11777   \expandafter\Hy@colorlink
11778   \csname @\pdf@linktype color\endcsname
11779 }%
11780 \pdf@rect{#1}%
11781 \literalps@out{%
11782   [\the\pdf@toks\space\pdf@type\space pdfmark%
11783   }%
11784   \Hy@endcolorlink
11785 \fi
11786 \fi
11787 \fi
11788 }

```

The complicated bit is working out the right enclosing rectangle of some piece of T<sub>E</sub>X text, needed by the /Rect key. This solution originates with Toby Thain (toby@netspace.net.au).

For the case breaklinks is enabled, I have added two hooks, the first one for package setouterhbox, it provides a hopefully better method without setting the text twice.

```
\usepackage[hyperref]{setouterhbox}
```

With the second hook, also you can set the text twice, e.g.:

```

\long\def\Hy@setouterhbox#1#2{\long\def\my@temp{#2}}
\def\Hy@breaklinksunhbox#1{\my@temp}

```

```

11789 \newsavebox{\pdf@box}
11790 \providecommand*{\Hy@setouterhbox}{\sbox}
11791 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
11792 \def\Hy@DEST{/DEST}
11793 \def\pdf@rect#1{%
11794   \begingroup
11795   \chardef\x=1 %
11796   \def\Hy@temp{#1}%
11797   \ifx\Hy@temp\ltx@empty
11798     \chardef\x=0 %
11799   \else
11800     \def\y{\anchor@spot}%
11801     \ifx\Hy@temp\y
11802       \def\y{\relax}%
11803     \ifx\anchor@spot\y
11804       \chardef\x=0 %
11805     \fi
11806   \fi
11807 \fi
11808 \expandafter\endgroup
11809 \ifcase\x
11810   \literalps@out{H.S}%
11811   \literalps@out{H.R}%
11812 \else

```

```

11813 \leavevmode
11814 \Hy@SaveSpaceFactor
11815 \ifmmode
11816   \def\Hy@LinkMath{$}%
11817 \else
11818   \let\Hy@LinkMath\ltx@empty
11819 \fi
11820 \ifHy@breaklinks
11821   \Hy@setouterhbox\pdf@box{%
11822     \Hy@RestoreSpaceFactor
11823     \Hy@LinkMath
11824     \Hy@AllowHyphens#1\Hy@xspace@end
11825     \Hy@LinkMath
11826     \Hy@SaveSpaceFactor
11827   }%
11828 \else
11829   \sbox\pdf@box{%
11830     \Hy@RestoreSpaceFactor
11831     \Hy@LinkMath
11832     #1\Hy@xspace@end
11833     \Hy@LinkMath
11834     \Hy@SaveSpaceFactor
11835   }%
11836 \fi
11837 \dimen@ \ht\pdf@box
11838 \ifdim\dp\pdf@box=\z@
11839   \literalps@out{H.S}%
11840 \else
11841   \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11842 \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...).

```

11843 \ifHy@breaklinks
11844   \ifhmode
11845     \Hy@breaklinksunhbox\pdf@box
11846   \else
11847     \box\pdf@box
11848   \fi
11849 \else
11850   \expandafter\box\pdf@box
11851 \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

11852 \ifdim\dimen@=\z@
11853   \literalps@out{H.R}%
11854 \else
11855   \raise\dimen@\hbox{\literalps@out{H.R}}%
11856 \fi
11857 \Hy@RestoreSpaceFactor
11858 \fi
11859 \ifx\pdf@type\Hy@DEST
11860 \else
11861   \pdf@addtoksx{H.B}%

```

```

11862 \fi
11863 }

```

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.

```

11864 \newtoks\pdf@toks
11865 \newtoks\pdf@defaulttoks
11866 \pdf@defaulttoks={}%
11867 \def\pdf@addtoks#1#2{%
11868   \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
11869   \@processme
11870 }
11871 \def\pdf@addtoksx#1{%
11872   \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11873   \@processme
11874 }
11875 \def\PDFdefaults#1{%
11876   \pdf@defaulttoks={#1}%
11877 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

11878 % what is the type of pdfmark?
11879 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11880 % what is the link type?
11881 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
11882 \def\pdf@linktype{link}
11883 % parameter is a stream of PDF
11884 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11885 % parameter is a name
11886 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11887 % parameter is a array
11888 \define@key{PDF}{Border}{%
11889   \edef\Hy@temp{#1}%
11890   \ifx\Hy@temp\@empty
11891     \else
11892       \pdf@addtoks{[<#1>\Hy@BorderArrayPatch]{Border}% hash-ok
11893     \fi
11894   }
11895   \let\Hy@BorderArrayPatch\@empty
11896 % parameter is a dictionary
11897 \define@key{PDF}{BorderStyle}{%
11898   \edef\Hy@temp{#1}%
11899   \ifx\Hy@temp\@empty
11900     \else
11901       \pdf@addtoks{<<#1>>}{BS}%
11902     \fi
11903   }
11904 % parameter is a array
11905 \define@key{PDF}{Color}{%
11906   \ifx\relax#1\relax
11907     \else
11908       \pdf@addtoks{[<#1>]{Color}% hash-ok
11909     \fi
11910   }
11911 % parameter is a string
11912 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11913 % parameter is a integer

```

```

11914 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11915 % parameter is a array
11916 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
11917 % parameter is a string
11918 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
11919 % parameter is a string or file
11920 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11921 % parameter is a destination
11922 \define@key{PDF}{Dest}{%
11923   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11924   \ifx\Hy@pstringDest\@empty
11925     \Hy@pdfmarkerrortrue
11926     \Hy@Warning{Destination with empty name ignored}%
11927   \else
11928     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11929   \fi
11930 }
11931 \define@key{PDF}{DestAnchor}{%
11932   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11933   \ifx\Hy@pstringDest\@empty
11934     \Hy@pdfmarkerrortrue
11935     \Hy@Warning{Destination with empty name ignored}%
11936   \else
11937     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11938   \fi
11939 }
11940 % parameter is a string
11941 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11942 % parameter is a string
11943 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
11944 % parameter is a int
11945 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11946 \define@key{PDF}{PDFAFlags}{%
11947   \ifHy@pdfa
11948     \pdf@addtoks{#1}{F}%
11949   \fi
11950 }
11951 % parameter is a name
11952 \define@key{PDF}{AcroHighlight}{%
11953   \begingroup
11954     \edef\x{#1}%
11955     \expandafter\endgroup\ifx\x\@empty
11956     \else
11957       \pdf@addtoks{#1}{H}%
11958     \fi
11959 }
11960 % parameter is a string
11961 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
11962 % parameter is a string
11963 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
11964 % parameter is a string
11965 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11966 % parameter is a string
11967 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
11968 % parameter is a Boolean
11969 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11970 % parameter is a integer or name

```

```

11971 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11972 % parameter is a name
11973 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11974 % parameter is a string
11975 \define@key{PDF}{Params}{\pdf@addtoks{#1}{Params}}
11976 % parameter is a array
11977 \define@key{PDF}{Rect}{\pdf@addtoks{#1}{Rect}}% hash-ok
11978 % parameter is a integer
11979 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
11980 % parameter is a name
11981 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
11982 % parameter is a string
11983 \define@key{PDF}{Title}{\pdf@addtoks{#1}{Title}}
11984 % parameter is a string
11985 \define@key{PDF}{Unix}{\pdf@addtoks{#1}{Unix}}
11986 % parameter is a string
11987 \define@key{PDF}{UnixFile}{\pdf@addtoks{#1}{UnixFile}}
11988 % parameter is an array
11989 \define@key{PDF}{View}{\pdf@addtoks{#1}{View}}% hash-ok
11990 % parameter is a string
11991 \define@key{PDF}{WinFile}{\pdf@addtoks{#1}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

11992 \define@key{PDF}{Author}{\pdf@addtoks{#1}{Author}}
11993 \define@key{PDF}{Creator}{\pdf@addtoks{#1}{Creator}}
11994 \define@key{PDF}{CreationDate}{\pdf@addtoks{#1}{CreationDate}}
11995 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
11996 \define@key{PDF}{Producer}{\pdf@addtoks{#1}{Producer}}
11997 \define@key{PDF}{Subject}{\pdf@addtoks{#1}{Subject}}
11998 \define@key{PDF}{Keywords}{\pdf@addtoks{#1}{Keywords}}
11999 \define@key{PDF}{ModDate}{\pdf@addtoks{#1}{ModDate}}
12000 \define@key{PDF}{Base}{\pdf@addtoks{#1}{Base}}
12001 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
12002 \define@key{PDF}{Trapped}{%
12003   \edef\Hy@temp{#1}%
12004   \ifx\Hy@temp\@empty
12005     \else
12006       \pdf@addtoks{/#1}{Trapped}%
12007     \fi
12008 }
12009
12010 </pdfmarkbase>
12011 <*pdfmark>
12012 \def\Acrobatmenu#1#2{%
12013   \EdefEscapeName\Hy@temp@menu{#1}%
12014   \Hy@Acrobatmenu{#1}{#2}{%
12015     \pdfmark{#2}{%
12016       linktype=menu,%
12017       pdfmark=/ANN,%
12018       AcroHighlight=\@pdfhighlight,%
12019       Border=\@pdfborder,%
12020       BorderStyle=\@pdfborderstyle,%
12021       Color=\@menubordercolor,%
12022       Action={<</Subtype/Named/N/\Hy@temp@menu>>},%
12023       Subtype=/Link,%
12024       PDFANFlags=4%
12025     }%
12026   }%

```

12027 }

And now for some useful examples:

```
12028 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}}
12029 \def\PDFNextPage@[#1]#2{%
12030   \pdfmark[{#2}]{%
12031     #1,%
12032     Border=\@pdfborder,%
12033     BorderStyle=\@pdfborderstyle,%
12034     Color=.2 .1 .5,%
12035     pdfmark=/ANN,%
12036     Subtype=/Link,%
12037     PDFAFlags=4,%
12038     Page=/Next%
12039   }%
12040 }
12041 \def\PDFPreviousPage{%
12042   \@ifnextchar{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
12043 }
12044 \def\PDFPreviousPage@[#1]#2{%
12045   \pdfmark[{#2}]{%
12046     #1,%
12047     Border=\@pdfborder,%
12048     BorderStyle=\@pdfborderstyle,%
12049     Color=.4 .4 .1,%
12050     pdfmark=/ANN,%
12051     Subtype=/Link,%
12052     PDFAFlags=4,%
12053     Page=/Prev%
12054   }%
12055 }
12056 \def\PDFOpen#1{%
12057   \pdfmark{#1,pdfmark=/DOCVIEW}%
12058 }
```

This will only work if you use Distiller 2.1 or higher.

```
12059 \def\hyper@linkurl#1#2{%
12060   \begingroup
12061     \Hy@pstringdef\Hy@pstringURI{#2}%
12062     \hyper@chars
12063     \leavevmode
12064     \pdfmark[{#1}]{%
12065       pdfmark=/ANN,%
12066       linktype=url,%
12067       AcroHighlight=\@pdfhighlight,%
12068       Border=\@pdfborder,%
12069       BorderStyle=\@pdfborderstyle,%
12070       Color=\@urlbordercolor,%
12071       Action={<<%
12072         /Subtype/URI%
12073         /URI(\Hy@pstringURI)%
12074         \ifHy@href@ismap
12075           /IsMap true%
12076         \fi
12077       >>},%
12078       Subtype=/Link,%
12079       PDFAFlags=4%
12080     }%
12081 }
```

```

12081 \endgroup
12082 }
12083 \def\hyper@linkfile#1#2#3{%
12084 \begingroup
12085 \def\Hy@pstringF{#2}%
12086 \Hy@CleanupFile\Hy@pstringF
12087 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
12088 \Hy@pstringdef\Hy@pstringD{#3}%
12089 \Hy@MakeRemoteAction
12090 \leavevmode
12091 \pdfmark[{#1}]{%
12092 pdfmark=/ANN,%
12093 Subtype=/Link,%
12094 PDFAFlags=4,%
12095 AcroHighlight=\@pdfhighlight,%
12096 Border=\@pdfborder,%
12097 BorderStyle=\@pdfborderstyle,%
12098 linktype=file,%
12099 Color=\@filebordercolor,%
12100 Action={%
12101 <<%
12102 /S/GoToR%
12103 \Hy@SetNewWindow
12104 /F(\Hy@pstringF)%
12105 /D%
12106 \ifx\#3\%
12107 [\Hy@href@page\@pdfremotestartview]%
12108 \else
12109 (\Hy@pstringD)cvn%
12110 \fi
12111 \Hy@href@nextactionraw
12112 >>%
12113 }%
12114 }%
12115 \endgroup
12116 }
12117 \def\@hyper@launch run:#1\#2#3{%
12118 \begingroup
12119 \Hy@pstringdef\Hy@pstringF{#1}%
12120 \Hy@pstringdef\Hy@pstringP{#3}%
12121 \leavevmode
12122 \pdfmark[{#2}]{%
12123 pdfmark=/ANN,%
12124 Subtype=/Link,%
12125 PDFAFlags=4,%
12126 AcroHighlight=\@pdfhighlight,%
12127 Border=\@pdfborder,%
12128 BorderStyle=\@pdfborderstyle,%
12129 linktype=run,%
12130 Color=\@runbordercolor,%
12131 Action={%
12132 <<%
12133 /S/Launch%
12134 \Hy@SetNewWindow
12135 /F(\Hy@pstringF)%
12136 \ifx\#3\%
12137 \else

```

```

12138      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
12139      \fi
12140      \Hy@href@nextactionraw
12141      >>%
12142      }%
12143      }%
12144      \endgroup
12145      }
12146      </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.

```

12147 <*dvips>
12148 \providecommand*\XR@ext\{pdf}
12149 \let\Hy@raisedlink\ltx@empty
12150 \def\literals@out#1{\special{ps:SDict begin #1 end}}%
12151 \def\headerps@out#1{\special{! #1}}%
12152 \input{pdfmark.def}%
12153 \ifx\@pdfproducer\relax
12154   \def\@pdfproducer{dvips + Distiller}%
12155 \fi
12156 \providecommand*\@pdfborder{0 0 1}
12157 \providecommand*\@pdfborderstyle{}
12158 \providecommand*\@pdfview{XYZ}
12159 \providecommand*\@pdfviewparams{ H.V}
12160 \def\Hy@BorderArrayPatch{BorderArrayPatch}

12161 \g@addto@macro\Hy@FirstPageHook{%
12162   \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.

```

12163 /DvipsToPDF{72.27 mul Resolution div} def%
12164 /PDFToDvips{72.27 div Resolution mul} def%
12165 /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.

```

12166 /BorderArrayPatch{%

```



```

12167    [exch{%
12168        dup dup type/integertype eq exch type/realttype eq or%
12169        {BPToDvips}if%
12170    }forall]%
12171    }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.

```

12172    /HyperBorder {1 PDFToDvips} def%
12173    /H.V {pdf@hoff pdf@voff null} def%
12174    /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

```

12175    /H.S {%
12176        currentpoint %
12177        HyperBorder add /pdf@lly exch def %
12178        dup DvipsToPDF 72 add /pdf@hoff exch def %
12179        HyperBorder sub /pdf@llx exch def%
12180    } def%

```

The calculation of upper left  $y$  is done without raising the point in  $\text{\TeX}$ , by simply adding on the current `\baselineskip` to the current  $y$ . This is usually too much, so we remove a notional 2 points.

We have to see what the current baselineskip is, and convert it to the dvips coordinate system.

Argument: baselineskip in pt. The  $x$  and  $y$  coordinates of the current point, minus the baselineskip

```

12181    /H.L {%
12182        2 sub dup%
12183        /HyperBasePt exch def %
12184        PDFToDvips /HyperBaseDvips exch def %
12185        currentpoint %
12186        HyperBaseDvips sub /pdf@ury exch def%
12187        /pdf@urx exch def%
12188    } def%
12189    /H.A {%
12190        H.L %
12191        % |pdf@voff| = the distance from the top of the page to a point
12192        % |\baselineskip| above the current point in PDF coordinates
12193        currentpoint exch pop %
12194        vsize 72 sub exch DvipsToPDF %
12195        HyperBasePt sub % baseline skip
12196        sub /pdf@voff exch def%
12197    } def%
12198    /H.R {%
12199        currentpoint %
12200        HyperBorder sub /pdf@ury exch def %
12201        HyperBorder add /pdf@urx exch def %
12202        % |pdf@voff| = the distance from the top of the page to the current point, in
12203        % PDF coordinates
12204        currentpoint exch pop vsize 72 sub %
12205        exch DvipsToPDF sub /pdf@voff exch def%
12206    } def%
12207    }%
12208    }
12209    \AtBeginShipoutFirst{%
12210        \ifHy@setpagesize

```

```

12211 \begingroup
12212 \ifundefined{stockwidth}{%
12213 \ifdim\paperwidth>\z@
12214 \ifdim\paperheight>\z@
12215 \special{papersize=\the\paperwidth,\the\paperheight}%
12216 \fi
12217 \fi
12218 }{%
12219 \ifdim\stockwidth>\z@
12220 \ifdim\stockheight>\z@
12221 \special{papersize=\the\stockwidth,\the\stockheight}%
12222 \fi
12223 \fi
12224 }%
12225 \endgroup
12226 \fi
12227 \Hy@DisableOption{setpagesize}%
12228 }
12229 </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.

```

12230 <*vtexpdfmark>
12231 \providecommand*{\XR@ext}{pdf}
12232 \let\Hy@raisedlink\ltx@empty
12233 \def\literalps@out#1{\special{pS:#1}}%
12234 \def\headerps@out#1{\immediate\special{pS:#1}}%
12235 \input{pdfmark.def}%
12236 \ifx\@pdfproducer\relax
12237 \ifnum\OpMode=\@ne
12238 \def\@pdfproducer{VTeX}%
12239 \else
12240 \def\@pdfproducer{VTeX + Distiller}%
12241 \fi
12242 \fi
12243 \providecommand*\@pdfborder{0 0 1}
12244 \providecommand*\@pdfborderstyle{}
12245 \providecommand*\@pdfview{XYZ}
12246 \providecommand*\@pdfviewparams{ H.V}
12247 \g@addto@macro\Hy@FirstPageHook{%
12248 \headerps@out{%
12249 /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.

```

12250 /HyperBorder {1} def%
12251 /H.V {pdf@hoff pdf@voff null} def%
12252 /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

12253 /H.S {%
12254   currentpoint %
12255   HyperBorder sub%
12256   /pdf@lly exch def %
12257   dup 72 add /pdf@hoff exch def %
12258   HyperBorder sub%
12259   /pdf@llx exch def%
12260 } def%

```

The  $x$  and  $y$  coordinates of the current point, minus the `\baselineskip`:  $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$ ,  $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

12261 /H.L {%
12262   2 sub%
12263   /HyperBasePt exch def %
12264   currentpoint %
12265   HyperBasePt add HyperBorder add%
12266   /pdf@ury exch def %
12267   HyperBorder add%
12268   /pdf@urx exch def%
12269 } def%
12270 /H.A {%
12271   H.L %
12272   currentpoint exch pop %
12273   vsize 72 sub exch %
12274   HyperBasePt add add%
12275   /pdf@voff exch def%
12276 } def%

```

$\text{pdf@ury} = Y_c + \text{HyperBorder}$ ,  $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

12277 /H.R {%
12278   currentpoint %
12279   HyperBorder add%
12280   /pdf@ury exch def %
12281   HyperBorder add%
12282   /pdf@urx exch def %
12283   currentpoint exch pop vsize 72 sub add%
12284   /pdf@voff exch def%
12285 } def%
12286 }%
12287 }
12288 </vtxpdfmark>

```

## 47.11 Textures

```

12289 <*textures>
12290 \providecommand*{\XR@ext}{pdf}

```

At the suggestion of Jacques Distler (distler@golem.ph.utexas.edu), try to derive a suitable driver for Textures. This was initially a copy of dvips, with some guesses about Textures behaviour. Ross Moore (ross@maths.mq.edu.au) has added modifications for better compatibility, and to support use of pdfmark.

Start by defining a macro that expands to the end-of-line character. This will be used to format the appearance of PostScript code, to enhance readability, and avoid excessively long lines which might otherwise become broken to bad places.

`\Hy@ps@CR` The macro `\Hy@ps@CR` contains the end-of-line character.

```

12291 \begingroup
12292 \obeylines %
12293 \gdef\Hy@ps@CR{\noexpand

```

```

12294 }%
12295 \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`.

```

12296 \def\literalps@out#1{%
12297   \special{postscript 0 0 transform}%
12298   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
12299 }%
12300 %

```

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.

```

12301 \def\headerps@out#1{%
12302   \special{%
12303     prepostscript TeXdict begin\Hy@ps@CR
12304       #1\Hy@ps@CR
12305     end%
12306   }%
12307 }%
12308 %

```

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.

```

12309 \g@addto@macro\Hy@FirstPageHook{%
12310   \headerps@out{%
12311     /betterpdfmark {%
12312       systemdict begin %
12313         dup /BP eq%
12314         {cleartomark gsave nulldevice []}%
12315         {dup /EP eq%
12316           {cleartomark cleartomark grestore}%
12317           {cleartomark}%
12318         }ifelse%
12319       }ifelse %
12320     end%
12321   }def\Hy@ps@CR
12322   ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
12323 }% end of \headerps@out
12324 }% end of \AtBeginShipoutFirst
12325 %
12326 \input{pdfmark.def}%
12327 %
12328 \ifx\@pdfproducer\relax
12329   \def\@pdfproducer{Textures + Distiller}%
12330 \fi

```

```

12331 \providecommand*\@pdfborder{0 0 1}
12332 \providecommand*\@pdfborderstyle{}
12333 \providecommand*\@pdfview{XYZ}
12334 \providecommand*\@pdfviewparams{ H.V}
12335 %

```

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  $\text{\TeX}$ .

```

12336 \Hy@AtBeginDocument{%
12337   \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

12338   /vsize {\Hy@pageheight} def%
12339   /DvipsToPDF {} def%
12340   /PDFToDvips {} def%
12341   /BPToDvips {} def%
12342   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
12343   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
12344   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
12345   /H.S {%
12346     currentpoint %
12347     HyperBorder add /pdf@lly exch def %
12348     dup DvipsToPDF 72 add /pdf@hoff exch def %
12349     HyperBorder sub /pdf@llx exch def%
12350   } def\Hy@ps@CR
12351   /H.L {%
12352     2 sub %
12353     PDFToDvips /HyperBase exch def %
12354     currentpoint %
12355     HyperBase sub /pdf@ury exch def%
12356     /pdf@urx exch def%
12357   } def\Hy@ps@CR
12358   /H.A {%
12359     H.L %
12360     currentpoint exch pop %
12361     vsize 72 sub exch DvipsToPDF %
12362     HyperBase sub % baseline skip
12363     sub /pdf@voff exch def%
12364   } def\Hy@ps@CR
12365   /H.R {%
12366     currentpoint %
12367     HyperBorder sub /pdf@ury exch def %
12368     HyperBorder add /pdf@urx exch def %
12369     currentpoint exch pop vsize 72 sub %
12370     exch DvipsToPDF sub /pdf@voff exch def%
12371   } def\Hy@ps@CR
12372 }%
12373 }

12374 \Hy@AtBeginDocument{%
12375   \ifHy@colorlinks
12376     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
12377   \fi
12378 }

```

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.

```

12379 \expandafter\let\expandafter\keepPDF@SetupDoc
12380 \csname PDF@SetupDoc\endcsname
12381 \def\PDF@SetupDoc{%
12382   \ifx\@baseurl\@empty
12383   \else
12384     \special{html:<base href="\@baseurl">}%
12385   \fi
12386   \keepPDF@SetupDoc
12387 }
12388 \Hy@WrapperDef\hyper@anchor#1{%
12389   \Hy@SaveLastskip
12390   \Hy@VerboseAnchor{#1}%
12391   \begingroup
12392     \let\protect=\string
12393     \special{html:<a name=%
12394       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12395   \endgroup
12396   \Hy@activeanchortrue
12397   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12398   \special{html:</a>}%
12399   \Hy@activeanchorfalse
12400   \Hy@RestoreLastskip
12401 }
12402 \Hy@WrapperDef\hyper@anchorstart#1{%
12403   \Hy@SaveLastskip
12404   \Hy@VerboseAnchor{#1}%
12405   \begingroup
12406     \hyper@chars
12407     \special{html:<a name=%
12408       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12409   \endgroup
12410   \Hy@activeanchortrue
12411 }
12412 \def\hyper@anchorend{%
12413   \special{html:</a>}%
12414   \Hy@activeanchorfalse
12415   \Hy@RestoreLastskip
12416 }
12417 \def\@urltype{url}
12418 \def\hyper@linkstart#1#2{%
12419   \Hy@VerboseLinkStart{#1}{#2}%
12420   \expandafter\Hy@colorlink\csname @#1color\endcsname
12421   \def\Hy@tempa{#1}%
12422   \ifx\Hy@tempa\@urltype
12423     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12424   \else
12425     \begingroup
12426       \hyper@chars
12427       \special{%
12428         html:<a href=%
12429           \hyper@quote\# \HyperDestNameFilter{#2}\hyper@quote>%
12430       }%
12431     \endgroup
12432   \fi

```

```

12433 }
12434 \def\hyper@linkend{%
12435   \special{html:</a>}%
12436   \Hy@endcolorlink
12437 }
12438 \def\hyper@linkfile#1#2#3{%
12439   \hyper@linkurl{#1}{%
12440     \Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi
12441   }%
12442 }
12443 \def\hyper@linkurl#1#2{%
12444   \leavevmode
12445   \ifHy@raiselinks
12446     \Hy@SaveSpaceFactor
12447     \Hy@SaveSavedSpaceFactor
12448     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12449     \Hy@RestoreSavedSpaceFactor
12450     \@linkdim\dp\@tempboxa
12451     \lower\@linkdim\hbox{%
12452       \hyper@chars
12453       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12454     }%
12455     \Hy@colorlink\@urlcolor
12456     \Hy@RestoreSpaceFactor
12457     #1\Hy@xspace@end
12458     \Hy@SaveSpaceFactor
12459     \@linkdim\ht\@tempboxa
12460     \advance\@linkdim by -6.5\p@
12461     \raise\@linkdim\hbox{\special{html:</a>}}%
12462     \Hy@endcolorlink
12463     \Hy@RestoreSpaceFactor
12464   \else
12465     \begingroup
12466     \hyper@chars
12467     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12468     \Hy@colorlink\@urlcolor#1\Hy@xspace@end
12469     \special{html:</a>}%
12470     \Hy@endcolorlink
12471   \endgroup
12472   \fi
12473 }

```

Very poor implementation of \hyper@link without considering #1.

```

12474 \def\hyper@link#1#2#3{%
12475   \Hy@VerboseLinkStart{#1}{#2}%
12476   \hyper@linkurl{#3}{\#\Hy@HyperDestNameFilter{#2}}%
12477 }
12478 \def\hyper@image#1#2{%
12479   \begingroup
12480   \hyper@chars
12481   \special{html:<img src=\hyper@quote#1\hyper@quote>}%
12482   \endgroup
12483 }
12484 </textures>

```

## 47.12 dvipsone

```

12485 % \subsection{dvipsone driver}

```

```

12486 % Over-ride the default setup macro in pdftmark driver to use Y\&Y
12487 % |\special| commands.
12488 (*dvipsone)
12489 \providecommand*{\XR@ext}{pdf}
12490 \let\Hy@raisedlink\ltx@empty
12491 \providecommand*\@pdfborder{0 0 1}
12492 \providecommand*\@pdfborderstyle{}
12493 \def\literalps@out#1{\special{ps:#1}}%
12494 \def\headerps@out#1{\special{headertext=#1}}%
12495 \input{pdftmark.def}%
12496 \ifx\@pdfproducer\relax
12497 \def\@pdfproducer{dvipsone + Distiller}%
12498 \fi
12499 \HyInfo@AddonUnsupportedtrue
12500 \def\PDF@FinishDoc{%
12501 \Hy@UseMaketitleInfos
12502 \HyInfo@TrappedUnsupported
12503 \special{PDF: Keywords \@pdfkeywords}%
12504 \special{PDF: Title \@pdftitle}%
12505 \special{PDF: Creator \@pdfcreator}%
12506 \ifx\@pdfcreationdate\@empty
12507 \else
12508 \special{PDF: CreationDate \@pdfcreationdate}%
12509 \fi
12510 \ifx\@pdfmoddate\@empty
12511 \else
12512 \special{PDF: ModDate \@pdfmoddate}%
12513 \fi
12514 \special{PDF: Author \@pdfauthor}%
12515 \ifx\@pdfproducer\relax
12516 \else
12517 \special{PDF: Producer \@pdfproducer}%
12518 \fi
12519 \special{PDF: Subject \@pdfsubject}%
12520 \Hy@DisableOption{pdfauthor}%
12521 \Hy@DisableOption{pdftitle}%
12522 \Hy@DisableOption{pdfsubject}%
12523 \Hy@DisableOption{pdfcreator}%
12524 \Hy@DisableOption{pdfcreationdate}%
12525 \Hy@DisableOption{pdfmoddate}%
12526 \Hy@DisableOption{pdfproducer}%
12527 \Hy@DisableOption{pdfkeywords}%
12528 \Hy@DisableOption{pdftrapped}%
12529 \Hy@DisableOption{pdfinfo}%
12530 }
12531 \def\PDF@SetupDoc{%
12532 \def\Hy@temp{}%
12533 \ifx\@pdfstartpage\@empty
12534 \else
12535 \ifx\@pdfstartview\@empty
12536 \else
12537 \edef\Hy@temp{%
12538 ,Page=\@pdfstartpage
12539 ,View=\@pdfstartview
12540 }%
12541 \fi
12542 \fi

```



```

12543 \edef\Hy@temp{%
12544   \noexpand\pdfmark{%
12545     pdfmark=/DOCVIEW,%
12546     PageMode=/\@pdfpagemode
12547     \Hy@temp
12548   }%
12549 }%
12550 \Hy@temp
12551 \ifx\@pdfpagescrop\@empty
12552 \else
12553   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
12554 \fi
12555 \edef\Hy@temp{%
12556   \ifHy@pdftoolbar\else /HideToolbar true\fi
12557   \ifHy@pdfmenubar\else /HideMenubar true\fi
12558   \ifHy@pdfwindowui\else /HideWindowUI true\fi
12559   \ifHy@pdfwindow /FitWindow true\fi
12560   \ifHy@pdfcenterwindow /CenterWindow true\fi
12561   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12562   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12563   \Hy@UseNameKey{Direction}\@pdfdirection
12564   \Hy@UseNameKey{ViewArea}\@pdfviewarea
12565   \Hy@UseNameKey{ViewClip}\@pdfviewclip
12566   \Hy@UseNameKey{PrintArea}\@pdfprintarea
12567   \Hy@UseNameKey{PrintClip}\@pdfprintclip
12568   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12569   \Hy@UseNameKey{Duplex}\@pdfduplex
12570   \ifx\@pdfpicktraybypdfsize\@empty
12571   \else
12572     /PickTrayByPDFSize \@pdfpicktraybypdfsize
12573   \fi
12574   \ifx\@pdfprintpagerange\@empty
12575   \else
12576     /PrintPageRange[\@pdfprintpagerange]%
12577   \fi
12578   \ifx\@pdfnumcopies\@empty
12579   \else
12580     /NumCopies \@pdfnumcopies
12581   \fi
12582 }%
12583 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12584 \pdfmark{%
12585   pdfmark=/PUT,%
12586   Raw={%
12587     \string{Catalog\string}<<%
12588     \ifx\Hy@temp\@empty
12589     \else
12590       /ViewerPreferences<<\Hy@temp>>%
12591     \fi
12592     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12593     \ifx\@pdflang\@empty
12594     \else
12595       /Lang(\@pdflang)%
12596     \fi
12597     \ifx\@baseurl\@empty
12598     \else
12599       /URI<</Base(\Hy@pstringB)>>%

```

```

12600     \fi
12601     >>%
12602   }%
12603 }%
12604 }
12605 \providecommand*\@pdfview{XYZ}
12606 \providecommand*\@pdfviewparams{ %
12607   gsave revscl currentpoint grestore %
12608   72 add exch pop null exch null%
12609 }
12610 \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  $\TeX$ .

```

12611 \g@addto@macro\Hy@FirstPageHook{%
12612   \headerps@out{%

```

`dvipsone` lives in scaled points; does this mean 65536 or 65781?

```

12613   /DvipsToPDF { 65781 div } def%
12614   /PDFToDvips { 65781 mul } def%
12615   /BPToDvips{65781 mul}def%
12616   /HyperBorder { 1 PDFToDvips } def%
12617   /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.

```

12618   /BorderArrayPatch{%
12619     [exch{%
12620       dup dup type/integertype eq exch type/realtype eq or%
12621       {BPToDvips}if%
12622     }forall]%
12623   }def%
12624   /H.S {%
12625     currentpoint %
12626     HyperBorder add /pdf@lly exch def %
12627     dup DvipsToPDF 72 add /pdf@hoff exch def %
12628     HyperBorder sub /pdf@llx exch def%
12629   } def%
12630   /H.L {%
12631     2 sub %
12632     PDFToDvips /HyperBase exch def %
12633     currentpoint %
12634     HyperBase sub /pdf@ury exch def%
12635     /pdf@urx exch def%
12636   } def%
12637   /H.A {%
12638     H.L %
12639     currentpoint exch pop %
12640     HyperBase sub % baseline skip
12641     DvipsToPDF /pdf@voff exch def%
12642   } def%
12643   /H.R {%
12644     currentpoint %
12645     HyperBorder sub /pdf@ury exch def %
12646     HyperBorder add /pdf@urx exch def %

```

```

12647     currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12648   } def%
12649 }%
12650 }
12651 </dvipsone>

```

## 47.13 TeX4ht

```

12652 (*tex4ht)
12653 \providecommand*\XR@ext}{html}
12654 \let\Hy@raisedlink\ltx@empty
12655 \@ifpackageloaded{tex4ht}{%
12656   \Hy@InfoNoLine{tex4ht is already loaded}%
12657 }{%
12658   \RequirePackage[hTeX4ht]{tex4ht}%
12659 }
12660 \hyperlinkfileprefix{}
12661 \let\PDF@FinishDoc\ltx@empty
12662 \def\PDF@SetupDoc{%
12663   \ifx\@baseurl\@empty
12664     \else
12665       \special{t4ht=<base href="\@baseurl">}%
12666     \fi
12667 }
12668 \Hy@WrapperDef\hyper@anchor#1{%
12669   \Hy@SaveLastskip
12670   \Hy@VerboseAnchor{#1}%
12671   \begingroup
12672     \let\protect=\string
12673     \special{t4ht=<a name=%
12674       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12675   \endgroup
12676   \Hy@activeanchortrue
12677   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12678   \special{t4ht=</a>}%
12679   \Hy@activeanchorfalse
12680   \Hy@RestoreLastskip
12681 }
12682 \Hy@WrapperDef\hyper@anchorstart#1{%
12683   \Hy@SaveLastskip
12684   \Hy@VerboseAnchor{#1}%
12685   \begingroup
12686     \hyper@chars\special{t4ht=<a name=%
12687       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12688   \endgroup
12689   \Hy@activeanchortrue
12690 }
12691 \def\hyper@anchorend{%
12692   \special{t4ht=</a>}%
12693   \Hy@activeanchorfalse
12694   \Hy@RestoreLastskip
12695 }
12696 \def\@urltype{url}
12697 \def\hyper@linkstart#1#2{%
12698   \Hy@VerboseLinkStart{#1}{#2}%
12699   \expandafter\Hy@colorlink\csname @#1color\endcsname
12700   \def\Hy@tempa{#1}%
12701   \ifx\Hy@tempa\@urltype

```

```

12702 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12703 \else
12704 \begingroup
12705 \hyper@chars
12706 \special{t4ht=<a href=%
12707 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
12708 \endgroup
12709 \fi
12710 }
12711 \def\hyper@linkend{%
12712 \special{t4ht=</a>}%
12713 \Hy@endcolorlink
12714 }
12715 \def\hyper@linkfile#1#2#3{%
12716 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\###3\fi}%
12717 }
12718 \def\hyper@linkurl#1#2{%
12719 \leavevmode
12720 \ifHy@raiselinks
12721 \Hy@SaveSpaceFactor
12722 \Hy@SaveSavedSpaceFactor
12723 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12724 \Hy@RestoreSavedSpaceFactor
12725 \@linkdim\dp\@tempboxa
12726 \lower\@linkdim\hbox{%
12727 \begingroup
12728 \hyper@chars
12729 \special{%
12730 t4ht=<a href=\hyper@quote#2\hyper@quote>%
12731 }%
12732 \endgroup
12733 }%
12734 \Hy@colorlink\@urlcolor
12735 \Hy@RestoreSpaceFactor
12736 #1\Hy@xspace@end
12737 \Hy@SaveSpaceFactor
12738 \Hy@endcolorlink
12739 \@linkdim\ht\@tempboxa
12740 \advance\@linkdim by -6.5\p@
12741 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12742 \Hy@RestoreSpaceFactor
12743 \else
12744 \begingroup
12745 \hyper@chars
12746 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12747 \Hy@colorlink\@urlcolor
12748 #1\Hy@xspace@end
12749 \Hy@endcolorlink
12750 \special{t4ht=</a>}%
12751 \endgroup
12752 \fi
12753 }

Poor implementation of \hyper@link without considering #1.
12754 \def\hyper@link#1#2#3{%
12755 \Hy@VerboseLinkStart{#1}{#2}%
12756 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
12757 }

```

```

12758 \def\hyper@image#1#2{%
12759   \begingroup
12760     \hyper@chars
12761     \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12762   \endgroup
12763 }
12764 \let\autoref\ref
12765 \ifx \rEfLiNK \UnDef
12766   \def\rEfLiNK #1#2{#2}%
12767 \fi
12768 \let\backref\ltx@gobble

```

Fix for tex4ht.

```

12769 \AtBeginDocument{%
12770   \expandafter
12771   \let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
12772   \expandafter\def\csname Make:Label\endcsname#1#2{%
12773     \ifhmode
12774       \Hy@SaveSpaceFactor
12775     \else
12776       \global\Hy@SavedSpaceFactor=1000 %
12777     \fi
12778     \Hy@OrgMakeLabel{#1}{%
12779       \Hy@RestoreSpaceFactor
12780       #2\Hy@xspace@end%
12781       \Hy@SaveSpaceFactor
12782     }%
12783     \Hy@RestoreSpaceFactor
12784   }%
12785 }
12786 </tex4ht>
12787 <*tex4htcfg>
12788 \IfFileExists{jobname.cfg}{\endinput}{}
12789 \Preamble{html}
12790   \begin{document}%
12791 \EndPreamble
12792 \def\TeX{TeX}
12793 \def\OMEGA{Omega}
12794 \def\LaTeX{LaTeX}
12795 \def\LaTeXe{\LaTeX2e}
12796 \def\eTeX{e-TeX}
12797 \def\MF{Metafont}
12798 \def\MP{MetaPost}
12799 </tex4htcfg>

```

## 48 Driver-specific form support

### 48.1 pdfmarks

```

12800 <*pdfmark>
12801 \long\def\@Form[#1]{%
12802 \g@addto@macro\Hy@FirstPageHook{%
12803   \headerps@out{%
12804     [%
12805     /_objdef{pdfDocEncoding}%
12806     /type/dict%
12807     /OBJ pdfmark%
12808     [%

```

12809 {pdfDocEncoding}%  
12810 <<%  
12811 /Type/Encoding%  
12812 /Differences[%  
12813 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%  
12814 /tilde %  
12815 39/quotesingle %  
12816 96/grave %  
12817 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%  
12818 /fraction/guilsinglleft/guilsinglright/minus/perthousand%  
12819 /quotedblbase/quotedblleft/quotedblright/quoteleft%  
12820 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%  
12821 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %  
12822 164/currency %  
12823 166/brokenbar %  
12824 168/dieresis/copyright/ordfeminine %  
12825 172/logicalnot/.notdef/registered/macron/degree/plusminus%  
12826 /twosuperior/threesuperior/acute/mu %  
12827 183/periodcentered/cedilla/onesuperior/ordmasculine %  
12828 188/onequarter/onehalf/threequarters %  
12829 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%  
12830 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%  
12831 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%  
12832 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%  
12833 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%  
12834 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%  
12835 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%  
12836 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%  
12837 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%  
12838 /ucircumflex/udieresis/yacute/thorn/ydieresis%  
12839 ]%  
12840 >>%  
12841 /PUT pdfmark%  
12842 [%  
12843 /\_objdef{ZaDb}%  
12844 /type/dict%  
12845 /OBJ pdfmark%  
12846 [%  
12847 {ZaDb}%  
12848 <<%  
12849 /Type/Font%  
12850 /Subtype/Type1%  
12851 /Name/ZaDb%  
12852 /BaseFont/ZapfDingbats%  
12853 >>%  
12854 /PUT pdfmark%  
12855 [%  
12856 /\_objdef{Helv}%  
12857 /type/dict%  
12858 /OBJ pdfmark%  
12859 [%  
12860 {Helv}%  
12861 <<%  
12862 /Type/Font%  
12863 /Subtype/Type1%  
12864 /Name/Helv%  
12865 /BaseFont/Helvetica%

```

12866   /Encoding{pdfDocEncoding}%
12867   >>%
12868 /PUT pdfmark%
12869 [%
12870   /_objdef{aform}%
12871   /type/dict%
12872 /OBJ pdfmark%
12873 [%
12874   /_objdef{afields}%
12875   /type/array%
12876 /OBJ pdfmark%
12877 {%
12878   [%
12879     /BBox[0 0 100 100]%
12880     /_objdef{Check}%
12881 /BP pdfmark %
12882   1 0 0 setrgbcolor%
12883 /ZapfDingbats 80 selectfont %
12884   20 20 moveto%
12885   (4)show%
12886 [/EP pdfmark%
12887   [%
12888     /BBox[0 0 100 100]%
12889     /_objdef{Cross}%
12890 /BP pdfmark %
12891   1 0 0 setrgbcolor%
12892 /ZapfDingbats 80 selectfont %
12893   20 20 moveto%
12894   (8)show%
12895 [/EP pdfmark%
12896   [%
12897     /BBox[0 0 250 100]%
12898     /_objdef{Submit}%
12899 /BP pdfmark %
12900   0.6 setgray %
12901   0 0 250 100 rectfill %
12902   1 setgray %
12903   2 2 moveto %
12904   2 98 lineto %
12905   248 98 lineto %
12906   246 96 lineto %
12907   4 96 lineto %
12908   4 4 lineto %
12909   fill %
12910   0.34 setgray %
12911   248 98 moveto %
12912   248 2 lineto %
12913   2 2 lineto %
12914   4 4 lineto %
12915   246 4 lineto %
12916   246 96 lineto %
12917   fill%
12918 /Helvetica 76 selectfont %
12919   0 setgray %
12920   8 22.5 moveto%
12921   (Submit)show%
12922 [/EP pdfmark%

```

```

12923 [%
12924   /BBox[0 0 250 100]%
12925   /_objdef{SubmitP}%
12926   /BP pdfmark %
12927   0.6 setgray %
12928   0 0 250 100 rectfill %
12929   0.34 setgray %
12930   2 2 moveto %
12931   2 98 lineto %
12932   248 98 lineto %
12933   246 96 lineto %
12934   4 96 lineto %
12935   4 4 lineto %
12936   fill %
12937   1 setgray %
12938   248 98 moveto %
12939   248 2 lineto %
12940   2 2 lineto %
12941   4 4 lineto %
12942   246 4 lineto %
12943   246 96 lineto %
12944   fill%
12945   /Helvetica 76 selectfont %
12946   0 setgray %
12947   10 20.5 moveto%
12948   (Submit)show%
12949   [/EP pdfmark%
12950 } ?pdfmark%
12951 [%
12952   {aform}%
12953   <<%
12954   /Fields{afields}%
12955   /DR<<%
12956   /Font<<%
12957   /ZaDb{ZaDb}%
12958   /Helv{Helv}%
12959   >>%
12960   >>%
12961   /DA(/Helv 10 Tf 0 g)%
12962   /CO{corder}%
12963   \ifHy@pdfa
12964   \else
12965     \ifHyField@NeedAppearances
12966       /NeedAppearances true%
12967     \fi
12968   \fi
12969   >>%
12970 /PUT pdfmark%
12971 [%
12972   {Catalog}%
12973   <<%
12974   /AcroForm{aform}%
12975   >>%
12976 /PUT pdfmark%
12977 [%
12978   /_objdef{corder}%
12979   /type/array%

```



```

12980 /OBJ pdfmark% dps
12981 }}%
12982 \kvsetkeys{Form}{#1}%
12983 }
12984 \let\@endForm\ltx@empty
12985 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12986 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12987 }
12988 \edef\Fld@pageobjref{/P\string{ThisPage\string}}
12989 \def\@TextField[#1]#2{% parameters, label
12990 \def\Fld@name{#2}%
12991 \let\Fld@default\ltx@empty
12992 \let\Fld@value\@empty
12993 \def\Fld@width{\DefaultWidthofText}%
12994 \def\Fld@height{%
12995 \ifFld@multiline
12996 \DefaultHeightofTextMultiline
12997 \else
12998 \DefaultHeightofText
12999 \fi
13000 }%
13001 \begingroup
13002 \expandafter\HyField@SetKeys\expandafter{%
13003 \DefaultOptionsofText,#1%
13004 }%
13005 \HyField@FlagsText
13006 \ifFld@hidden\def\Fld@width{1sp}\fi
13007 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13008 \LayoutTextField{#2}{%
13009 \leavevmode
13010 \Hy@escapeform\PDFForm@Text
13011 \pdfmark{\MakeTextField{\Fld@width}{\Fld@height}}{%
13012 pdfmark=/ANN,Raw={\PDFForm@Text}%
13013 }%
13014 }%
13015 \endgroup
13016 }
13017 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13018 \def\Fld@name{#2}%
13019 \let\Fld@default\relax
13020 \let\Fld@value\relax
13021 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13022 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13023 \begingroup
13024 \Fld@menulength=0 %
13025 \@tempdima\z@
13026 \@for\@curropt:=#3\do{%
13027 \expandafter\Fld@checkequals\@curropt==\%
13028 \Hy@StepCount\Fld@menulength
13029 \settowidth{\@tempdimb}{\@currDisplay}%
13030 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13031 }%
13032 \advance\@tempdima by 15\p@
13033 \begingroup
13034 \HyField@SetKeys{#1}%
13035 \edef\x{\endgroup
13036 \noexpand\expandafter

```

```

13037 \noexpand\HyField@SetKeys
13038 \noexpand\expandafter{%
13039 \expandafter\noexpand\csname DefaultOptionsof%
13040 \ifFld@radio
13041 Radio%
13042 \else
13043 \ifFld@combo
13044 \ifFld@popdown
13045 PopdownBox%
13046 \else
13047 ComboBox%
13048 \fi
13049 \else
13050 ListBox%
13051 \fi
13052 \fi
13053 \endcsname
13054 }%
13055 }\x
13056 \HyField@SetKeys{#1}%
13057 \ifFld@hidden\def\Fld@width{1sp}\fi
13058 \ifx\Fld@value\relax
13059 \let\Fld@value\Fld@default
13060 \fi
13061 \LayoutChoiceField{#2}{%
13062 \ifFld@radio
13063 \HyField@FlagsRadioButton
13064 \@@Radio{#3}%
13065 \else
13066 \begingroup
13067 \HyField@FlagsChoice
13068 \ifdim\Fld@width<\@tempdima
13069 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13070 \edef\Fld@width{\the\@tempdima}%
13071 \fi
13072 \ifFld@combo
13073 \else
13074 \@tempdima=\the\Fld@menulength\Fld@charsize
13075 \advance\@tempdima by \Fld@borderwidth bp %
13076 \advance\@tempdima by \Fld@borderwidth bp %
13077 \edef\Fld@height{\the\@tempdima}%
13078 \fi
13079 \@@ListBox{#3}%
13080 \endgroup
13081 \fi
13082 }%
13083 \endgroup
13084 }
13085 \def\@@Radio#1{%
13086 \Fld@listcount=0 %
13087 \EdefEscapeName\Fld@default{\Fld@default}%
13088 \@for\@curropt:=#1\do{%
13089 \expandafter\Fld@checkequals\@curropt==\\%
13090 \EdefEscapeName\@currValue{\@currValue}%
13091 \Hy@StepCount\Fld@listcount
13092 \@currDisplay\space
13093 \Hy@escapeform\PDFForm@Radio

```

```

13094 \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
13095 pdfmark=/ANN,%
13096 Raw={%
13097 \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
13098 }%
13099 } % deliberate space between radio buttons
13100 }%
13101 }
13102 \newcount\Fld@listcount
13103 \def\@@ListBox#1{%
13104 \HyField@PDFChoices{#1}%
13105 \Hy@escapeform\PDFForm@List
13106 \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
13107 pdfmark=/ANN,Raw={\PDFForm@List}%
13108 }%
13109 }
13110 \def\@PushButton[#1]#2{% parameters, label
13111 \def\Fld@name{#2}%
13112 \begingroup
13113 \expandafter\HyField@SetKeys\expandafter{%
13114 \DefaultOptionsofPushButton,#1%
13115 }%
13116 \ifHy@pdfa
13117 \Hy@Error{%
13118 PDF/A: Push button with JavaScript is prohibited%
13119 }\@ehc
13120 \LayoutPushButtonField{%
13121 \leavevmode
13122 \MakeButtonField{#2}%
13123 }%
13124 \else
13125 \HyField@FlagsPushButton
13126 \ifFld@hidden\def\Fld@width{1sp}\fi
13127 \LayoutPushButtonField{%
13128 \leavevmode
13129 \Hy@escapeform\PDFForm@Push
13130 \pdfmark[\MakeButtonField{#2}]{%
13131 pdfmark=/ANN,Raw={\PDFForm@Push}%
13132 }%
13133 }%
13134 \fi
13135 \endgroup
13136 }
13137 \def\@Submit[#1]#2{%
13138 \def\Fld@width{\DefaultWidthofSubmit}%
13139 \def\Fld@height{\DefaultHeightofSubmit}%
13140 \begingroup
13141 \expandafter\HyField@SetKeys\expandafter{%
13142 \DefaultOptionsofSubmit,#1%
13143 }%
13144 \HyField@FlagsPushButton
13145 \HyField@FlagsSubmit
13146 \ifFld@hidden\def\Fld@width{1sp}\fi
13147 \Hy@escapeform\PDFForm@Submit
13148 \pdfmark[\MakeButtonField{#2}]{%
13149 pdfmark=/ANN,%
13150 Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%

```

```

13151 }%
13152 \endgroup
13153 }
13154 \def\@Reset[#1]#2{%
13155 \def\Fld@width{\DefaultWidthofReset}%
13156 \def\Fld@height{\DefaultHeightofReset}%
13157 \begingroup
13158 \expandafter\HyField@SetKeys\expandafter{%
13159 \DefaultOptionsofReset,#1%
13160 }%
13161 \leavevmode
13162 \ifHy@pdfa
13163 \Hy@Error{%
13164 PDF/A: Reset action is prohibited%
13165 }\@ehc
13166 \MakeButtonField{#2}%
13167 \else
13168 \HyField@FlagsPushButton
13169 \ifFld@hidden\def\Fld@width{1sp}\fi
13170 \Hy@escapeform\PDFForm@Reset
13171 \pdfmark[\MakeButtonField{#2}]{%
13172 pdfmark=/ANN,Raw={\PDFForm@Reset}%
13173 }%
13174 \fi
13175 \endgroup
13176 }%
13177 \def\@CheckBox[#1]#2{% parameters, label
13178 \def\Fld@name{#2}%
13179 \def\Fld@default{0}%
13180 \begingroup
13181 \def\Fld@width{\DefaultWidthofCheckBox}%
13182 \def\Fld@height{\DefaultHeightofCheckBox}%
13183 \expandafter\HyField@SetKeys\expandafter{%
13184 \DefaultOptionsofCheckBox,#1%
13185 }%
13186 \HyField@FlagsCheckBox
13187 \ifFld@hidden\def\Fld@width{1sp}\fi
13188 \LayoutCheckField{#2}{%
13189 \leavevmode
13190 \Hy@escapeform\PDFForm@Check
13191 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
13192 pdfmark=/ANN,Raw={\PDFForm@Check}%
13193 }%
13194 }%
13195 \endgroup
13196 }
13197 \pdfmark

```

## 48.2 HyperTeX

```

13198 \hypertex
13199 \def\@Form[#1]{%
13200 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13201 }
13202 \let\@endForm\ltx@empty
13203 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13204 \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
13205 }

```

```

13206 \def\@TextField[#1]#2{% parameters, label
13207 \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
13208 }
13209 \def\@CheckBox[#1]#2{% parameters, label
13210 \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
13211 }
13212 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13213 \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
13214 }
13215 \def\@PushButton[#1]#2{% parameters, label
13216 \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
13217 }
13218 \def\@Reset[#1]#2{%
13219 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13220 }
13221 \def\@Submit[#1]#2{%
13222 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13223 }
13224 \</hypertex>

```

### 48.3 TeX4ht

```

13225 \< *tex4ht>
13226 \def\@Form[#1]{%
13227 \kvsetkeys{Form}{#1}%
13228 \HCode{<form action="\Form@action" method="\Form@method">}%
13229 }
13230 \def\@endForm{\HCode{</form>}}
13231 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13232 \Hy@Message{Sorry, TeX4ht does not support gauges}%
13233 }
13234 \def\@TextField[#1]#2{% parameters, label
13235 \let\Hy@reserved@a\@empty
13236 \def\Fld@name{#2}%
13237 \let\Fld@default\tx@empty
13238 \bgroup
13239 \Field@toks={ }%
13240 \kvsetkeys{Field}{#1}%
13241 \HCode{<label for="\Fld@name">#2</label>}%
13242 \ifFld@password
13243 \@@PasswordField
13244 \else
13245 \@@TextField
13246 \fi
13247 \egroup
13248 }
13249 \def\@@PasswordField{%
13250 \HCode{%
13251 <input type="password" %
13252 id="\Fld@name" %
13253 name="\Fld@name" %
13254 \ifFld@hidden type="hidden" \fi
13255 value="\Fld@default" %
13256 \the\Field@toks
13257 >%
13258 }%
13259 }
13260 \def\@@TextField{%

```

```

13261 \ifFld@multiline
13262 \HCode{<textarea %
13263 \ifFld@readonly readonly \fi
13264 id="\Fld@name" %
13265 name="\Fld@name" %
13266 \ifFld@hidden type="hidden" \fi
13267 \the\Field@toks>%
13268 }%
13269 \Fld@default
13270 \HCode{</textarea>}%
13271 \else
13272 \HCode{<input type="textbox" %
13273 \ifFld@readonly readonly \fi
13274 id="\Fld@name" %
13275 name="\Fld@name" %
13276 \ifFld@hidden type="hidden" \fi
13277 value="\Fld@default" %
13278 \the\Field@toks>%
13279 }%
13280 \fi
13281 }
13282 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13283 \def\Fld@name{#2}%
13284 \let\Fld@default\ltx@empty
13285 \let\Hy@reserved@a\relax
13286 \begingroup
13287 \expandafter\Fld@findlength#3\\%
13288 \Field@toks={ }%
13289 \kvsetkeys{Field}{#1}%
13290 #2%
13291 \ifFld@radio
13292 \expandafter\@@Radio#3\\%
13293 \else
13294 \expandafter\@@Menu#3\\%
13295 \fi
13296 \endgroup
13297 }
13298 \def\Fld@findlength#1\\{%
13299 \Fld@menulength=0 %
13300 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
13301 }
13302 \def\@@Menu#1\\{%
13303 \HCode{<select size="\the\Fld@menulength" %
13304 name="\Fld@name" %
13305 \the\Field@toks>%
13306 }%
13307 \@for\@curropt:=#1\do{%
13308 \expandafter\Fld@checkequals\@curropt==\\%
13309 \HCode{<option %
13310 \ifx\@curropt\Fld@default selected \fi
13311 value="\@currValue">\@currDisplay</option>%
13312 }%
13313 }%
13314 \HCode{</select>}%
13315 }
13316 \def\@@Radio#1\\{%
13317 \@for\@curropt:=#1\do{%

```

```

13318 \expandafter\Fld@checkequals\@curropt==\\%
13319 \HCode{<input type="radio" %
13320 \ifx\@curropt\Fld@default checked \fi
13321 name="\Fld@name" %
13322 value="\@currValue" %
13323 \the\Fld@toks>%
13324 }%
13325 \@currDisplay
13326 }%
13327 }
13328 \def\@PushButton[#1]#2{% parameters, label
13329 \def\Fld@name{#2}%
13330 \bgroup
13331 \Fld@toks={ }%
13332 \kvsetkeys{Fld}{#1}%
13333 \HCode{<input type="button" %
13334 name="\Fld@name" %
13335 value="#2" %
13336 \the\Fld@toks>%
13337 }%
13338 \HCode{</button>}%
13339 \egroup
13340 }
13341 \def\@Submit[#1]#2{%
13342 \HCode{<button type="submit">#2</button>}%
13343 }
13344 \def\@Reset[#1]#2{%
13345 \HCode{<button type="reset">#2</button>}%
13346 }
13347 \def\@CheckBox[#1]#2{% parameters, label
13348 \let\Hy@reserved@a\@empty
13349 \def\Fld@name{#2}%
13350 \def\Fld@default{0}%
13351 \bgroup
13352 \Fld@toks={ }%
13353 \kvsetkeys{Fld}{#1}%
13354 \HCode{<input type="checkbox" %
13355 \ifFld@checked checked \fi
13356 \ifFld@disabled disabled \fi
13357 \ifFld@readonly readonly \fi
13358 name="\Fld@name" %
13359 \ifFld@hidden type="hidden" \fi
13360 value="\Fld@default" %
13361 \the\Fld@toks>%
13362 #2%
13363 }%
13364 \egroup
13365 }
13366 </tex4ht>

```

## 48.4 pdfTeX

```

13367 (*pdfTeX)
13368 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13369 \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
13370 }
13371 \def\MakeFieldObject#1#2{\sbox0{#1}%
13372 \immediate\pdfxform0 %

```

```

13373 \expandafter\edef\csname #2Object\endcsname{%
13374 \the\pdflastxform\space 0 R%
13375 }%
13376 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}}%
13377 }%
13378 \let\HyField@afields\ltx@empty
13379 \begingroup\expandafter\expandafter\expandafter\endgroup
13380 \expandafter\ifx\csname pdflastlink\endcsname\relax
13381 \let\HyField@AddToFields\relax
13382 \PackageInfo{hyperref}{%
13383 You need pdfTeX 1.40.0 for setting the /Fields entry.%
13384 \MessageBreak
13385 Adobe Reader/Acrobat accepts an empty /Field array,%
13386 \MessageBreak
13387 but other PDF viewers might complain%
13388 }%
13389 \else
13390 \let\HyField@AuxAddToFields\ltx@gobble
13391 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
13392 \Hy@AtBeginDocument{%
13393 \if@filesw
13394 \immediate\write\@mainaux{%
13395 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
13396 }%
13397 \fi
13398 \let\HyField@AfterAuxOpen\@firstofone
13399 \def\HyField@AuxAddToFields#1{%
13400 \xdef\HyField@afields{%
13401 \ifx\HyField@afields\@empty
13402 \else
13403 \HyField@afields
13404 \space
13405 \fi
13406 #1 0 R%
13407 }%
13408 }%
13409 }%
13410 \def\HyField@AddToFields{%
13411 \expandafter\HyField@@AddToFields\expandafter{%
13412 \the\pdflastlink
13413 }%
13414 }%
13415 \def\HyField@@AddToFields#1{%
13416 \HyField@AfterAuxOpen{%
13417 \if@filesw
13418 \write\@mainaux{%
13419 \string\HyField@AuxAddToFields{#1}%
13420 }%
13421 \fi
13422 }%
13423 }%
13424 \fi
13425 \def\@Form[#1]{%
13426 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13427 \kvsetkeys{Form}{#1}%
13428 \pdf@ifdraftmode{}{%
13429 \Hy@FormObjects

```



```

13430 \ifnum\pdfTeXversion>13 %
13431 \pdfrefobj\OBJ@pdfdocencoding
13432 \pdfrefobj\OBJ@ZaDb
13433 \pdfrefobj\OBJ@Helv
13434 \fi
13435 \AtVeryEndDocument{%
13436 \immediate\pdfobj{%
13437 <<%
13438 /Fields[\HyField@afields]%
13439 /DR<<%
13440 /Font<<%
13441 /ZaDb \OBJ@ZaDb\space 0 R%
13442 /Helv \OBJ@Helv\space 0 R%
13443 >>%
13444 >>%
13445 /DA(/Helv 10 Tf 0 g)%
13446 \ifHy@pdfa
13447 \else
13448 \ifHyField@NeedAppearances
13449 /NeedAppearances true%
13450 \fi
13451 \fi
13452 >>%
13453 }%
13454 \edef\OBJ@acroform{\the\pdflastobj}%
13455 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
13456 }%
13457 }%
13458 \MakeFieldObject{%

```

Same as \ding{123} of package pifont.

```

13459 \begingroup
13460 \fontfamily{pzd}%
13461 \fontencoding{U}%
13462 \fontseries{m}%
13463 \fontshape{n}%
13464 \selectfont
13465 \char123 %
13466 \endgroup
13467 }{Ding}%
13468 \MakeFieldObject{%
13469 \fbox{\textcolor{yellow}{\textsf{Submit}}}}%
13470 }{Submit}%
13471 \MakeFieldObject{%
13472 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}}%
13473 }{SubmitP}%
13474 }
13475 \let\@endForm\ltx@empty
13476 \let\HyAnn@AbsPageLabel\ltx@empty
13477 \let\Fld@pageobjref\ltx@empty
13478 \ltx@ifundefined{pdfpageref}{%
13479 }{%
13480 \ltx@ifpackageloaded{zref-abspage}{%
13481 \newcount\HyAnn@Count
13482 \HyAnn@Count=\ltx@zero
13483 \def\HyAnn@AbsPageLabel{%
13484 \global\advance\HyAnn@Count by\ltx@one
13485 \zref@labelbyprops{HyAnn@the\HyAnn@Count}{abspage}%

```

```

13486 \zref@refused{HyAnn@the\HyAnn@Count}%
13487 }%
13488 \def\Fld@pageobjref{%
13489 \zref@ifrefundefined{HyAnn@the\HyAnn@Count}{%
13490 }{%
13491 \zref@ifrefcontainsprop{HyAnn@the\HyAnn@Count}{abspage}{%
13492 /P \pdfpageref
13493 \zref@extractdefault{HyAnn@the\HyAnn@Count}{abspage}{1} %
13494 \space 0 R%
13495 }{%
13496 }%
13497 }%
13498 }%
13499 }{%
13500 }%
13501 }

13502 \def\@TextField[#1]#2{% parameters, label
13503 \def\Fld@name{#2}%
13504 \let\Fld@default\ltx@empty
13505 \let\Fld@value\@empty
13506 \def\Fld@width{\DefaultWidthofText}%
13507 \def\Fld@height{%
13508 \ifFld@multiline
13509 \DefaultHeightofTextMultiline
13510 \else
13511 \DefaultHeightofText
13512 \fi
13513 }%
13514 \begingroup
13515 \expandafter\HyField@SetKeys\expandafter{%
13516 \DefaultOptionsofText,#1%
13517 }%
13518 \PDFForm@Name
13519 \HyField@FlagsText
13520 \ifFld@hidden\def\Fld@width{1sp}\fi
13521 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13522 \LayoutTextField{#2}{%
13523 \leavevmode
13524 \HyAnn@AbsPageLabel
13525 \Hy@escapeform\PDFForm@Text
13526 \pdfstartlink user {\PDFForm@Text}\relax
13527 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
13528 \HyField@AddToFields
13529 }%
13530 \endgroup
13531 }

13532 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13533 \def\Fld@name{#2}%
13534 \let\Fld@default\relax
13535 \let\Fld@value\relax
13536 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13537 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13538 \begingroup
13539 \Fld@menulength=0 %
13540 \@tempdima\z@
13541 \@for\@curropt:=#3\do{%
13542 \expandafter\Fld@checkequals\@curropt==\%

```

```

13543 \Hy@StepCount\Fld@menulength
13544 \settowidth{\@tempdimb}{\@currDisplay}%
13545 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13546 }%
13547 \advance\@tempdima by 15\p@
13548 \begingroup
13549 \HyField@SetKeys{#1}%
13550 \edef\x{\endgroup
13551 \noexpand\expandafter
13552 \noexpand\HyField@SetKeys
13553 \noexpand\expandafter{%
13554 \expandafter\noexpand\csname DefaultOptionsof%
13555 \ifFld@radio
13556 Radio%
13557 \else
13558 \ifFld@combo
13559 \ifFld@popdown
13560 PopdownBox%
13561 \else
13562 ComboBox%
13563 \fi
13564 \else
13565 ListBox%
13566 \fi
13567 \fi
13568 \endcsname
13569 }%
13570 }\x
13571 \HyField@SetKeys{#1}%
13572 \PDFForm@Name
13573 \ifFld@hidden\def\Fld@width{1sp}\fi
13574 \ifx\Fld@value\relax
13575 \let\Fld@value\Fld@default
13576 \fi
13577 \LayoutChoiceField{#2}{%
13578 \ifFld@radio
13579 \HyField@FlagsRadioButton
13580 \@@Radio{#3}%
13581 \else
13582 \begingroup
13583 \HyField@FlagsChoice
13584 \ifdim\Fld@width<\@tempdima
13585 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13586 \edef\Fld@width{\the\@tempdima}%
13587 \fi
13588 \ifFld@combo
13589 \else
13590 \@tempdima=\the\Fld@menulength\Fld@charsize
13591 \advance\@tempdima by \Fld@borderwidth bp %
13592 \advance\@tempdima by \Fld@borderwidth bp %
13593 \edef\Fld@height{\the\@tempdima}%
13594 \fi
13595 \@@ListBox{#3}%
13596 \endgroup
13597 \fi
13598 }%
13599 \endgroup

```

```

13600 }
13601 \def\@@Radio#1{%
13602   \Fld@listcount=0 %
13603   \EdefEscapeName\Fld@default{\Fld@default}%
13604   \@for\@curropt:=#1\do{%
13605     \expandafter\Fld@checkequals\@curropt==\%
13606     \EdefEscapeName\@currValue{\@currValue}%
13607     \Hy@StepCount\Fld@listcount
13608     \@currDisplay\space
13609     \leavevmode
13610     \HyAnn@AbsPageLabel
13611     \Hy@escapeform\PDFForm@Radio
13612     \pdfstartlink user {%
13613       \PDFForm@Radio
13614       /AP<<%
13615       /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.

```

13616       /\@currValue\space \DingObject
13617       >>%
13618       >>%
13619     }%
13620     \relax
13621     \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
13622     \ifnum\Fld@listcount=1 %
13623       \HyField@AddToFields
13624     \fi
13625     \space % deliberate space between radio buttons
13626   }%
13627 }
13628 \newcount\Fld@listcount
13629 \def\@@Listbox#1{%
13630   \HyField@PDFChoices{#1}%
13631   \leavevmode
13632   \HyAnn@AbsPageLabel
13633   \Hy@escapeform\PDFForm@List
13634   \pdfstartlink user {\PDFForm@List}\relax
13635   \MakeChoiceField{\Fld@width}{\Fld@height}%
13636   \pdfendlink
13637   \HyField@AddToFields
13638 }
13639 \def\@PushButton[#1]#2{% parameters, label
13640   \def\Fld@name{#2}%
13641   \begingroup
13642     \expandafter\HyField@SetKeys\expandafter{%
13643       \DefaultOptionsofPushButton,#1%
13644     }%
13645     \PDFForm@Name
13646     \ifHy@pdfa
13647       \Hy@Error{%
13648         PDF/A: Push button with JavaScript is prohibited%
13649       }\@ehc
13650     \LayoutPushButtonField{%
13651       \leavevmode
13652       \MakeButtonField{#2}%
13653     }%

```

```

13654 \else
13655 \HyField@FlagsPushButton
13656 \ifFld@hidden\def\Fld@width{1sp}\fi
13657 \LayoutPushButtonField{%
13658 \leavevmode
13659 \HyAnn@AbsPageLabel
13660 \Hy@escapeform\PDFForm@Push
13661 \pdfstartlink user {\PDFForm@Push}\relax
13662 \MakeButtonField{#2}%
13663 \pdfendlink
13664 \HyField@AddToFields
13665 }%
13666 \fi
13667 \endgroup
13668 }
13669 \def\@Submit[#1]#2{%
13670 \def\Fld@width{\DefaultWidthofSubmit}%
13671 \def\Fld@height{\DefaultHeightofSubmit}%
13672 \begingroup
13673 \expandafter\HyField@SetKeys\expandafter{%
13674 \DefaultOptionsofSubmit,#1%
13675 }%
13676 \HyField@FlagsPushButton
13677 \HyField@FlagsSubmit
13678 \ifFld@hidden\def\Fld@width{1sp}\fi
13679 \leavevmode
13680 \HyAnn@AbsPageLabel
13681 \Hy@escapeform\PDFForm@Submit
13682 \pdfstartlink user {%
13683 \PDFForm@Submit
13684 /AP<</N \SubmitObject/D \SubmitPObject>>%
13685 }%
13686 \relax
13687 \MakeButtonField{#2}%
13688 \pdfendlink
13689 \HyField@AddToFields
13690 \endgroup
13691 }
13692 \def\@Reset[#1]#2{%
13693 \def\Fld@width{\DefaultWidthofReset}%
13694 \def\Fld@height{\DefaultHeightofReset}%
13695 \begingroup
13696 \expandafter\HyField@SetKeys\expandafter{%
13697 \DefaultOptionsofReset,#1%
13698 }%
13699 \leavevmode
13700 \ifHy@pdfa
13701 \Hy@Error{%
13702 PDF/A: Reset action is prohibited%
13703 } \@ehc
13704 \MakeButtonField{#2}%
13705 \else
13706 \HyField@FlagsPushButton
13707 \ifFld@hidden\def\Fld@width{1sp}\fi
13708 \HyAnn@AbsPageLabel
13709 \Hy@escapeform\PDFForm@Reset
13710 \pdfstartlink user {\PDFForm@Reset}\relax

```

```

13711 \MakeButtonField{#2}%
13712 \pdfendlink
13713 \HyField@AddToFields
13714 \fi
13715 \endgroup
13716 }
13717 \def\@CheckBox[#1]#2{% parameters, label
13718 \def\Fld@name{#2}%
13719 \def\Fld@default{0}%
13720 \begingroup
13721 \def\Fld@width{\DefaultWidthofCheckBox}%
13722 \def\Fld@height{\DefaultHeightofCheckBox}%
13723 \expandafter\HyField@SetKeys\expandafter{%
13724 \DefaultOptionsofCheckBox,#1%
13725 }%
13726 \PDFForm@Name
13727 \HyField@FlagsCheckBox
13728 \ifFld@hidden\def\Fld@width{1sp}\fi
13729 \LayoutCheckField{#2}{%
13730 \leavevmode
13731 \HyAnn@AbsPageLabel
13732 \Hy@escapeform\PDFForm@Check
13733 \pdfstartlink user {\PDFForm@Check}\relax
13734 \MakeCheckField{\Fld@width}{\Fld@height}%
13735 \pdfendlink
13736 \HyField@AddToFields
13737 }%
13738 \endgroup
13739 }
13740 \def\Hy@FormObjects{%
13741 \pdfobj {%
13742 <<%
13743 /Type/Encoding%
13744 /Differences[%
13745 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13746 /ring/tilde %
13747 39/quotesingle %
13748 96/grave %
13749 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13750 /fraction/guilsinglleft/guilsingright/minus/perthousand%
13751 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13752 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13753 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13754 164/currency %
13755 166/brokenbar %
13756 168/dieresis/copyright/ordfeminine %
13757 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13758 /twosuperior/threesuperior/acute/mu %
13759 183/periodcentered/cedilla/onesuperior/ordmasculine %
13760 188/onequarter/onehalf/threequarters %
13761 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13762 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13763 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13764 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13765 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13766 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13767 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%

```

```

13768      /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
13769      /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
13770      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
13771      ]%
13772      >>%
13773      }%
13774      \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
13775      \pdfobj{%
13776      <<%
13777      /Type/Font%
13778      /Subtype/Type1%
13779      /Name/ZaDb%
13780      /BaseFont/ZapfDingbats%
13781      >>%
13782      }%
13783      \xdef\OBJ@ZaDb{\the\pdflastobj}%
13784      \pdfobj{%
13785      <<%
13786      /Type/Font%
13787      /Subtype/Type1%
13788      /Name/Helv%
13789      /BaseFont/Helvetica%
13790      /Encoding \OBJ@pdfdocencoding\space 0 R%
13791      >>%
13792      }%
13793      \xdef\OBJ@Helv{\the\pdflastobj}%
13794      \global\let\Hy@FormObjects\relax
13795      }
13796      </pdfTeX>

```

## 48.5 dvipdfm, xetex

D. P. Story adapted the pdf $\TeX$  forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```
13797 <*\dvipdfm | xetex>
```

\@Gauge

```

13798 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13799   \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13800 }

```

\@Form

```

13801 \def\@Form[#1]{%
13802   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13803   \kvsetkeys{Form}{#1}%
13804   \Hy@FormObjects
13805   \@pdfm@mark{obj @afields []}%
13806   \@pdfm@mark{obj @corder []}%
13807   \@pdfm@mark{%
13808     obj @aform <<%
13809     /Fields @afields%
13810     /DR<<%
13811     /Font<<%
13812     /ZaDb @OBJZaDb%
13813     /Helv @OBJHelv%
13814     >>%
13815     >>%
13816     /DA(/Helv 10 Tf 0 g)%

```

```

13817      /CO @corder%
13818      \ifHy@pdfa
13819      \else
13820        \ifHyField@NeedAppearances
13821          /NeedAppearances true%
13822        \fi
13823      \fi
13824    >>%
13825  }%
13826  \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
13827 }

\@endForm

13828 \let\@endForm\ltx@empty

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.
13829 \def\dvipdfm@setdim{%
13830   height \the\ht\pdfm@box\space
13831   width \the\wd\pdfm@box\space
13832   depth \the\dp\pdfm@box\space
13833 }

\HyField@AnnotCount
13834 \newcount\HyField@AnnotCount
13835 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount
13836 \def\HyField@AdvanceAnnotCount{%
13837   \global\advance\HyField@AnnotCount\@ne
13838 }

\HyField@TheAnnotCount
13839 \def\HyField@TheAnnotCount{%
13840   \the\HyField@AnnotCount
13841 }

\Fld@pageobjref
13842 \def\Fld@pageobjref{/P @thispage}%

\@TextField
13843 \def\@TextField[#1]#2{% parameters, label
13844   \def\Fld@name{#2}%
13845   \let\Fld@default\ltx@empty
13846   \let\Fld@value\@empty
13847   \def\Fld@width{\DefaultWidthofText}%
13848   \def\Fld@height{%
13849     \ifFld@multiline
13850       \DefaultHeightofTextMultiline
13851     \else
13852       \DefaultHeightofText
13853     \fi
13854   }%
13855   \begingroup
13856     \expandafter\HyField@SetKeys\expandafter{%
13857       \DefaultOptionsofText,#1%
13858     }%

```



```

13859 \PDFForm@Name
13860 \HyField@FlagsText
13861 \ifFld@hidden\def\Fld@width{1sp}\fi
13862 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13863 \setbox\pdfm@box=\hbox{%
13864   \MakeTextField{\Fld@width}{\Fld@height}%
13865 }%
13866 \HyField@AdvanceAnnotCount
13867 \LayoutTextField{#2}{%
13868   \leavevmode
13869   \Hy@escapeform\PDFForm@Text
13870   \@pdfm@mark{%
13871     ann @text\HyField@TheAnnotCount\space
13872     \dvi pdfm@setdim << \PDFForm@Text >>%
13873   }%
13874 }%
13875 \unhbox\pdfm@box
13876 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
13877 % record in @afields array
13878 \endgroup
13879 }

```

\@ChoiceMenu

```

13880 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13881   \def\Fld@name{#2}%
13882   \let\Fld@default\relax
13883   \let\Fld@value\relax
13884   \def\Fld@width{\DefaultWidthofChoiceMenu}%
13885   \def\Fld@height{\DefaultHeightofChoiceMenu}%
13886   \begingroup
13887     \Fld@menulength=0 %
13888     \@tempdima\z@
13889     \@for\@curropt:=#3\do{%
13890       \expandafter\Fld@checkequals\@curropt==\%
13891       \Hy@StepCount\Fld@menulength
13892       \settowidth{\@tempdimb}{\@currDisplay}%
13893       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13894     }%
13895     \advance\@tempdima by 15\p@
13896     \begingroup
13897       \HyField@SetKeys{#1}%
13898     \edef\x{\endgroup
13899       \noexpand\expandafter
13900       \noexpand\HyField@SetKeys
13901       \noexpand\expandafter{%
13902         \expandafter\noexpand\curname DefaultOptionsof%
13903         \ifFld@radio
13904           Radio%
13905         \else
13906           \ifFld@combo
13907             \ifFld@popdown
13908               PopdownBox%
13909             \else
13910               ComboBox%
13911             \fi
13912           \else
13913             ListBox%
13914           \fi

```

```

13915     \fi
13916     \endcsname
13917   }%
13918 } \x
13919 \HyField@SetKeys{#1}%
13920 \PDFForm@Name
13921 \ifFld@hidden\def\Fld@width{1sp}\fi
13922 \ifx\Fld@value\relax
13923   \let\Fld@value\Fld@default
13924 \fi
13925 \LayoutChoiceField{#2}{%
13926   \ifFld@radio
13927     \HyField@FlagsRadioButton
13928     \@@Radio{#3}%
13929   \else
13930     \begingroup
13931     \HyField@FlagsChoice
13932     \ifdim\Fld@width<\@tempdima
13933       \ifdim\@tempdima<1cm\@tempdima1cm\fi
13934       \edef\Fld@width{\the\@tempdima}%
13935     \fi
13936     \ifFld@combo
13937     \else
13938       \@tempdima=\the\Fld@menulength\Fld@charsize
13939       \advance\@tempdima by \Fld@borderwidth bp %
13940       \advance\@tempdima by \Fld@borderwidth bp %
13941       \edef\Fld@height{\the\@tempdima}%
13942     \fi
13943     \@@ListBox{#3}%
13944   \endgroup
13945 \fi
13946 }%
13947 \endgroup
13948 }

```

\@@Radio

```

13949 \def\@@Radio#1{%
13950   \Fld@listcount=0 %
13951   \EdefEscapeName\Fld@default{\Fld@default}%
13952   \setbox\pdfm@box=\hbox{%
13953     \MakeRadioField{\Fld@width}{\Fld@height}%
13954   }%
13955   \@for\@curropt:=#1\do{%
13956     \expandafter\Fld@checkequals\@curropt==\%
13957     \EdefEscapeName\@currValue{\@currValue}%
13958     \Hy@StepCount\Fld@listcount
13959     \@currDisplay\space
13960     \leavevmode
13961     \Hy@escapeform\PDFForm@Radio
13962     \ifnum\Fld@listcount=1 %
13963       \HyField@AdvanceAnnotCount
13964     \fi
13965     \@pdfm@mark{%
13966       ann %
13967       \ifnum\Fld@listcount=1 %
13968         @radio\HyField@TheAnnotCount%
13969       \space
13970     \fi

```

```

13971 \dviPDFForm@setdim
13972 <<%
13973 \PDFForm@Radio
13974 /AP<</N<</\@currValue /null>>>>%
13975 >>%
13976 }%
13977 \unhcopy\pdfm@box\space% deliberate space between radio buttons
13978 \ifnum\Fld@listcount=1 %
13979 \@pdfm@mark{%
13980 put @afields @radio\HyField@TheAnnotCount
13981 }%
13982 \fi
13983 }%
13984 }

\Fld@listcount
13985 \newcount\Fld@listcount

@@@Listbox
13986 \def\@@Listbox#1{%
13987 \HyField@PDFChoices{#1}%
13988 \setbox\pdfm@box=\hbox{%
13989 \MakeChoiceField{\Fld@width}{\Fld@height}%
13990 }%
13991 \leavevmode
13992 \Hy@escapeform\PDFForm@List
13993 \HyField@AdvanceAnnotCount
13994 \@pdfm@mark{%
13995 ann @list\HyField@TheAnnotCount\space
13996 \dviPDFForm@setdim
13997 <<\PDFForm@List>>%
13998 }%
13999 \unhbox\pdfm@box
14000 \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
14001 }

\@PushButton
14002 \def\@PushButton[#1]#2{% parameters, label
14003 \def\Fld@name{#2}%
14004 \begingroup
14005 \expandafter\HyField@SetKeys\expandafter{%
14006 \DefaultOptionsofPushButton,#1%
14007 }%
14008 \PDFForm@Name
14009 \ifHy@pdfa
14010 \Hy@Error{%
14011 PDF/A: Push button with JavaScript is prohibited%
14012 }\@ehc
14013 \LayoutPushButtonField{%
14014 \leavevmode
14015 \MakeButtonField{#2}%
14016 }%
14017 \else
14018 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14019 \HyField@FlagsPushButton
14020 \ifFld@hidden\def\Fld@width{1sp}\fi
14021 \HyField@AdvanceAnnotCount

```

```

14022 \LayoutPushButtonField{%
14023 \leavevmode
14024 \Hy@escapeform\PDFForm@Push
14025 \@pdfm@mark{%
14026 ann @push\HyField@TheAnnotCount\space
14027 \dvi pdfm@setdim
14028 <<\PDFForm@Push>>%
14029 }%
14030 }%
14031 \unhbox\pdfm@box
14032 \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
14033 \fi
14034 \endgroup
14035 }

```

\@Submit

```

14036 \def\@Submit[#1]#2{%
14037 \def\Fld@width{\DefaultWidthofSubmit}%
14038 \def\Fld@height{\DefaultHeightofSubmit}%
14039 \begingroup
14040 \expandafter\HyField@SetKeys\expandafter{%
14041 \DefaultOptionsofSubmit,#1%
14042 }%
14043 \HyField@FlagsPushButton
14044 \HyField@FlagsSubmit
14045 \ifFld@hidden\def\Fld@width{1sp}\fi
14046 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14047 \leavevmode
14048 \Hy@escapeform\PDFForm@Submit
14049 \HyField@AdvanceAnnotCount
14050 \@pdfm@mark{%
14051 ann @submit\HyField@TheAnnotCount\space
14052 \dvi pdfm@setdim
14053 <<\PDFForm@Submit>>%
14054 }%
14055 \unhbox\pdfm@box%
14056 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
14057 \endgroup
14058 }

```

\@Reset

```

14059 \def\@Reset[#1]#2{%
14060 \def\Fld@width{\DefaultWidthofReset}%
14061 \def\Fld@height{\DefaultHeightofReset}%
14062 \begingroup
14063 \expandafter\HyField@SetKeys\expandafter{%
14064 \DefaultOptionsofReset,#1%
14065 }%
14066 \leavevmode
14067 \ifHy@pdfa
14068 \Hy@Error{%
14069 PDF/A: Reset action is prohibited%
14070 }\@ehc
14071 \MakeButtonField{#2}%
14072 \else
14073 \HyField@FlagsPushButton
14074 \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

14075 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14076 \Hy@escapeform\PDFForm@Reset
14077 \HyField@AdvanceAnnotCount
14078 \@pdfm@mark{%
14079   ann @reset\HyField@TheAnnotCount\space
14080   \dvi pdfm@setdim
14081   <<\PDFForm@Reset>>%
14082 }%
14083 \unhbox\pdfm@box
14084 \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
14085 \fi
14086 \endgroup
14087 }

```

\@CheckBox

```

14088 \def\@CheckBox[#1]#2{% parameters, label
14089   \def\Fld@name{#2}%
14090   \def\Fld@default{0}%
14091   \begingroup
14092     \def\Fld@width{\DefaultWidthofCheckBox}%
14093     \def\Fld@height{\DefaultHeightofCheckBox}%
14094     \expandafter\HyField@SetKeys\expandafter{%
14095       \DefaultOptionsofCheckBox,#1%
14096     }%
14097     \PDFForm@Name
14098     \HyField@FlagsCheckBox
14099     \ifFld@hidden\def\Fld@width{1sp}\fi
14100     \setbox\pdfm@box=\hbox{%
14101       \MakeCheckField{\Fld@width}{\Fld@height}%
14102     }%
14103     \HyField@AdvanceAnnotCount
14104     \LayoutCheckField{#2}{%
14105       \leavevmode
14106       \Hy@escapeform\PDFForm@Check
14107       \@pdfm@mark{%
14108         ann @check\HyField@TheAnnotCount\space
14109         \dvi pdfm@setdim
14110         <<\PDFForm@Check>>%
14111       }%
14112       \unhbox\pdfm@box
14113       \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
14114     }%
14115   \endgroup
14116 }

14117 \def\Hy@FormObjects{%
14118   \@pdfm@mark{obj @OBJpdfdocencoding%
14119     <<%
14120       /Type/Encoding%
14121       /Differences[
14122         24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
14123         39/quotesingle %
14124         96/grave %
14125         128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
14126         /fraction/guilsinglleft/guilsinglright/minus/perthousand%
14127         /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
14128         /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
14129         /Zcaron/dotlessi/lslash/oe/scaron/zcaron %

```

```

14130      164/currency %
14131      166/brokenbar %
14132      168/dieresis/copyright/ordfeminine %
14133      172/logicalnot/.notdef/registered/macron/degree/plusminus%
14134      /twosuperior/threesuperior/acute/mu %
14135      183/periodcentered/cedilla/onesuperior/ordmasculine %
14136      188/onequarter/onehalf/threequarters %
14137      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
14138      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
14139      /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
14140      /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
14141      /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
14142      /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
14143      /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
14144      /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
14145      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
14146      /thorn/ydieresis%
14147      ]%
14148      >>%
14149      }%
14150      \@pdfm@mark{obj @OBJZaDb%
14151      <<%
14152      /Type/Font%
14153      /Subtype/Type1%
14154      /Name/ZaDb%
14155      /BaseFont/ZapfDingbats%
14156      >>%
14157      }%
14158      \@pdfm@mark{obj @OBJHelv%
14159      <<%
14160      /Type/Font%
14161      /Subtype/Type1%
14162      /Name/Helv%
14163      /BaseFont/Helvetica%
14164      /Encoding @OBJpdfdocencoding%
14165      >>%
14166      }%
14167      \global\let\Hy@FormObjects\relax
14168      }
14169      </dvipdfm | xetex>

```

## 48.6 Common forms part

```

14170      (*pdfform)

\Fld@pageobjref

14171      \providecommand*{\Fld@pageobjref}{}

\Hy@escapestring

14172      \begingroup\expandafter\expandafter\expandafter\endgroup
14173      \expandafter\ifx\csname pdf@escapestring\endcsname\relax
14174      \let\Hy@escapestring\@firstofone
14175      \def\Hy@escapeform#1{%
14176      \ifHy@pdfescapeform
14177      \def\Hy@escapestring##1{%
14178      \noexpand\Hy@escapestring{\noexpand##1}%
14179      }%

```

```

14180 \edef\Hy@temp{#1}%
14181 \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
14182 \def\Hy@escapestring##1{%
14183 \ifundefined{Hy@esc@\string##1}{%
14184 ##1%
14185 \ThisShouldNotHappen
14186 }{%
14187 \csname Hy@esc@\string##1\endcsname
14188 }%
14189 }%
14190 \else
14191 \let\Hy@escapestring\@firstofone
14192 \fi
14193 }%
14194 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
14195 \ifx\#3\%
14196 \else
14197 \expandafter
14198 \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
14199 \ltx@ReturnAfterFi{%
14200 \Hy@@escapeform#3\@nil
14201 }%
14202 \fi
14203 }%
14204 \else
14205 \def\Hy@escapeform#1{%
14206 \ifHy@pdfescapeform
14207 \let\Hy@escapestring\pdfescapestring
14208 \else
14209 \let\Hy@escapestring\@firstofone
14210 \fi
14211 }%
14212 \Hy@escapeform{}%
14213 \fi

```

\PDFForm@Name

```

14214 \def\PDFForm@Name{%
14215 \PDFForm@@Name\Fld@name
14216 \ifx\Fld@altname\relax
14217 \else
14218 \PDFForm@@Name\Fld@altname
14219 \fi
14220 \ifx\Fld@mappingname\relax
14221 \else
14222 \PDFForm@@Name\Fld@mappingname
14223 \fi
14224 }

```

\PDFForm@@Name

```

14225 \def\PDFForm@@Name#1{%
14226 \begingroup
14227 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
14228 \ifHy@unicode
14229 \Hy@unicodetrue
14230 \fi
14231 \fi
14232 \Hy@Ps@XeTeXBigCharstrue

```

```

14233 \pdfstringdef\Hy@gtemp#1%
14234 \endgroup
14235 \let#1\Hy@gtemp
14236 }

```

\Fld@additionalactions

```

14237 \def\Fld@@additionalactions{%
K input (keystroke) format
14238 \ifx\Fld@keystroke@code\@empty
14239 \else
14240 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
14241 \fi
F display format
14242 \ifx\Fld@format@code\@empty
14243 \else
14244 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
14245 \fi
V validation
14246 \ifx\Fld@validate@code\@empty
14247 \else
14248 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
14249 \fi
C calculation
14250 \ifx\Fld@calculate@code\@empty
14251 \else
14252 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
14253 \fi
Fo receiving the input focus
14254 \ifx\Fld@onfocus@code\@empty
14255 \else
14256 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
14257 \fi
Bl loosing the input focus (blurred)
14258 \ifx\Fld@onblur@code\@empty
14259 \else
14260 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
14261 \fi
D pressing the mouse button (down)
14262 \ifx\Fld@onmousedown@code\@empty
14263 \else
14264 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
14265 \fi
U releasing the mouse button (up)
14266 \ifx\Fld@onmouseup@code\@empty
14267 \else
14268 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
14269 \fi
E cursor enters the annotation's active area.
14270 \ifx\Fld@onenter@code\@empty
14271 \else
14272 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
14273 \fi

```



X cursor exits the annotation's active area.

```
14274 \ifx\Fld@onexit@code\@empty
14275 \else
14276 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
14277 \fi
14278 }
14279 \def\Fld@additionalactions{%
14280 \if\Fld@@additionalactions-%
14281 \else
14282 \ifHy@pdfa
14283 \else
14284 /AA<<\Fld@@additionalactions>>%
14285 \fi
14286 \fi
14287 }
```

\Fld@annotnames

```
14288 \def\Fld@annotnames{%
14289 /T(\Fld@name)%
14290 \ifx\Fld@altname\relax
14291 \else
14292 /TU(\Fld@altname)%
14293 \fi
14294 \ifx\Fld@mappingname\relax
14295 \else
14296 /TM(\Fld@mappingname)%
14297 \fi
14298 }
```

\PDFForm@Check

```
14299 \def\PDFForm@Check{%
14300 /Subtype/Widget%
14301 \Fld@annotflags
14302 \Fld@pageobjref
14303 \Fld@annotnames
14304 /FT/Btn%
14305 \Fld@flags
14306 /Q \Fld@align
14307 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
14308 /MK<<%
14309 \ifnum\Fld@rotation=z@
14310 \else
14311 /R \Fld@rotation
14312 \fi
14313 \ifx\Fld@bordercolor\relax
14314 \else
14315 /BC[\Fld@bordercolor]%
14316 \fi
14317 \ifx\Fld@bcolor\relax
14318 \else
14319 /BG[\Fld@bcolor]%
14320 \fi
14321 /CA(\Hy@escapestring{\Fld@cbsymbol})%
14322 >>%
14323 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14324 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14325 /H/P%
```

```

14326 \ifFld@checked /V/Yes/AS/Yes\else /V/Off/AS/Off\fi
14327 \Fld@additionalactions
14328 }

```

\PDFForm@Push

```

14329 \ifHy@pdfa
14330 \else
14331 \def\PDFForm@Push{%
14332 /Subtype/Widget%
14333 \Fld@annotflags
14334 \Fld@pageobjref
14335 \Fld@annotnames
14336 /FT/Btn%
14337 \Fld@flags
14338 /H/P%
14339 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14340 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14341 \ifx\Fld@bordercolor\relax\else 1\fi
14342 \space
14343 \else
14344 /MK<<%
14345 \ifnum\Fld@rotation=\z@
14346 \else
14347 /R \Fld@rotation
14348 \fi
14349 \ifx\Fld@bordercolor\relax
14350 \else
14351 /BC[\Fld@bordercolor]%
14352 \fi
14353 >>%
14354 \fi
14355 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
14356 \Fld@additionalactions
14357 }%
14358 \fi

```

\PDFForm@List

```

14359 \def\PDFForm@List{%
14360 /Subtype/Widget%
14361 \Fld@annotflags
14362 \Fld@pageobjref
14363 \Fld@annotnames
14364 /FT/Ch%
14365 \Fld@flags
14366 /Q \Fld@align
14367 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14368 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14369 \ifx\Fld@bordercolor\relax\else 1\fi
14370 \ifx\Fld@bcolor\relax \else 1\fi
14371 \space
14372 \else
14373 /MK<<%
14374 \ifnum\Fld@rotation=\z@
14375 \else
14376 /R \Fld@rotation
14377 \fi
14378 \ifx\Fld@bordercolor\relax

```

```

14379 \else
14380 /BC[\Fld@bordercolor]%
14381 \fi
14382 \ifx\Fld@bcolor\relax
14383 \else
14384 /BG[\Fld@bcolor]%
14385 \fi
14386 >>%
14387 \fi
14388 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14389 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14390 \Fld@choices
14391 \Fld@additionalactions
14392 }

```

#### \PDFForm@Radio

```

14393 \def\PDFForm@Radio{%
14394 /Subtype/Widget%
14395 \Fld@annotflags
14396 \Fld@pageobjref
14397 \Fld@annotnames
14398 /FT/Btn%
14399 \Fld@flags
14400 /H/P%
14401 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14402 /MK<<%
14403 \ifnum\Fld@rotation=\z@
14404 \else
14405 /R \Fld@rotation
14406 \fi
14407 \ifx\Fld@bordercolor\relax
14408 \else
14409 /BC[\Fld@bordercolor]%
14410 \fi
14411 \ifx\Fld@bcolor\relax
14412 \else
14413 /BG[\Fld@bcolor]%
14414 \fi
14415 /CA(\Hy@escapestring{\Fld@radiosymbol})%
14416 >>%
14417 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14418 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14419 \ifx\@currValue\Fld@default
14420 /V/\Fld@default
14421 /DV/\Fld@default
14422 \else
14423 /V/Off%
14424 /DV/Off%
14425 \fi
14426 \Fld@additionalactions
14427 }

```

#### \PDFForm@Text

```

14428 \def\PDFForm@Text{%
14429 /Subtype/Widget%
14430 \Fld@annotflags
14431 \Fld@pageobjref

```

```

14432 \Fld@annotnames
14433 /FT/Tx%
14434 \Fld@flags
14435 /Q \Fld@align
14436 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
14437 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14438     \ifx\Fld@bordercolor\relax\else 1\fi
14439     \ifx\Fld@bcolor\relax \else 1\fi
14440     \space
14441 \else
14442 /MK<<%
14443     \ifnum\Fld@rotation=\z@
14444     \else
14445         /R \Fld@rotation
14446     \fi
14447     \ifx\Fld@bordercolor\relax
14448     \else
14449         /BC[\Fld@bordercolor]%
14450     \fi
14451     \ifx\Fld@bcolor\relax
14452     \else
14453         /BG[\Fld@bcolor]%
14454     \fi
14455 >>%
14456 \fi
14457 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14458     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14459 /DV(\Hy@escapestring{\Fld@default})%
14460 /V(\Hy@escapestring{\Fld@value})%
14461 \Fld@additionalactions
14462 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
14463 }

```

\PDFForm@Submit

```

14464 \def\PDFForm@Submit{%
14465 /Subtype/Widget%
14466 \Fld@annotflags
14467 \Fld@pageobjref
14468 \Fld@annotnames
14469 /FT/Btn%
14470 \Fld@flags
14471 /H/P%
14472 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14473 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14474     \ifx\Fld@bordercolor\relax\else 1\fi
14475     \space
14476 \else
14477 /MK<<%
14478     \ifnum\Fld@rotation=\z@
14479     \else
14480         /R \Fld@rotation
14481     \fi
14482     \ifx\Fld@bordercolor\relax
14483     \else
14484         /BC[\Fld@bordercolor]%
14485     \fi
14486 >>%
14487 \fi

```

```

14488 /A<<%
14489 /S/SubmitForm%
14490 /F<<%
14491 /FS/URL%
14492 /F(\Hy@escapestring{\Form@action})%
14493 >>%
14494 \Fld@submitflags
14495 >>%
14496 \Fld@additionalactions
14497 }

```

\PDFForm@Reset

```

14498 \ifHy@pdfa
14499 \else
14500 \def\PDFForm@Reset{%
14501 /Subtype/Widget%
14502 \Fld@annotflags
14503 \Fld@pageobjref
14504 \Fld@annotnames
14505 /FT/Btn%
14506 \Fld@flags
14507 /H/P%
14508 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
14509 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14510 \ifx\Fld@bordercolor\relax\else 1\fi
14511 \space
14512 \else
14513 /MK<<%
14514 \ifnum\Fld@rotation=\z@
14515 \else
14516 /R \Fld@rotation
14517 \fi
14518 \ifx\Fld@bordercolor\relax
14519 \else
14520 /BC[\Fld@bordercolor]%
14521 \fi
14522 % /CA (Clear)
14523 % /AC (Done)
14524 >>%
14525 \fi
14526 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14527 /A<</S/ResetForm>>%
14528 \Fld@additionalactions
14529 }%
14530 \fi

14531 </pdfform>
14532 <*package>

```

## 49 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `repere.sty`); it needed the `repere` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in  $\text{\LaTeX}$  macros.

To write out the current section title, and its rationalized number, we have to intercept the `\@sect` command, which is rather dangerous. But how else to see the

information we need? We do the *same* for `\@ssect`, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual `\addcontentsline`

```

14533 \def\phantomsection{%
14534   \Hy@MakeCurrentHrefAuto{section*}%
14535   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
14536 }
14537 \end{package}

```

## 49.1 Bookmarks

```
14538 \begin{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.

```

14539 \def\Hy@writebookmark#1#2#3#4#5{%
14540   % section number, text, label, level, file
14541   \ifx\WriteBookmarks\relax%
14542   \else
14543     \ifnum#4>\Hy@bookmarksdepth\relax
14544     \else
14545       \@writetorep{#1}{#2}{#3}{#4}{#5}%
14546     \fi
14547   \fi
14548 }
14549 \def\Hy@currentbookmarklevel{0}
14550 \def\Hy@numberline#1{#1 }
14551 \def\@writetorep#1#2#3#4#5{%
14552   \begin{group}
14553     \edef\Hy@tempa{#5}%
14554     \ifx\Hy@tempa\Hy@bookmarkstype
14555       \edef\Hy@level{#4}%
14556       \ifx\Hy@levelcheck Y%
14557         \@tempcnta\Hy@level\relax
14558         \advance\@tempcnta by -1 %
14559         \ifnum\Hy@currentbookmarklevel<\@tempcnta
14560           \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
14561           \advance\@tempcnta by 1 %
14562           \Hy@Warning{%
14563             Difference (\the\@tempcnta) between bookmark levels is %
14564             greater \MessageBreak than one, level fixed%
14565           }%

```

```

14566 \@tempcnta\Hy@currentbookmarklevel
14567 \advance\@tempcnta by 1 %
14568 \edef\Hy@level{\the\@tempcnta}%
14569 \fi
14570 \else
14571 \global\let\Hy@levelcheck Y%
14572 \fi
14573 \global\let\Hy@currentbookmarklevel\Hy@level
14574 \@tempcnta\Hy@level\relax
14575 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
14576 \advance\@tempcnta by -1 %
14577 \edef\Hy@tempa{#3}%
14578 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
14579 \ifx\Hy@tempa\Hy@tempb
14580 \Hy@Warning{%
14581 The anchor of a bookmark and its parent's must not%
14582 \MessageBreak be the same. Added a new anchor%
14583 }%
14584 \phantomsection
14585 \fi
14586 \ifHy@bookmarksnumbered
14587 \let\numberline\Hy@numberline
14588 \let\booknumberline\Hy@numberline
14589 \let\partnumberline\Hy@numberline
14590 \let\chapternumberline\Hy@numberline
14591 \else
14592 \let\numberline\@gobble
14593 \let\booknumberline\@gobble
14594 \let\partnumberline\@gobble
14595 \let\chapternumberline\@gobble
14596 \fi
14597 \HyPsd@XeTeXBigCharstrue
14598 \pdfstringdef\Hy@tempa{#2}%
14599 \HyPsd@SanitizeForOutFile\Hy@tempa
14600 \if@filesw
14601 \stepcounter{bookmark@seq@number}%
14602 \@ifundefined{@outlinefile}{%
14603 }{%
14604 \protected@write\@outlinefile{}{%
14605 \protect\BOOKMARK
14606 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
14607 {\Hy@tempa}{\Hy@tempb}%
14608 \@percentchar\space\thebookmark@seq@number
14609 }%
14610 }%
14611 \fi
14612 \fi
14613 \endgroup
14614 }
14615 \newcounter{bookmark@seq@number}

14616 \begingroup
14617 \lccode'('= '{%
14618 \lccode'('= '}%
14619 \lccode'1=\z@
14620 \lccode'2=\z@
14621 \lccode'3=\z@
14622 \lccode'5=\z@

```

```

14623 \lccode'7=\z@
14624 \lccode'\#=\z@
14625 \lccode'\'=\z@
14626 \lccode'\{=\z@
14627 \lccode'\}=\z@
14628 \lowercase{%
14629 \endgroup
14630 \def\HyPsd@SanitizeForOutFile#1{%
14631   \@onelevel@sanitize\Hy@tempa
14632   \escapechar'\%
14633   \edef\Hy@tempa{%
14634     \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
14635   }%
14636   \edef\Hy@tempa{%
14637     \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
14638   }%
14639 }%
14640 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
14641   #1%
14642   \ifx\\#2\\%
14643     \expandafter\ltx@gobble
14644   \else
14645     \expandafter\ltx@firstofone
14646   \fi
14647   {%
14648     \string\173%
14649     \HyPsd@SanitizeOut@BraceLeft#2\@nil
14650   }%
14651 }%
14652 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
14653   #1%
14654   \ifx\\#2\\%
14655     \expandafter\ltx@gobble
14656   \else
14657     \expandafter\ltx@firstofone
14658   \fi
14659   {%
14660     \string\175%
14661     \HyPsd@SanitizeOut@BraceRight#2\@nil
14662   }%
14663 }%
14664 }

```

In the call of \BOOKMARK the braces around #4 are omitted, because it is not likely, that the level number contains ].

```

14665 \newcommand{\currentpdfbookmark}{%
14666   \pdfbookmark[\Hy@currentbookmarklevel]%
14667 }
14668 \newcommand{\subpdfbookmark}{%
14669   \@tempcnta\Hy@currentbookmarklevel
14670   \Hy@StepCount\@tempcnta
14671   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
14672 }
14673 \newcommand{\belowpdfbookmark}[2]{%
14674   \@tempcnta\Hy@currentbookmarklevel
14675   \Hy@StepCount\@tempcnta
14676   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
14677   \advance\@tempcnta by -1 %

```



```

14678 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
14679 }

```

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.

```

14680 \renewcommand\pdfbookmark[3][0]{%
14681   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
14682   \hyper@anchorstart{#3.#1}\hyper@anchorend
14683 }
14684 \def\BOOKMARK{%
14685   \@ifnextchar{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
14686 }
14687 \def\@@BOOKMARK[#1]{%
14688   \@ifnextchar{\@@BOOKMARK[{#1}]}{\@@BOOKMARK[{#1}][-]}%
14689 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the texinfopdf macros.

#### 49.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

14690 \RequirePackage{rerunfilecheck}[2009/12/10]
14691 \def\Hy@OutlineRerunCheck{%
14692   \RerunFileCheck{\jobname.out}{%
14693     \immediate\closeout\@outlinefile
14694   }{%
14695     Rerun to get outlines right\MessageBreak
14696     or use package 'bookmark'%
14697   }%
14698 }

```

#### 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.

```

14699 <*vtex>
14700 \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.

```

14701 \begingroup
14702   \catcode'\'=12 %
14703   \ifnum\Hy@VTeXversion<650 %
14704     \catcode'\'=12 %
14705     \gdef\hv@pdf@char#1#2#3{%
14706       \char
14707       \ifcase'#1#2#3 %
14708         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
14709         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
14710         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
14711         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
14712         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%

```

```

14713 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
14714 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
14715 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
14716 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
14717 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
14718 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
14719 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
14720 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
14721 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
14722 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
14723 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
14724 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
14725 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
14726 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
14727 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
14728 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
14729 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
14730 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
14731 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
14732 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
14733 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
14734 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
14735 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
14736 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
14737 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
14738 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
14739 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
14740 \fi
14741 }%
14742 \else
14743 \gdef\hv@pdf@char{\char'}%
14744 \fi
14745 \endgroup

```

## \@@BOOKMARK

```

14746 \def\@@BOOKMARK[#1][#2]#3#4#5{%
14747 \expandafter\edef\csname @count@#3\endcsname{%
14748 \the\@serial@counter
14749 }%
14750 \edef\@mycount{\the\@serial@counter}%
14751 \Hy@StepCount\@serial@counter
14752 \edef\@parcount{%
14753 \expandafter\ifx\csname @count@#5\endcsname\relax
14754 0%
14755 \else
14756 \csname @count@#5\endcsname
14757 \fi
14758 }%
14759 \immediate\special{%
14760 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14761 s=\ifx#2-c\else o\fi,t=#4%
14762 }%
14763 }%

```

## \ReadBookmarks

```

14764 \def\ReadBookmarks{%
14765 \begingroup

```

```

14766 \def\0{\hv@pdf@char 0}%
14767 \def\1{\hv@pdf@char 1}%
14768 \def\2{\hv@pdf@char 2}%
14769 \def\3{\hv@pdf@char 3}%
14770 \def\{({}%
14771 \def\)}{)%
14772 \def\do##1{%
14773 \ifnum\catcode'##1=\active
14774 \@makeother##1%
14775 \else
14776 \ifnum\catcode'##1=6 %
14777 \@makeother##1%
14778 \fi
14779 \fi
14780 }%
14781 \dospecials
14782 \Hy@safe@activetrue
14783 \InputIfFileExists{jobname.out}{-}{-}%
14784 \endgroup
14785 \ifx\WriteBookmarks\relax
14786 \else
14787 \if@filesw
14788 \newwrite\@outlinefile
14789 \Hy@OutlineRerunCheck
14790 \immediate\openout\@outlinefile=jobname.out\relax
14791 \ifHy@typexml
14792 \immediate\write\@outlinefile{<relaxxml>\relax}%
14793 \fi
14794 \fi
14795 \fi
14796 }

14797 </vtex>
14798 <*\vtex>
14799 \def\ReadBookmarks{%
14800 \pdf@ifdraftmode{-}{-}%
14801 \begingroup
14802 \def\do##1{%
14803 \ifnum\catcode'##1=\active
14804 \@makeother##1%
14805 \else
14806 \ifnum\catcode'##1=6 %
14807 \@makeother##1%
14808 \fi
14809 \fi
14810 }%
14811 \dospecials
14812 \Hy@safe@activetrue
14813 \escapechar='\%
14814 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14815 \calc@bm@number{##5}%
14816 }%
14817 \InputIfFileExists{jobname.out}{-}{-}%
14818 \ifx\WriteBookmarks\relax
14819 \global\let\WriteBookmarks\relax
14820 \fi
14821 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14822 \def\Hy@temp{##4}%

```

```

14823 <*pdftex>
14824   \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{###3}}%
14825   \Hy@OutlineName{}\Hy@pstringName{%
14826     ##2\check@bm@number{###3}%
14827   }{%
14828     \expandafter\strip@prefix\meaning\Hy@temp
14829   }%
14830 </pdftex>
14831 <*pdfmark>
14832   \pdfmark{%
14833     pdfmark=/OUT,%
14834     Count={##2\check@bm@number{###3}},%
14835     Dest={###3},%
14836     Title=\expandafter\strip@prefix\meaning\Hy@temp
14837   }%
14838 </pdfmark>
14839 <*dvipdfm|xetex>
14840   \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{###3}}%
14841   \@pdfm@mark{%
14842     outline \ifHy@DvipdfmxOutlineOpen
14843       [%
14844         \ifnum##21>\z@
14845         \else
14846         -%
14847         \fi
14848       ] %
14849     \fi
14850     ##1<<%
14851     /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14852     /A<<%
14853     /S/GoTo%
14854     /D(\Hy@pstringName)%
14855     >>%
14856     >>%
14857   }%
14858 </dvipdfm|xetex>
14859   }%
14860   \begingroup
14861     \def\WriteBookmarks{0}%
14862     \InputIfFileExists{jobname.out}{-}{-}%
14863   \endgroup
14864   %{\escapechar\m@ne\InputIfFileExists{jobname.out}{-}{-}}%
14865   \endgroup
14866   }%
14867   \ifx\WriteBookmarks\relax
14868   \else
14869     \if@filesw
14870       \newwrite\@outlinefile
14871       \Hy@OutlineRerunCheck
14872       \immediate\openout\@outlinefile=jobname.out\relax
14873       \ifHy@typexml
14874         \immediate\write\@outlinefile{<relaxxml>\relax}%
14875       \fi
14876     \fi
14877   \fi
14878   }
14879 <*pdftex>

```

```

14880 \def\Hy@OutlineName#1#2#3#4{%
14881   \pdfoutline goto name{#2}count#3{#4}%
14882 }
14883 \</pdfTeX>
14884 \def\check@bm@number#1{%
14885   \expandafter\ifx\csname B_#1\endcsname\relax
14886     0%
14887   \else
14888     \csname B_#1\endcsname
14889   \fi
14890 }
14891 \def\calc@bm@number#1{%
14892   \@tempcnta=\check@bm@number{#1}\relax
14893   \advance\@tempcnta by 1 %
14894   \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
14895 }
14896 \</!vTeX>
14897 \ifHy@implicit
14898 \else
14899   \expandafter\endinput
14900 \fi

14901 \</outlines>
14902 \<*outlines | hypertex>

14903 \newlength\Hy@SectionHShift
14904 \def\Hy@SectionAnchorHref#1{%
14905   \ifx\protect\@typeset@protect
14906     \Hy@@@SectionAnchor{#1}%
14907   \fi
14908 }
14909 \DeclareRobustCommand*{\Hy@@@SectionAnchor}[1]{%
14910   \leavevmode
14911   \hbox to 0pt{%
14912     \kern-\Hy@SectionHShift
14913     \Hy@raisedlink{%
14914       \hyper@anchorstart{#1}\hyper@anchorend
14915     }%
14916     \hss
14917   }%
14918 }
14919 \let\H@old@ssect\@ssect
14920 \def\@ssect#1#2#3#4#5{%
14921   \Hy@MakeCurrentHrefAuto{section*}%
14922   \setlength{\Hy@SectionHShift}{#1}%
14923   \begingroup
14924     \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14925     \toks\tw@\expandafter{%
14926       \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14927       #5%
14928     }%
14929   \edef\x{\endgroup
14930     \the\toks@{\the\toks\tw@}}%
14931   }\x
14932 }
14933 \let\H@old@schapter\@schapter
14934 \def\@schapter#1{%
14935   \begingroup

```

```

14936 \let\@mkboth\@gobbletwo
14937 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14938 \Hy@raisedlink{%
14939   \hyper@anchorstart{\@currentHref}\hyper@anchorend
14940 }%
14941 \endgroup
14942 \H@old@chapter{#1}%
14943 }

```

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:

```

14944 \ltx@ifundefined{chapter}{-}%
14945 \let\Hy@org@chapter\@chapter
14946 \def\@chapter{%
14947   \def\Hy@next{%
14948     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14949     \Hy@raisedlink{%
14950       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14951     }%
14952   }%
14953   \ifnum\c@secnumdepth>\m@ne
14954     \ltx@ifundefined{if@mainmatter}%
14955     \iftrue{\csname if@mainmatter\endcsname}%
14956     \let\Hy@next\relax
14957   \fi
14958   \fi
14959   \Hy@next
14960   \Hy@org@chapter
14961 }%
14962 }

14963 \let\H@old@part\@part
14964 \begingroup\expandafter\expandafter\expandafter\endgroup
14965 \expandafter\ifx\csname chapter\endcsname\relax
14966   \let\Hy@secnum@part\z@
14967 \else
14968   \let\Hy@secnum@part\m@ne
14969 \fi
14970 \def\@part{%
14971   \ifnum\Hy@secnum@part>\c@secnumdepth
14972     \phantomsection
14973   \fi
14974   \H@old@part
14975 }

14976 \let\H@old@spart\@spart
14977 \def\@spart#1{%
14978   \Hy@MakeCurrentHrefAuto{part*}%
14979   \Hy@raisedlink{%
14980     \hyper@anchorstart{\@currentHref}\hyper@anchorend
14981   }%
14982   \H@old@spart{#1}%
14983 }

14984 \let\H@old@sect\@sect
14985 \def\@sect#1#2#3#4#5#6[#7]#8{%
14986   \ifnum #2>\c@secnumdepth
14987     \expandafter\@firstoftwo
14988   \else

```

```

14989 \expandafter\@secondoftwo
14990 \fi
14991 {%
14992 \Hy@MakeCurrentHrefAuto{section*}%
14993 \setlength{\Hy@SectionHShift}{#3}%
14994 \begingroup
14995 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
14996 \toks\tw@\expandafter{%
14997 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14998 #8%
14999 }%
15000 \edef\x{\endgroup
15001 \the\toks@\the\toks\tw@}%
15002 }\x
15003 }{%
15004 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
15005 }%
15006 }

15007 </outlines | hypertex>
15008 (*outlines)

15009 \expandafter\def\csname Parent-4\endcsname{}
15010 \expandafter\def\csname Parent-3\endcsname{}
15011 \expandafter\def\csname Parent-2\endcsname{}
15012 \expandafter\def\csname Parent-1\endcsname{}
15013 \expandafter\def\csname Parent0\endcsname{}
15014 \expandafter\def\csname Parent1\endcsname{}
15015 \expandafter\def\csname Parent2\endcsname{}
15016 \expandafter\def\csname Parent3\endcsname{}
15017 \expandafter\def\csname Parent4\endcsname{}
15018 </outlines>

```

## 50 Compatibility with koma-script classes

```

15019 (*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.

```

15020 \def\Hy@tempa{%
15021 \def\@addchap[##1]##2{%
15022 \typeout{##2}%
15023 \if@twoside
15024 \mkboth{##1}{}%
15025 \else
15026 \mkboth{}{##1}%
15027 \fi
15028 \addtocontents{lof}{\protect\addvspace{10\p@}}%
15029 \addtocontents{lot}{\protect\addvspace{10\p@}}%
15030 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
15031 \Hy@raisedlink{%
15032 \hyper@anchorstart{\@currentHref}\hyper@anchorend
15033 }%
15034 \if@twocolumn
15035 \topnewpage[\@makeschapterhead{##2}]%
15036 \else

```

```

15037 \makeschapterhead{##2}%
15038 \afterheading
15039 \fi
15040 \addcontentsline{toc}{chapter}{##1}%
15041 }%
15042 }
15043 \ifclassloaded{scrbook}{%
15044 \ifclasslater{scrbook}{2001/01/01}{%
15045 \let\Hy@tempa\@empty
15046 }{}%
15047 }{%
15048 \ifclassloaded{scrreprt}{%
15049 \ifclasslater{scrreprt}{2001/01/01}{%
15050 \let\Hy@tempa\@empty
15051 }{}%
15052 }{%
15053 \let\Hy@tempa\@empty
15054 }%
15055 }%
15056 \Hy@tempa
15057 </outlines | hypertex>

```

## 51 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

### 51.1 PD1 encoding

```

15058 <*pd1enc>
15059 \DeclareFontEncoding{PD1}{}{}

Accents
15060 \DeclareTextAccent{'}{PD1}{\textasciigrave}
15061 \DeclareTextAccent{'}{PD1}{\textacute}
15062 \DeclareTextAccent{^}{PD1}{\textasciicircum}
15063 \DeclareTextAccent{~}{PD1}{\texttilde}
15064 \DeclareTextAccent{"}{PD1}{\textasciidieresis}
15065 \DeclareTextAccent{r}{PD1}{\textstring}
15066 \DeclareTextAccent{v}{PD1}{\textasciicaron}
15067 \DeclareTextAccent{.}{PD1}{\textdotaccent}
15068 \DeclareTextAccent{c}{PD1}{\textcedilla}
15069 \DeclareTextAccent{=} {PD1}{\textasciimacron}
15070 \DeclareTextAccent{b}{PD1}{\textmacronbelow}
15071 \DeclareTextAccent{d}{PD1}{\textdotbelow}
15072 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textasciigrave}
15073 \DeclareTextCompositeCommand{'}{PD1}{\@empty}{\textacute}
15074 \DeclareTextCompositeCommand{^}{PD1}{\@empty}{\textasciicircum}
15075 \DeclareTextCompositeCommand{~}{PD1}{\@empty}{\texttilde}
15076 \DeclareTextCompositeCommand{"}{PD1}{\@empty}{\textasciidieresis}
15077 \DeclareTextCompositeCommand{r}{PD1}{\@empty}{\textstring}
15078 \DeclareTextCompositeCommand{v}{PD1}{\@empty}{\textasciicaron}
15079 \DeclareTextCompositeCommand{.}{PD1}{\@empty}{\textdotaccent}
15080 \DeclareTextCompositeCommand{c}{PD1}{\@empty}{\textcedilla}
15081 \DeclareTextCompositeCommand{=} {PD1}{\@empty}{\textasciimacron}
15082 \DeclareTextCompositeCommand{b}{PD1}{\@empty}{\textmacronbelow}
15083 \DeclareTextCompositeCommand{d}{PD1}{\@empty}{\textdotbelow}

```



```

15084 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
15085 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
15086 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\textasciicircum}
15087 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
15088 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
15089 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
15090 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
15091 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
15092 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
15093 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
15094 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
15095 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
15096 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
15097 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
15098 \DeclareTextCommand{\newtie}{PD1}[1]{%
15099   \TextSymbolUnavailable{\newtie{#1}}#1%
15100 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

15101 % U+0009 (CHARACTER TABULATION)
15102 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
15103 % U+000A (LINE FEED)
15104 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
15105 % U+000D (CARRIAGE RETURN)
15106 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

15107 % U+02D8 BREVE; breve
15108 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
15109 % U+02C7 CARON; caron
15110 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
15111 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
15112 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
15113 % U+02D9 DOT ABOVE; dotaccent
15114 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
15115 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
15116 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
15117 % U+02DB OGONEK; ogonek
15118 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
15119 % U+02DA RING ABOVE; ring
15120 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
15121 % U+02DC SMALL TILDE; ilde, *tilde
15122 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; \*space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

```

15123 % U+0022 QUOTATION MARK; quotedbl

```

```

15124 \DeclareTextCommand{\textquotedbl}{PD1}{"}% \042 U+0022

```

```

15125 % U+0023 NUMBER SIGN; numbersign

```

```

15126 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023

```

```

15127 % U+0024 DOLLAR SIGN; dollar

```

```

15128 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024

```

```

15129 % U+0025 PERCENT SIGN; percent

```

```

15130 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025

```

```

15131 % U+0026 AMPERSAND; ampersand

```

```

15132 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

```

\047: U+0027 APOSTROPHE; quotesingle

15133 % U+0028 LEFT PARENTHESIS; parenleft  
 15134 \DeclareTextCommand{\textparenleft}{PD1}{\string\}% \050 U+0028  
 15135 % U+0029 RIGHT PARENTHESIS; parenright  
 15136 \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  
 15137 % U+002E FULL STOP; period  
 15138 \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  
 15139 % U+003C LESS-THAN SIGN; less  
 15140 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
 \075: U+003D EQUALS SIGN; equal  
 15141 % U+003E GREATER-THAN SIGN; greater  
 15142 \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  
 15143 % U+005C REVERSE SOLIDUS; backslash  
 15144 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 15145 % "U+2216 SET MINUS" simulated by "U+005C REVERSE SOLIDUS"  
 15146 \DeclareTextCommand{\textsetminus}{PD1}{\textbackslash}  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 15147 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 15148 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 15149 % U+005F LOW LINE; underscore  
 15150 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 15151 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 15152 % U+0060 GRAVE ACCENT; grave  
 15153 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
 \141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 15154 % U+0069 LATIN SMALL LETTER I; i  
 15155 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
 \152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \172: U+007A LATIN SMALL LETTER Z; z  
 15156 % U+007B LEFT CURLY BRACKET; braceleft  
 15157 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 15158 % U+007C VERTICAL LINE; \*bar, verticalbar  
 15159 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
 15160 % U+007D RIGHT CURLY BRACKET; braceright

15161 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
15162 % U+007E TILDE; asciitilde  
15163 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
Slot \177 (0x7F) is undefined in PDFDocEncoding.  
15164 % U+2022 BULLET; bullet  
15165 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
15166 % U+2020 DAGGER; dagger  
15167 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
15168 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
15169 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
15170 \DeclareTextCommand{\textddagger}{PD1}{\textddagger}  
15171 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
15172 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
15173 % U+2014 EM DASH; emdash  
15174 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
15175 % U+2013 EN DASH; endash  
15176 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
15177 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
15178 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
15179 % U+2044 FRACTION SLASH; fraction  
15180 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
15181 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
ingleft  
15182 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039  
15183 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
ingright  
15184 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A  
15185 % U+2212 MINUS SIGN; minus  
15186 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
15187 % U+2030 PER MILLE SIGN; perthousand  
15188 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
15189 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
15190 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
15191 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
15192 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
15193 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
15194 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
15195 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
15196 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
15197 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
15198 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
15199 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
15200 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
15201 % U+2122 TRADE MARK SIGN; trademark  
15202 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
15203 % U+FB01 LATIN SMALL LIGATURE FI; fi  
15204 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
15205 % U+FB02 LATIN SMALL LIGATURE FL; fl  
15206 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
15207 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
15208 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
15209 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
15210 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
15211 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
15212 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
15213 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
15214 \DeclareTextCompositeCommand{\Y}{PD1}{Y}{\230}% U+0178

15215 \DeclareTextCommand{\IJ}{PD1}{IJ}% ligature U+0049 U+004A  
15216 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
15217 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
15218 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
15219 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
15220 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
15221 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
15222 % U+0153 LATIN SMALL LIGATURE OE; oe  
15223 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
15224 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
15225 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
15226 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
15227 \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.  
15228 % U+20AC EURO SIGN; \*Euro, euro  
15229 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
15230 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
15231 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
15232 % U+00A2 CENT SIGN; cent  
15233 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
15234 % U+00A3 POUND SIGN; sterling  
15235 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
15236 % U+00A4 CURRENCY SIGN; currency  
15237 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
15238 % U+00A5 YEN SIGN; yen  
15239 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
15240 % U+00A6 BROKEN BAR; brokenbar  
15241 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
15242 % U+00A7 SECTION SIGN; section  
15243 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
15244 % U+00A8 DIAERESIS; dieresis  
15245 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
15246 % U+00A9 COPYRIGHT SIGN; copyright  
15247 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
15248 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
15249 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
15250 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motleft  
15251 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
15252 % U+00AC NOT SIGN; logicalnot  
15253 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
15254 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not  
No glyph \255 in PDFDocEncoding.  
15255 % U+00AE REGISTERED SIGN; registered  
15256 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
15257 % U+00AF MACRON; \*macron, overscore  
15258 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
15259 % U+00B0 DEGREE SIGN; degree  
15260 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
15261 % U+00B1 PLUS-MINUS SIGN; plusminus  
15262 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
15263 % U+00B2 SUPERSCRIPT TWO; twosuperior  
15264 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}%\* U+00B2  
15265 % U+00B3 SUPERSCRIPT THREE; threesuperior  
15266 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}%\* U+00B3  
15267 % U+00B4 ACUTE ACCENT; acute

15268 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
15269 % U+00B5 MICRO SIGN; mu, mul  
15270 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
15271 % U+00B6 PILCROW SIGN; paragraph  
15272 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
15273 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
15274 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
15275 % U+00B8 CEDILLA; cedilla  
15276 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
15277 % U+00B9 SUPERScript ONE; onesuperior  
15278 \DeclareTextCommand{\textonesuperior}{PD1}{\271}%\* U+00B9  
15279 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
15280 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
15281 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
motright  
15282 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
15283 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
15284 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
15285 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
15286 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
15287 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
15288 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
15289 % U+00BF INVERTED QUESTION MARK; questiondown  
15290 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
15291 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
15292 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
15293 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
15294 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
15295 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
15296 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
15297 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
15298 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
15299 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
15300 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
15301 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
15302 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
15303 % U+00C6 LATIN CAPITAL LETTER AE; AE  
15304 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
15305 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
15306 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
15307 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
15308 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
15309 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
15310 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
15311 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
15312 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
15313 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
15314 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
15315 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
15316 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
15317 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
15318 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
15319 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
15320 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE  
15321 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
15322 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF  
15323 % U+00D0 LATIN CAPITAL LETTER ETH; Eth

15324 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
15325 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
15326 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
15327 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
15328 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
15329 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2  
15330 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
15331 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
15332 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
15333 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4  
15334 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
15335 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
15336 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
15337 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6  
15338 % U+00D7 MULTIPLICATION SIGN; multiply  
15339 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
15340 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
15341 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
15342 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
15343 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9  
15344 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
15345 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
15346 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
15347 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB  
15348 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
15349 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC  
15350 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
15351 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD  
15352 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
15353 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
15354 \DeclareTextCommand{\textThorn}{PD1}{\336}%\* U+00DE  
15355 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
15356 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
15357 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
15358 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0  
15359 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15360 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
15361 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15362 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2  
15363 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15364 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3  
15365 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15366 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4  
15367 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15368 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
15369 % U+00E6 LATIN SMALL LETTER AE; ae  
15370 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
15371 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15372 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
15373 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15374 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8  
15375 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15376 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
15377 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15378 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
15379 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
15380 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB

15381 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
15382 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
15383 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
15384 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
15385 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
15386 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
15387 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
15388 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
15389 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
15390 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
15391 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
15392 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
15393 % U+00F0 LATIN SMALL LETTER ETH; eth  
15394 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
15395 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
15396 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1  
15397 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
15398 \DeclareTextCompositeCommand{\'}{PD1}{o}{\362}% U+00F2  
15399 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
15400 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3  
15401 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
15402 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4  
15403 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
15404 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5  
15405 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
15406 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6  
15407 % U+00F7 DIVISION SIGN; divide  
15408 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7  
15409 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
15410 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
15411 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
15412 \DeclareTextCompositeCommand{\'}{PD1}{u}{\371}% U+00F9  
15413 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
15414 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA  
15415 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
15416 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB  
15417 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
15418 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC  
15419 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
15420 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD  
15421 % U+00FE LATIN SMALL LETTER THORN; thorn; \th, \thorn (wasysym)  
15422 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE  
15423 \DeclareTextCommand{\textthorn}{PD1}{\376}%\* U+00FE  
15424 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
15425 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF  
15426 \DeclareTextCommand{\ij}{PD1}{ij}% ligature U+0069 U+006A

Glyphs that consist of several characters.

15427 \DeclareTextCommand{\SS}{PD1}{SS}%  
15428 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}%

Aliases (german.sty)

15429 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}%  
15430 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}%  
15431 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}%  
15432 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}%  
15433 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}%  
15434 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}%  
15435 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}%

```

15436 \DeclareTextCommand{\textfrq}{PD1}{\guilsingright}%
Aliases (math names)
15437 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}%
15438 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}%
15439 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}%
15440 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}%
15441 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}%
15442 \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).

```

15443 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
15444 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
15445 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
15446 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
15447 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
15448 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
15449 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
15450 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
15451 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
15452 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
15453 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
15454 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
15455 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
15456 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
15457 </pd1enc>

```

## 51.2 PU encoding

```

15458 <*puenc>
15459 \DeclareFontEncoding{PU}{-}{-}

```

### 51.2.1 NFSS2 accents

```

15460 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
15461 \DeclareTextCommand{\'}{PU}[1]{#1\83\000}% U+0300
15462 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
15463 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
15464 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
15465 \DeclareTextCommand{\~}{PU}[1]{#1\83\002}% U+0302
15466 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
15467 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
15468 % U+0304 COMBINING MACRON; macroncmb
15469 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
15470 % U+0306 COMBINING BREVE; brevecmb
15471 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
15472 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
15473 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
15474 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
15475 % U+0308 COMBINING DIAERESIS; dieresiscmb
15476 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
15477 % U+030A COMBINING RING ABOVE; ringcmb
15478 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
15479 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
15480 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
15481 % U+030C COMBINING CARON; caroncmb
15482 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
15483 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb

```



```

15484 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
15485 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
15486 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
15487 \DeclareTextCommand{\textinvbreve}{PU}[1]{#1\83\021}% U+0311
15488 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcmb
15489 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
15490 % U+0324 COMBINING DIAERESIS BELOW; dieresisbelowcmb; \textsubum-
    laut (tipa)
15491 \DeclareTextCommand{\textsubumlaut}{PU}[1]{#1\83\044}% U+0324
15492 % U+0325 COMBINING RING BELOW; ringbelowcmb; \textsubring (tipa)
15493 \DeclareTextCommand{\textsubring}{PU}[1]{#1\83\045}% U+0325
15494 % U+0327 COMBINING CEDILLA; cedillacmb
15495 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
15496 % U+0328 COMBINING OGONEK; ogonekcmb
15497 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
15498 % U+032D COMBINING CIRCUMFLEX ACCENT BELOW;
15499 % \textsubcircum (tipa)
15500 \DeclareTextCommand{\textsubcircum}{PU}[1]{#1\83\055}% U+032D
15501 % U+032E COMBINING BREVE BELOW; brevebelowcmb
15502 \DeclareTextCommand{\textsubbreve}{PU}[1]{#1\83\056}% U+032E
15503 % U+0330 COMBINING TILDE BELOW; tildebelowcmb; \textsubtilde (tipa)
15504 \DeclareTextCommand{\textsubtilde}{PU}[1]{#1\83\060}% U+0330
15505 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
15506 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
15507 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-
    blecmb
15508 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
15509 % U+20DD COMBINING ENCLOSING CIRCLE
15510 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

```

Double accents.

```

15511 \DeclareTextCommand{\textacutemacron}{PU}[1]{#1\83\001\83\004}% U+0301 U+0304
15512 \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.

```

15513 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}%
15514 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textacute}%
15515 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}%
15516 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}%
15517 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}%
15518 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}%
15519 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}%
15520 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}%
15521 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}%
15522 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}%
15523 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}%
15524 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}%
15525 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}%
15526 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}%
15527 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\@empty}{\83\021}% U+0311
15528 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\@empty}{\83\044}% U+0324
15529 \DeclareTextCompositeCommand{\textsubring}{PU}{\@empty}{\textringlow}%
15530 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\@empty}{\textcircum-
    low}%
15531 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\@empty}{\83\056}% U+032E
15532 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\@empty}{\texttildebelow}%
15533 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}%
15534 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}%

```

```

15535 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}%
15536 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}%
15537 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}%
15538 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\@empty}{\{\83\001\83\004\}}% U+0301 U
15539 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\@empty}{\{\83\000\83\004\}}% U+0300 U
15540 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}%
15541 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textacute}%
15542 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}%
15543 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}%
15544 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}%
15545 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}%
15546 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}%
15547 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}%
15548 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}%
15549 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}%
15550 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}%
15551 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}%
15552 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}%
15553 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}%
15554 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\ }{\{\83\021\}}% U+0311
15555 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\ }{\{\83\044\}}% U+0324
15556 \DeclareTextCompositeCommand{\textsubring}{PU}{\ }{\textringlow}%
15557 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\ }{\textcircumlow}%
15558 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\ }{\{\83\056\}}% U+032E
15559 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\ }{\texttildebelow}%
15560 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}%
15561 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}%
15562 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}%
15563 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}%
15564 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}%
15565 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\ }{\{\83\001\83\004\}}% U+0301 U+0304
15566 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\ }{\{\83\000\83\004\}}% U+0300 U+0304

```

Accents for capitals (see encoding TS1)

```

15567 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}%
15568 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}%
15569 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}%
15570 \DeclareTextCommand{\capitalacute}{PU}[1]{\^{#1}}%
15571 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}%
15572 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}%
15573 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"}{#1}}%
15574 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}%
15575 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}%
15576 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}%
15577 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}%
15578 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}%
15579 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}%
15580 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}%
15581 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}%

```

### 51.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

15582 % U+0009 (CHARACTER TABULATION)
15583 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
15584 % U+000A (LINE FEED)
15585 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
15586 % U+000D (CARRIAGE RETURN)
15587 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

```

$\backslash 80\backslash 040$ : U+0020 SPACE; space, spacehackarabic  
 $\backslash 80\backslash 041$ : U+0021 EXCLAMATION MARK; exclam  
15588 % U+0022 QUOTATION MARK; quotedbl  
15589  $\backslash \text{DeclareTextCommand}\{\backslash \text{textquotedbl}\}\{\text{PU}\}\{\}$ %  $\backslash 80\backslash 042$  U+0022  
15590 % U+0023 NUMBER SIGN; numbersign  
15591  $\backslash \text{DeclareTextCommand}\{\backslash \text{textnumbersign}\}\{\text{PU}\}\{\backslash 80\backslash 043\}$ % U+0023  
15592 % U+0024 DOLLAR SIGN; dollar  
15593  $\backslash \text{DeclareTextCommand}\{\backslash \text{textdollar}\}\{\text{PU}\}\{\backslash 80\backslash 044\}$ % U+0024  
15594 %\*  $\backslash \text{textdollar} \rightarrow \backslash \text{mathdollar}$   
15595 %\*  $\backslash \text{textdollar} \rightarrow \backslash \text{EyesDollar}$  (marvosym)  
15596 % U+0025 PERCENT SIGN; percent  
15597  $\backslash \text{DeclareTextCommand}\{\backslash \text{textpercent}\}\{\text{PU}\}\{\backslash 80\backslash 045\}$ % U+0025  
15598 % U+0026 AMPERSAND; ampersand  
15599  $\backslash \text{DeclareTextCommand}\{\backslash \text{textampersand}\}\{\text{PU}\}\{\backslash 80\backslash 046\}$ % U+0026  
15600 %\*  $\backslash \text{textampersand} \rightarrow \backslash \text{binampersand}$  (stmaryrd)  
15601 %\*  $\backslash \text{textampersand} \rightarrow \backslash \text{with}$  (cmll)  
15602 % U+0027 APOSTROPHE; quotesingle  
15603  $\backslash \text{DeclareTextCommand}\{\backslash \text{textquotesingle}\}\{\text{PU}\}\{\backslash 80\backslash 047\}$ % U+0027  
15604 % U+0028 LEFT PARENTHESIS; parenleft  
15605  $\backslash \text{DeclareTextCommand}\{\backslash \text{textparenleft}\}\{\text{PU}\}\{\backslash 80\backslash 050\}$ % U+0028  
15606 % U+0029 RIGHT PARENTHESIS; parenright  
15607  $\backslash \text{DeclareTextCommand}\{\backslash \text{textparenright}\}\{\text{PU}\}\{\backslash 80\backslash 051\}$ % U+0029  
15608 % U+002A ASTERISK; asterisk; (?)  
15609  $\backslash \text{DeclareTextCommand}\{\backslash \text{textasteriskcentered}\}\{\text{PU}\}\{\backslash 80\backslash 052\}$ % U+002A  
15610 % U+002B PLUS SIGN; plus;  $\backslash \text{MVPlus}$  (marvosym)  
15611  $\backslash \text{DeclareTextCommand}\{\backslash \text{textMVPlus}\}\{\text{PU}\}\{\backslash 80\backslash 053\}$ %\* U+002B  
15612 % U+002C COMMA; comma;  $\backslash \text{MVComma}$  (marvosym)  
15613  $\backslash \text{DeclareTextCommand}\{\backslash \text{textMVComma}\}\{\text{PU}\}\{\backslash 80\backslash 054\}$ %\* U+002C  
15614 % U+002D HYPHEN-MINUS; hyphen;  $\backslash \text{MVMinus}$  (marvosym)  
15615  $\backslash \text{DeclareTextCommand}\{\backslash \text{textMVMinus}\}\{\text{PU}\}\{\backslash 80\backslash 055\}$ %\* U+002D  
15616 % U+002E FULL STOP; period;  $\backslash \text{MVPeriod}$  (marvosym)  
15617  $\backslash \text{DeclareTextCommand}\{\backslash \text{textMVPeriod}\}\{\text{PU}\}\{\backslash 80\backslash 056\}$ %\* U+002E  
15618 % U+002F SOLIDUS; slash;  $\backslash \text{MVDivision}$  (marvosym)  
15619  $\backslash \text{DeclareTextCommand}\{\backslash \text{textMVDivision}\}\{\text{PU}\}\{\backslash 80\backslash 057\}$ %\* U+002F  
15620 % U+0030 DIGIT ZERO; zero;  $\backslash \text{MVZero}$  (marvosym)  
15621  $\backslash \text{DeclareTextCommand}\{\backslash \text{textMVZero}\}\{\text{PU}\}\{\backslash 80\backslash 060\}$ %\* U+0030  
15622 % U+0031 DIGIT ONE; one;  $\backslash \text{MVOne}$  (marvosym)  
15623  $\backslash \text{DeclareTextCommand}\{\backslash \text{textMVOne}\}\{\text{PU}\}\{\backslash 80\backslash 061\}$ %\* U+0031  
15624 % U+0032 DIGIT TWO; two;  $\backslash \text{MVTwo}$  (marvosym)  
15625  $\backslash \text{DeclareTextCommand}\{\backslash \text{textMVTwo}\}\{\text{PU}\}\{\backslash 80\backslash 062\}$ %\* U+0032  
15626 % U+0033 DIGIT THREE; three;  $\backslash \text{MVThree}$  (marvosym)  
15627  $\backslash \text{DeclareTextCommand}\{\backslash \text{textMVThree}\}\{\text{PU}\}\{\backslash 80\backslash 063\}$ %\* U+0033  
15628 % U+0034 DIGIT FOUR; four;  $\backslash \text{MVFfour}$  (marvosym)  
15629  $\backslash \text{DeclareTextCommand}\{\backslash \text{textMVFfour}\}\{\text{PU}\}\{\backslash 80\backslash 064\}$ %\* U+0034  
15630 % U+0035 DIGIT FIVE; five;  $\backslash \text{MVFive}$  (marvosym)  
15631  $\backslash \text{DeclareTextCommand}\{\backslash \text{textMVFive}\}\{\text{PU}\}\{\backslash 80\backslash 065\}$ %\* U+0035  
15632 % U+0036 DIGIT SIX; six;  $\backslash \text{MVSix}$  (marvosym)  
15633  $\backslash \text{DeclareTextCommand}\{\backslash \text{textMVSix}\}\{\text{PU}\}\{\backslash 80\backslash 066\}$ %\* U+0036  
15634 % U+0037 DIGIT SEVEN; seven;  $\backslash \text{MVSeven}$  (marvosym)  
15635  $\backslash \text{DeclareTextCommand}\{\backslash \text{textMVSeven}\}\{\text{PU}\}\{\backslash 80\backslash 067\}$ %\* U+0037  
15636 % U+0038 DIGIT EIGHT; eight;  $\backslash \text{MVEight}$  (marvosym)  
15637  $\backslash \text{DeclareTextCommand}\{\backslash \text{textMVEight}\}\{\text{PU}\}\{\backslash 80\backslash 070\}$ %\* U+0038  
15638 % U+0039 DIGIT NINE; nine;  $\backslash \text{MVNine}$  (marvosym)  
15639  $\backslash \text{DeclareTextCommand}\{\backslash \text{textMVNine}\}\{\text{PU}\}\{\backslash 80\backslash 071\}$ %\* U+0039  
 $\backslash 80\backslash 072$ : U+003A COLON; colon  
 $\backslash 80\backslash 073$ : U+003B SEMICOLON; semicolon

15640 % U+003C LESS-THAN SIGN; less  
 15641 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C  
 \80\075: U+003D EQUALS SIGN; equal  
 15642 % U+003E GREATER-THAN SIGN; greater  
 15643 \DeclareTextCommand{\textgreater}{PU}{>}% \80\076 U+003E  
 \80\077: U+003F QUESTION MARK; question  
 15644 % U+0040 COMMERCIAL AT; at; \MVAt (marvosym)  
 15645 \DeclareTextCommand{\textMVAt}{PU}{\80\100}%\* U+0040  
 \80\101: U+0041 LATIN CAPITAL LETTER A; A  
 ...  
 \80\132: U+005A LATIN CAPITAL LETTER Z; Z  
 \80\133: U+005B LEFT SQUARE BRACKET; bracketleft  
 15646 % U+005C REVERSE SOLIDUS; backslash  
 15647 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C  
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright  
 15648 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 15649 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E  
 15650 % U+005F LOW LINE; underscore  
 15651 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F  
 15652 %\* \textunderscore -> \mathunderscore (LaTeX)  
 15653 % U+0060 GRAVE ACCENT; grave  
 15654 \DeclareTextCommand{\textasciigrave}{PU}{\80\140}% U+0060  
 \80\141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \80\150: U+0068 LATIN SMALL LETTER H; h  
 15655 % U+0069 LATIN SMALL LETTER I; i  
 15656 \DeclareTextCompositeCommand{\.}{PU}{i}% \80\151 U+0069  
 15657 \DeclareTextCompositeCommand{\.}{PU}{i}% \80\151 U+0069  
 \80\152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \80\172: U+007A LATIN SMALL LETTER Z; z  
 15658 % U+007B LEFT CURLY BRACKET; braceleft  
 15659 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B  
 15660 % U+007C VERTICAL LINE; \*bar, verticalbar  
 15661 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C  
 15662 %\* \textbar -> \textvertline (tipa)  
 15663 % U+007D RIGHT CURLY BRACKET; braceright  
 15664 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D  
 15665 % U+007E TILDE; asciitilde  
 15666 \DeclareTextCommand{\textasciitilde}{PU}{\80\176}% U+007E

### 51.2.3 Latin-1 Supplement: U+0080 to U+00FF

\80\240: U+00A0 NO-BREAK SPACE; nbspace, nonbreakingspace  
 15667 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 15668 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1  
 15669 % U+00A2 CENT SIGN; cent  
 15670 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2  
 15671 % U+00A3 POUND SIGN; sterling  
 15672 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3  
 15673 %\* \textsterling -> \mathsterling (LaTeX)  
 15674 %\* \textsterling -> \pounds (LaTeX)  
 15675 % U+00A4 CURRENCY SIGN; currency

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15676 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
15677 % U+00A5 YEN SIGN; yen
15678 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
15679 % U+00A6 BROKEN BAR; brokenbar
15680 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
15681 %* \textbrokenbar -> \brokenvert (wasysym)
15682 % U+00A7 SECTION SIGN; section
15683 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
15684 %* \textsection -> \mathsection (LaTeX)
15685 %* \textsection -> \S (LaTeX)
15686 % U+00A8 DIAERESIS; diaeresis
15687 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
15688 % U+00A9 COPYRIGHT SIGN; copyright
15689 \DeclareTextCommand{\textcopyright}{PU}{\80\251}%* U+00A9
15690 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
15691 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
15692 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
    motleft
15693 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
15694 % U+00AC NOT SIGN; logicalnot
15695 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
15696 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
\80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
15697 % U+00AE REGISTERED SIGN; registered
15698 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
15699 % U+00AF MACRON; *macron, overscore
15700 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
15701 % U+00B0 DEGREE SIGN; degree
15702 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
15703 % U+00B1 PLUS-MINUS SIGN; plusminus
15704 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
15705 % U+00B2 SUPERSCRIPT TWO; twosuperior
15706 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}%* U+00B2
15707 % U+00B3 SUPERSCRIPT THREE; threesuperior
15708 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}%* U+00B3
15709 % U+00B4 ACUTE ACCENT; acute
15710 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
15711 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4
15712 % U+00B5 MICRO SIGN; mu, mu1
15713 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
15714 % U+00B6 PILCROW SIGN; paragraph
15715 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
15716 %* \textparagraph -> \mathparagraph (LaTeX)
15717 % U+00B7 MIDDLE DOT; middot, *periodcentered
15718 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
15719 %* \textperiodcentered -> \MultiplicationDot (marvosym)
15720 %* \textperiodcentered -> \Squaredot (marvosym)
15721 % U+00B8 CEDILLA; cedilla
15722 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
15723 % U+00B9 SUPERSCRIPT ONE; onesuperior
15724 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}%* U+00B9
15725 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
15726 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
15727 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-
    motright
15728 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
15729 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter

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15730 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
15731 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
15732 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
15733 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
15734 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
15735 % U+00BF INVERTED QUESTION MARK; questiondown  
15736 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
15737 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
15738 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
15739 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
15740 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
15741 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
15742 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
15743 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
15744 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
15745 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
15746 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4  
15747 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
15748 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
15749 % U+00C6 LATIN CAPITAL LETTER AE; AE  
15750 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
15751 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
15752 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
15753 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
15754 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
15755 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
15756 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
15757 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
15758 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
15759 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
15760 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB  
15761 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
15762 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
15763 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
15764 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
15765 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
15766 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
15767 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
15768 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF  
15769 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
15770 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
15771 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
15772 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
15773 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
15774 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
15775 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
15776 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
15777 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
15778 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4  
15779 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
15780 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
15781 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
15782 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6  
15783 % U+00D7 MULTIPLICATION SIGN; multiply  
15784 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
15785 %\* \textmultiply -> \vartimes (stmaryrd)  
15786 %\* \textmultiply -> \MVMultiplication (marvosym)

15787 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
15788 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
15789 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
15790 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}% U+00D9  
15791 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
15792 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
15793 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
15794 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB  
15795 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
15796 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC  
15797 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
15798 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
15799 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
15800 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
15801 \DeclareTextCommand{\textThorn}{PU}{\80\336}%\* U+00DE  
15802 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
15803 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
15804 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
15805 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0  
15806 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15807 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
15808 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15809 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
15810 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15811 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
15812 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15813 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4  
15814 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15815 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
15816 % U+00E6 LATIN SMALL LETTER AE; ae  
15817 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
15818 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15819 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
15820 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15821 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8  
15822 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15823 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
15824 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15825 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA  
15826 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
15827 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB  
15828 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
15829 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
15830 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
15831 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
15832 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
15833 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
15834 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
15835 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
15836 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
15837 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
15838 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
15839 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
15840 % U+00F0 LATIN SMALL LETTER ETH; eth  
15841 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
15842 %\* \dh -> \eth (wsuipa, phonetic)  
15843 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde

15844 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1  
 15845 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
 15846 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2  
 15847 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
 15848 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
 15849 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
 15850 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4  
 15851 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
 15852 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
 15853 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
 15854 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6  
 15855 % U+00F7 DIVISION SIGN; divide  
 15856 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
 15857 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
 15858 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
 15859 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
 15860 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
 15861 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
 15862 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 15863 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
 15864 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB  
 15865 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
 15866 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC  
 15867 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
 15868 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 15869 % U+00FE LATIN SMALL LETTER THORN; thorn;  
 15870 % \th, \thorn (wasysym), \textthorn (tipa)  
 15871 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
 15872 \DeclareTextCommand{\textthorn}{PU}{\80\376}%\* U+00FE  
 15873 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
 15874 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

#### 51.2.4 Latin Extended-A: U+0080 to U+017F

15875 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
 15876 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100  
 15877 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
 15878 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
 15879 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
 15880 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
 15881 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
 15882 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
 15883 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
 15884 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
 15885 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
 15886 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
 15887 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
 15888 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
 15889 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
 15890 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107  
 15891 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
 15892 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108  
 15893 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
 15894 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109  
 15895 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotac-  
 cent  
 15896 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A



15897 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
15898 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
15899 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
15900 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
15901 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
15902 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
15903 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
15904 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
15905 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
15906 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
15907 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
15908 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
15909 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron;  
15910 % \textcrd (tipa)  
15911 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
15912 \DeclareTextCommand{\textcrd}{PU}{\81\021}% U+0111  
15913 %\* \textcrd -> \crossd (wsuipa)  
15914 % An alternate glyph with the stroke through the bowl:  
15915 %\* \textcrd -> \textbard (tipa)  
15916 %\* \textcrd -> \bard (wsuipa)  
15917 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
15918 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112  
15919 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
15920 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113  
15921 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
15922 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
15923 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
15924 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
15925 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
15926 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
15927 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
15928 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
15929 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
15930 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
15931 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
15932 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
15933 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
15934 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
15935 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
15936 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
15937 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
15938 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
15939 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
15940 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
15941 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
15942 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
15943 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
15944 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
15945 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotac-  
cent  
15946 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
15947 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
15948 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
15949 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcom-  
maaccent  
15950 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
15951 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent

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15952 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
15953 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
15954 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
15955 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
15956 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
15957 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
15958 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
15959 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar; \hbar (AmS)
15960 \DeclareTextCommand{\texthbar}{PU}{\81\047}%* U+0127
15961 %* \texthbar -> \textcrh (tipa)
15962 %* \texthbar -> \crossh (wsuipa)
15963 %* \texthbar -> \planck (phonetic)
15964 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
15965 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
15966 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
15967 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
15968 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
15969 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
15970 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
15971 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
15972 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
15973 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
15974 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
15975 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
15976 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
15977 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
15978 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
15979 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
15980 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
15981 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
15982 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
15983 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
15984 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
15985 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
15986 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
15987 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
15988 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
15989 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
15990 % U+0133 LATIN SMALL LIGATURE IJ; ij
15991 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
15992 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
15993 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
15994 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
15995 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
15996 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
15997 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaac-
cent
15998 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
15999 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
16000 \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`.

```

16001 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
16002 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
16003 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
16004 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139

```

16005 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute  
 16006 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A  
 16007 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-  
 cent  
 16008 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B  
 16009 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent  
 16010 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C  
 16011 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron  
 16012 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D  
 16013 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron  
 16014 \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.  
 16015 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotac-  
 cent  
 16016 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F  
 16017 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent  
 16018 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140  
 16019 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
 16020 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141  
 16021 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
 16022 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142  
 16023 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute  
 16024 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143  
 16025 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute  
 16026 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144  
 16027 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaac-  
 cent  
 16028 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145  
 16029 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent  
 16030 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146  
 16031 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron  
 16032 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147  
 16033 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron  
 16034 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148  
 16035 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napos-  
 trophe, quoterightn  
 16036 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149  
 16037 % U+014A LATIN CAPITAL LETTER ENG; Eng  
 16038 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
 16039 % U+014B LATIN SMALL LETTER ENG; eng  
 16040 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
 16041 %\* \ng -> \eng (wsuipa)  
 16042 %\* \ng -> \engma (phonetic)  
 16043 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
 16044 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C  
 16045 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
 16046 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D  
 16047 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
 16048 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E  
 16049 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
 16050 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F  
 16051 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblac-  
 cute, Ohungarumlaut  
 16052 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150

16053 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odbla-  
 cute, ohungarumlaut  
 16054 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151  
 16055 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
 16056 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
 16057 % U+0153 LATIN SMALL LIGATURE OE; oe  
 16058 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
 16059 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
 16060 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154  
 16061 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
 16062 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155  
 16063 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaac-  
 cent  
 16064 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156  
 16065 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
 16066 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157  
 16067 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
 16068 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158  
 16069 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
 16070 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159  
 16071 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
 16072 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
 16073 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
 16074 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
 16075 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
 16076 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
 16077 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
 16078 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
 16079 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
 16080 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
 16081 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
 16082 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
 16083 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
 16084 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
 16085 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
 16086 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
 16087 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-  
 cent  
 16088 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
 16089 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
 16090 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
 16091 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
 16092 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
 16093 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
 16094 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
 16095 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
 16096 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
 16097 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
 16098 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
 16099 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
 16100 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
 16101 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
 16102 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
 16103 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
 16104 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
 16105 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
 16106 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B

16107 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
 16108 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
 16109 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
 16110 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
 16111 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
 16112 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
 16113 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
 16114 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
 16115 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udbla-  
 cute, Uhungarumlaut  
 16116 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
 16117 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udbla-  
 cute, uhungarumlaut  
 16118 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
 16119 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
 16120 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
 16121 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
 16122 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
 16123 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
 16124 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
 16125 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
 16126 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
 16127 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
 16128 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
 16129 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
 16130 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
 16131 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
 16132 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178  
 16133 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
 16134 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
 16135 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
 16136 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
 16137 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
 16138 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
 16139 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
 16140 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
 16141 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
 16142 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
 16143 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
 16144 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
 16145 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
 16146 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

### 51.2.5 Latin Extended-B: U+0180 to U+024F

16147 % U+0180 LATIN SMALL LETTER B WITH STROKE; bstroke; \textcrb (tipa)  
 16148 \DeclareTextCommand{\textcrb}{PU}{\81\200}% U+0180  
 16149 %\* \textcrb -> \crossb (wsuipa)  
 16150 % An alternate glyph with the stroke through the bowl:  
 16151 %\* \textcrb -> \textbarb (tipa)  
 16152 %\* \textcrb -> \barb (wsuipa)  
 16153 % U+0181 LATIN CAPITAL LETTER B WITH HOOK; Bhook; \hausaB (pho-  
 netic)  
 16154 \DeclareTextCommand{\texthausaB}{PU}{\81\201}%\* U+0181  
 16155 % U+0188 LATIN SMALL LETTER C WITH HOOK; chook; \texthtc (tipa)  
 16156 \DeclareTextCommand{\texthtc}{PU}{\81\210}% U+0188  
 16157 % U+018A LATIN CAPITAL LETTER D WITH HOOK; Dhook; \hausaD (pho-  
 netic)

16158 \DeclareTextCommand{\texthausaD}{PU}{\81\212}%\* U+018A  
16159 % U+018E LATIN CAPITAL LETTER REVERSED E; Ereversed  
16160 \DeclareTextCommand{\textEreversed}{PU}{\81\216}% U+018E  
16161 \DeclareTextCommand{\textrevE}{PU}{\81\216}% U+018E  
16162 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
16163 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
16164 %\* \textflorin -> \Florin (marvosym)  
16165 % U+0195 LATIN SMALL LETTER HV; hv; \texthvlig (tipa)  
16166 \DeclareTextCommand{\texthvlig}{PU}{\81\225}% U+0195  
16167 %\* \texthvlig -> \hv (wsuipa)  
16168 % U+0198 LATIN CAPITAL LETTER K WITH HOOK; Khook; \hausak (phonetic)  
16169 \DeclareTextCommand{\texthausaK}{PU}{\81\230}%\* U+0198  
16170 % U+0199 LATIN SMALL LETTER K WITH HOOK; khook; \texthtk (tipa)  
16171 \DeclareTextCommand{\texthtk}{PU}{\81\231}% U+0199  
16172 %\* \texthtk -> \hausak (phonetic)  
16173 % U+019A LATIN SMALL LETTER L WITH BAR; lbar;  
16174 % \textbarl (tipa), \barl (wsuipa)  
16175 \DeclareTextCommand{\textbarl}{PU}{\81\232}%\* U+019A  
16176 % U+019B LATIN SMALL LETTER LAMBDA WITH STROKE/  
16177 % LATIN SMALL LETTER BARRED LAMBDA; lambdastroke;  
16178 % \textcrlambda (tipa)  
16179 \DeclareTextCommand{\textcrlambda}{PU}{\81\233}% U+019B  
16180 %\* \textcrlambda -> \crossnilambda (wsuipa)  
16181 %\* \textcrlambda -> \barlambd (phonetic)  
16182 %\* \textcrlambda -> \lambdabar (txfonts/pxfonts)  
16183 %\* \textcrlambda -> \lambdaslash (txfonts/pxfonts)  
16184 % U+019E LATIN SMALL LETTER N WITH LONG RIGHT LEG; nlegright-long;  
16185 % \textnrleg (tipx)  
16186 \DeclareTextCommand{\textPUnrleg}{PU}{\81\236}% U+019E  
16187 %\* \textPUnrleg -> \textnrleg (tipx)  
16188 % U+01A5 LATIN SMALL LETTER P WITH HOOK; phook; \texthtp (tipa)  
16189 \DeclareTextCommand{\texthtp}{PU}{\81\245}% U+01A5  
16190 % U+01AB LATIN SMALL LETTER T WITH PALATAL HOOK; tpalatalhook;  
16191 % \textlhookt (tipa)  
16192 \DeclareTextCommand{\textlhookt}{PU}{\81\253}% U+01AB  
16193 % U+01AD LATIN SMALL LETTER T WITH HOOK; thook; \texthtt (tipa)  
16194 \DeclareTextCommand{\texthtt}{PU}{\81\255}% U+01AD  
16195 % U+01B9 LATIN SMALL LETTER EZH REVERSED/  
16196 % LATIN SMALL LETTER REVERSED YOGH; \textrevyogh (tipa)  
16197 \DeclareTextCommand{\textrevyogh}{PU}{\81\271}% U+01B9  
16198 % U+01BB LATIN LETTER TWO WITH STROKE; twostroke; \textcrtwo (tipa)  
16199 \DeclareTextCommand{\textcrtwo}{PU}{\81\273}% U+01BB  
16200 % U+01BE LATIN LETTER INVERTED GLOTTAL STOP WITH STROKE;  
16201 % glottalinvertedstroke; \textcrinvglotstop (tipa)  
16202 \DeclareTextCommand{\textcrinvglotstop}{PU}{\81\276}% U+01BE  
16203 % U+01BF LATIN LETTER WYNN; wynn; \textwynn (tipa)  
16204 \DeclareTextCommand{\textwynn}{PU}{\81\277}% U+01BF  
16205 % U+01C0 LATIN LETTER DENTAL CLICK/LATIN LETTER PIPE; clickdental;  
16206 % \textpipe (tipa)  
16207 \DeclareTextCommand{\textpipe}{PU}{\81\300}% U+01C0  
16208 %\* \textpipe -> \textpipevar (tipx)  
16209 % U+01C1 LATIN LETTER LATERAL CLICK/LATIN LETTER  
16210 % DOUBLE PIPE; clicklateral; \textdoublepipe (tipa)  
16211 \DeclareTextCommand{\textdoublepipe}{PU}{\81\301}% U+01C1

16212 %\* \textdoublepipe -> \textdoublepipevar (tipx)  
16213 % U+01C2 LATIN LETTER ALVEOLAR CLICK/LATIN LETTER PIPE DOUBLE BAR;  
16214 % clickalveolar; \textdoublebarpipe (tipa)  
16215 \DeclareTextCommand{\textdoublebarpipe}{PU}{\81\302}% U+01C2  
16216 %\* \textdoublebarpipe -> \textdoublebarpipevar (tipx)  
16217 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
16218 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
16219 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron  
16220 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
16221 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
16222 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
16223 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
16224 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
16225 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
16226 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
16227 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
16228 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
16229 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
16230 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
16231 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
16232 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
16233 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
16234 % U+01DD LATIN SMALL LETTER TURNED E; eturned; \inve (wasysym)  
16235 \DeclareTextCommand{\textinve}{PU}{\81\335}%\* U+01DD  
16236 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
16237 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
16238 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
16239 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
16240 %\* \textgslash -> \textcrg (tipa)  
16241 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
16242 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
16243 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
16244 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
16245 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
16246 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
16247 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
16248 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
16249 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
16250 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
16251 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
16252 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
16253 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
16254 \DeclareTextCompositeCommand{\v}{PU}{\j}{\81\360}% U+01F0  
16255 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
16256 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
16257 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
16258 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
16259 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
16260 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
16261 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8  
16262 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
16263 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9  
16264 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
16265 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC  
16266 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
16267 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD

16268 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE;  
 16269 % \*Oslashacute, Ostrokeacut  
 16270 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\376}% U+01FE  
 16271 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE;  
 16272 % \*oslashacute, ostrokeacute  
 16273 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF  
 16274 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
 16275 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
 16276 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
 16277 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
 16278 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
 16279 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
 16280 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
 16281 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
 16282 % U+0206 LATIN CAPITAL LETTER E WITH INVERTED BREVE; Einvert-  
 edbreve  
 16283 \DeclareTextCompositeCommand{\textinvbreve}{PU}{E}{\82\006}% U+0206  
 16284 % U+0207 LATIN SMALL LETTER E WITH INVERTED BREVE; einverted-  
 breve  
 16285 \DeclareTextCompositeCommand{\textinvbreve}{PU}{e}{\82\007}% U+0207  
 16286 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
 16287 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
 16288 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
 16289 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
 16290 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
 16291 % U+020A LATIN CAPITAL LETTER I WITH INVERTED BREVE; Iinverted-  
 breve  
 16292 \DeclareTextCompositeCommand{\textinvbreve}{PU}{I}{\82\012}% U+020A  
 16293 % U+020B LATIN SMALL LETTER I WITH INVERTED BREVE; iinverted-  
 breve  
 16294 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
 16295 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
 16296 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
 16297 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
 16298 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
 16299 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
 16300 % U+020E LATIN CAPITAL LETTER O WITH INVERTED BREVE; Oinvert-  
 edbreve  
 16301 \DeclareTextCompositeCommand{\textinvbreve}{PU}{O}{\82\016}% U+020E  
 16302 % U+020F LATIN SMALL LETTER O WITH INVERTED BREVE; oinverted-  
 breve  
 16303 \DeclareTextCompositeCommand{\textinvbreve}{PU}{o}{\82\017}% U+020F  
 16304 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
 16305 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
 16306 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
 16307 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
 16308 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
 16309 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
 16310 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
 16311 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
 16312 % U+0216 LATIN CAPITAL LETTER U WITH INVERTED BREVE; Uinvert-  
 edbreve  
 16313 \DeclareTextCompositeCommand{\textinvbreve}{PU}{U}{\82\026}% U+0216  
 16314 % U+0217 LATIN SMALL LETTER U WITH INVERTED BREVE; uinverted-  
 breve  
 16315 \DeclareTextCompositeCommand{\textinvbreve}{PU}{u}{\82\027}% U+0217  
 16316 % U+021E LATIN CAPITAL LETTER H WITH CARON



16317 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
 16318 % U+021F LATIN SMALL LETTER H WITH CARON  
 16319 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
 16320 % U+0221 LATIN SMALL LETTER D WITH CURL; \textctd (tipa)  
 16321 \DeclareTextCommand{\textctd}{PU}{\82\041}% U+0221  
 16322 % U+0225 LATIN SMALL LETTER Z WITH HOOK; \textcommatailz (tipa)  
 16323 \DeclareTextCommand{\textcommatailz}{PU}{\82\045}% U+0225  
 16324 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
 16325 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
 16326 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
 16327 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
 16328 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
 16329 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
 16330 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
 16331 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
 16332 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
 16333 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
 16334 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
 16335 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
 16336 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
 16337 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
 16338 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
 16339 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
 16340 % U+0235 LATIN SMALL LETTER N WITH CURL; \textctn (tipa)  
 16341 \DeclareTextCommand{\textctn}{PU}{\82\065}% U+0235  
 16342 % U+0236 LATIN SMALL LETTER T WITH CURL; \textctt (tipa)  
 16343 \DeclareTextCommand{\textctt}{PU}{\82\066}% U+0236  
 16344 % U+0237 LATIN SMALL LETTER DOTLESS J  
 16345 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237  
 16346 % U+0238 LATIN SMALL LETTER DB DIGRAPH; \textdblig (tipx)  
 16347 \DeclareTextCommand{\textPUdblig}{PU}{\82\070}% U+0238  
 16348 %\* \textPUdblig -> \textdblig (tipx)  
 16349 % U+0239 LATIN SMALL LETTER QP DIGRAPH; \textqplig (tipx)  
 16350 \DeclareTextCommand{\textPUqplig}{PU}{\82\071}% U+0239  
 16351 %\* \textPUqplig -> \textqplig (tipx)  
 16352 % U+023C LATIN SMALL LETTER C WITH STROKE; \slashc (wsuipa)  
 16353 \DeclareTextCommand{\textslashc}{PU}{\82\074}%\* U+023C  
 16354 %\* \textslashc -> \textcentoldstyle (textcomp)  
 16355 % With bar instead of stroke:  
 16356 %\* \textslashc -> \textbarc (tipa)

### 51.2.6 IPA Extensions: U+0250 to U+02AF

16357 % U+0250 LATIN SMALL LETTER TURNED A; aturned; \textturna (tipa)  
 16358 \DeclareTextCommand{\textturna}{PU}{\82\120}% U+0250  
 16359 %\* \textturna -> \inva (wasysym)  
 16360 % U+0251 LATIN SMALL LETTER ALPHA/LATIN SMALL LETTER  
 16361 % SCRIPT A; ascript; \textscripta (tipa), \scripta (wsuipa)  
 16362 \DeclareTextCommand{\textscripta}{PU}{\82\121}%\* U+0251  
 16363 %\* \textscripta -> \vara (phonetic)  
 16364 % U+0252 LATIN SMALL LETTER TURNED ALPHA; ascriptturned;  
 16365 % \textturnscripta (tipa)  
 16366 \DeclareTextCommand{\textturnscripta}{PU}{\82\122}% U+0252  
 16367 %\* \textturnscripta -> \invscripta (wsuipa)  
 16368 %\* \textturnscripta -> \rotvara (phonetic)  
 16369 % U+0253 LATIN CAPITAL LETTER B WITH HOOK; bhook; \texthtb (tipa)  
 16370 \DeclareTextCommand{\texthtb}{PU}{\82\123}% U+0253  
 16371 %\* \texthtb -> \hookb (wsuipa)

16372 %\* \texthtb -> \hausab (phonetic)  
 16373 % U+0254 LATIN SMALL LETTER OPEN O; oopen;  
 16374 % \textopeno (tipa), \openo (wasysym)  
 16375 \DeclareTextCommand{\textopeno}{PU}{\82\124}%\* U+0254  
 16376 %\* \textopeno -> \varopeno (phonetic)  
 16377 % U+0255 LATIN SMALL LETTER C WITH CURL; ccurl; \textctc (tipa)  
 16378 \DeclareTextCommand{\textctc}{PU}{\82\125}% U+0255  
 16379 %\* \textctc -> \curlyc (wsuipa)  
 16380 % U+0256 LATIN SMALL LETTER D WITH TAIL; dtail; \textrtaild (tipa)  
 16381 \DeclareTextCommand{\textrtaild}{PU}{\82\126}%\* U+0256  
 16382 %\* \textrtaild -> \taild (wsuipa)  
 16383 % U+0257 LATIN SMALL LETTER D WITH HOOK; dhook; \texthtd (tipa)  
 16384 \DeclareTextCommand{\texthtd}{PU}{\82\127}% U+0257  
 16385 %\* \texthtd -> \hookd (wsuipa)  
 16386 %\* \texthtd -> \hausad (phonetic)  
 16387 % U+0258 LATIN SMALL LETTER REVERSED E; ereversed;  
 16388 % \textreve (tipa), \reve (wsuipa)  
 16389 \DeclareTextCommand{\textreve}{PU}{\82\130}%\* U+0258  
 16390 % U+0259 LATIN SMALL LETTER SCHWA; schwa;  
 16391 % \textschwa (tipa), \schwa (wsuipa, phonetic)  
 16392 \DeclareTextCommand{\textschwa}{PU}{\82\131}%\* U+0259  
 16393 % U+025A LATIN SMALL LETTER SCHWA WITH HOOK; schwahook;  
 16394 % \textrhookswa (tipa)  
 16395 \DeclareTextCommand{\textrhookswa}{PU}{\82\132}% U+025A  
 16396 %\* \textrhookswa -> \er (wsuipa)  
 16397 % U+025B LATIN SMALL LETTER OPEN E/LATIN SMALL LETTER EP-  
 SILON; eopen;  
 16398 % \niepsilon (wsuipa)  
 16399 \DeclareTextCommand{\textniepsilon}{PU}{\82\133}%\* U+025B  
 16400 %\* \textniepsilon -> \epsi (phonetic)  
 16401 % U+025C LATIN SMALL LETTER REVERSED OPEN E; eopenreversed;  
 16402 % \textreveysilon (tipa), \reveysilon (wsuipa)  
 16403 \DeclareTextCommand{\textreveysilon}{PU}{\82\134}%\* U+025C  
 16404 % U+025D LATIN SMALL LETTER REVERSED OPEN E WITH HOOK; eopen-  
 reversedhook;  
 16405 % \textrhookreveysilon (tipa)  
 16406 \DeclareTextCommand{\textrhookreveysilon}{PU}{\82\135}%\* U+025D  
 16407 %\* \textrhookreveysilon -> \hookreveysilon (wsuipa)  
 16408 % U+025E LATIN SMALL LETTER CLOSED REVERSED OPEN E; eopenre-  
 versedclosed;  
 16409 % \textclosereveysilon (tipa)  
 16410 \DeclareTextCommand{\textclosereveysilon}{PU}{\82\136}% U+025E  
 16411 %\* \textclosereveysilon -> \closedreveysilon (wsuipa)  
 16412 % U+025F LATIN SMALL LETTER DOTLESS J WITH STROKE; jdot-  
 lessstroke;  
 16413 % \textbardotlessj (tipa)  
 16414 \DeclareTextCommand{\textbardotlessj}{PU}{\82\137}% U+025F  
 16415 %\* \textbardotlessj -> \barj (phonetic)  
 16416 % U+0260 LATIN SMALL LETTER G WITH HOOK; ghook; \texthtg (tipa)  
 16417 \DeclareTextCommand{\texthtg}{PU}{\82\140}% U+0260  
 16418 %\* \texthtg -> \hookg (wsuipa)  
 16419 % U+0261 LATIN SMALL LETTER SCRIPT G; gscript;  
 16420 % \textscriptg (tipa), \scriptg (wsuipa)  
 16421 \DeclareTextCommand{\textscriptg}{PU}{\82\141}%\* U+0261  
 16422 %\* \textscriptg -> \varg (phonetic)  
 16423 % U+0262 LATIN LETTER SMALL CAPITAL G; \textscg (tipa), \scg (wsuipa)  
 16424 \DeclareTextCommand{\textscg}{PU}{\82\142}%\* U+0262

16425 % U+0263 LATIN SMALL LETTER GAMMA; gammalatinsmall;  
16426 % \ipagamma (wsuipa), \vod (phonetic)  
16427 \DeclareTextCommand{\textipagamma}{PU}{\82\143}%\* U+0263  
16428 %\* \textipagamma -> \vod (phonetic)  
16429 % U+0264 LATIN SMALL LETTER RAMS HORN; ramshorn;  
16430 % \babygamma (wsuipa)  
16431 \DeclareTextCommand{\textbabygamma}{PU}{\82\144}%\* U+0264  
16432 % U+0265 LATIN SMALL LETTER TURNED H; hturned; \textturnh (tipa)  
16433 \DeclareTextCommand{\textturnh}{PU}{\82\145}% U+0265  
16434 %\* \textturnh -> \invh (wsuipa)  
16435 %\* \textturnh -> \udesc (phonetic)  
16436 % U+0266 LATIN SMALL LETTER H WITH HOOK; hhook; \texthth (tipa)  
16437 \DeclareTextCommand{\texthth}{PU}{\82\146}% U+0266  
16438 %\* \texthth -> \hookh (wsuipa)  
16439 %\* \texthth -> \voicedh (phonetic)  
16440 % U+0267 LATIN SMALL LETTER HENG WITH HOOK; henghook; \tex-  
ththeng (tipa)  
16441 \DeclareTextCommand{\texththeng}{PU}{\82\147}% U+0267  
16442 %\* \texththeng -> \hookheng (wsuipa)  
16443 % U+0268 LATIN SMALL LETTER I WITH STROKE;  
16444 % \textbari (tipa), \bari (wsuipa)  
16445 \DeclareTextCommand{\textbari}{PU}{\82\150}%\* U+0268  
16446 %\* \textbari -> \ibar (phonetic)  
16447 % U+0269 LATIN SMALL LETTER IOTA; iotalatin; \niiota (wsuipa)  
16448 \DeclareTextCommand{\textniiota}{PU}{\82\151}%\* U+0269  
16449 %\* \textniiota -> \vari (phonetic)  
16450 % U+026A LATIN LETTER SMALL CAPITAL I; \textsci (tipa), \sci (wsuipa)  
16451 \DeclareTextCommand{\textsci}{PU}{\82\152}%\* U+026A  
16452 % U+026B LATIN SMALL LETTER L WITH MIDDLE TILDE; lmiddletilde;  
16453 % \textltilde (tipa)  
16454 \DeclareTextCommand{\textltilde}{PU}{\82\153}% U+026B  
16455 %\* \textltilde -> \tildel (wsuipa)  
16456 % U+026C LATIN SMALL LETTER L WITH BELT; lbelt; \textbeltl (tipa)  
16457 \DeclareTextCommand{\textbeltl}{PU}{\82\154}% U+026C  
16458 %\* \textbeltl -> \latfric (wsuipa)  
16459 % U+026D LATIN SMALL LETTER L WITH RETROFLEX HOOK;  
16460 % \hookretroflex; \textrtaill (tipa)  
16461 \DeclareTextCommand{\textrtaill}{PU}{\82\155}% U+026D  
16462 %\* \textrtaill -> \taill (wsuipa)  
16463 % U+026E LATIN SMALL LETTER LEZH; lezh; \textlyoghlig (tipa)  
16464 \DeclareTextCommand{\textlyoghlig}{PU}{\82\156}% U+026E  
16465 %\* \textlyoghlig -> \lz (wsuipa)  
16466 % U+026F LATIN SMALL LETTER TURNED M; mturned; \textturnm (tipa)  
16467 \DeclareTextCommand{\textturnm}{PU}{\82\157}% U+026F  
16468 %\* \textturnm -> \invm (wsuipa)  
16469 %\* \textturnm -> \rotm (phonetic)  
16470 % U+0270 LATIN SMALL LETTER TURNED M WITH LONG LEG; mlongleg-  
turned;  
16471 % \textturnmrleg (tipa)  
16472 \DeclareTextCommand{\textturnmrleg}{PU}{\82\160}% U+0270  
16473 %\* \textturnmrleg -> \legm (wsuipa)  
16474 % U+0271 LATIN SMALL LETTER M WITH HOOK; mhook; \textltailm (tipa)  
16475 \DeclareTextCommand{\textltailm}{PU}{\82\161}% U+0271  
16476 %\* \textltailm -> \labdentainas (wsuipa)  
16477 %\* \textltailm -> \emgma (phonetic)  
16478 % U+0272 LATIN SMALL LETTER N WITH LEFT HOOK; nhookleft; \textl-  
tailn (tipa)

16479 \DeclareTextCommand{\textltailn}{PU}{\82\162}% U+0272  
16480 %\* \textltailn -> \nj (wsuipa)  
16481 %\* \textltailn -> \enya (phonetic)  
16482 % U+0273 LATIN SMALL LETTER N WITH RETROFLEX HOOK;  
16483 % \nhookretroflex; \textrtailn (tipa)  
16484 \DeclareTextCommand{\textrtailn}{PU}{\82\163}% U+0273  
16485 %\* \textrtailn -> \tailn (wsuipa)  
16486 % U+0274 LATIN LETTER SMALL CAPITAL N; \textscn (tipa), \scn (wsuipa)  
16487 \DeclareTextCommand{\textscn}{PU}{\82\164}%\* U+0274  
16488 % U+0275 LATIN CAPITAL LETTER O WITH MIDDLE TILDE/  
16489 % LATIN CAPITAL LETTER BARRED O; obarred;  
16490 % \textbaro (tipa), \baro (wsuipa)  
16491 % But \baro from stmaryrd is different!  
16492 \DeclareTextCommand{\textbaro}{PU}{\82\165}% U+0275  
16493 % U+0276 LATIN LETTER SMALL CAPITAL OE; \textscoe (tipa)  
16494 \DeclareTextCommand{\textscoe}{PU}{\82\166}% U+0276  
16495 % U+0277 LATIN SMALL LETTER CLOSED OMEGA; omegalatinclosed;  
16496 % \textcloseomega (tipa)  
16497 \DeclareTextCommand{\textcloseomega}{PU}{\82\167}% U+0277  
16498 %\* \textcloseomega -> \closedniomega (wsuipa)  
16499 %\* \textcloseomega -> \varomega (phonetic)  
16500 % U+0278 LATIN SMALL LETTER PHI; philatin; \nphi (wsuipa)  
16501 \DeclareTextCommand{\textnphi}{PU}{\82\170}%\* U+0278  
16502 % U+0279 LATIN SMALL LETTER TURNED R; rturned; \textturnr (tipa)  
16503 \DeclareTextCommand{\textturnr}{PU}{\82\171}% U+0279  
16504 %\* \textturnr -> \invr (wsuipa)  
16505 %\* \textturnr -> \rotr (phonetic)  
16506 % U+027A LATIN SMALL LETTER TURNED R WITH LONG LEG;  
16507 % \rlonglegturned; \textturnlongleg (tipa)  
16508 \DeclareTextCommand{\textturnlongleg}{PU}{\82\172}% U+027A  
16509 %\* \textturnlongleg -> \invleg (wsuipa)  
16510 % U+027B LATIN SMALL LETTER TURNED R WITH HOOK; rhohturned;  
16511 % \textturnrrtail (tipa)  
16512 \DeclareTextCommand{\textturnrrtail}{PU}{\82\173}% U+027B  
16513 %\* \textturnrrtail -> \tailinvr (wsuipa)  
16514 % U+027C LATIN SMALL LETTER R WITH LONG LEG; \rlongleg; \textlongleg (tipa)  
16515 \DeclareTextCommand{\textlongleg}{PU}{\82\174}%\* U+027C  
16516 %\* \textlongleg -> \leg (wsuipa)  
16517 % U+027D LATIN SMALL LETTER R WITH TAIL; rhoht; \textrtailr (tipa)  
16518 \DeclareTextCommand{\textrtailr}{PU}{\82\175}% U+027D  
16519 %\* \textrtailr -> \tailr (wsuipa)  
16520 % U+027E LATIN SMALL LETTER R WITH FISHHOOK; rfishhook;  
16521 % \textfishhookr (tipa)  
16522 \DeclareTextCommand{\textfishhookr}{PU}{\82\176}% U+027E  
16523 %\* \textfishhookr -> \flapr (wsuipa)  
16524 %\* \textfishhookr -> \flap (phonetic)  
16525 % U+027F LATIN SMALL LETTER REVERSED R WITH FISHHOOK; rfishhookreversed;  
16526 % \textlhtlongi (tipa)  
16527 \DeclareTextCommand{\textlhtlongi}{PU}{\82\177}% U+027F  
16528 % U+0280 LATIN LETTER SMALL CAPITAL R; \textscr (tipa), \scr (wsuipa)  
16529 \DeclareTextCommand{\textscr}{PU}{\82\200}%\* U+0280  
16530 % U+0281 LATIN LETTER SMALL CAPITAL INVERTED R; Rsmallinverted;  
16531 % \textinvscr (tipa), \invscr (wsuipa)  
16532 \DeclareTextCommand{\textinvscr}{PU}{\82\201}%\* U+0281  
16533 % U+0282 LATIN SMALL LETTER S WITH HOOK; shook; \texttrails (tipa)

16534 \DeclareTextCommand{\textrtails}{PU}{\82\202}% U+0282  
16535 %\* \textrtails -> \tails (wsuipa)  
16536 % U+0283 LATIN SMALL LETTER ESH; esh; \textesh (tipa), \esh (wsuipa)  
16537 \DeclareTextCommand{\textesh}{PU}{\82\203}%\* U+0283  
16538 % U+0284 LATIN SMALL LETTER DOTLESS J WITH STROKE AND HOOK;  
16539 % dotlessjstrokehook; \texthtbardotlessj (tipa)  
16540 \DeclareTextCommand{\texthtbardotlessj}{PU}{\82\204}% U+0284  
16541 % U+0285 LATIN SMALL LETTER SQUAT REVERSED ESH; eshsquat-  
versed;  
16542 % \textvibyi (tipa)  
16543 \DeclareTextCommand{\textvibyi}{PU}{\82\205}% U+0285  
16544 % U+0286 LATIN SMALL LETTER ESH WITH CURL; eshcurl; \textctesh (tipa)  
16545 \DeclareTextCommand{\textctesh}{PU}{\82\206}% U+0286  
16546 %\* \textctesh -> \curlyesh (wsuipa)  
16547 % U+0287 LATIN SMALL LETTER TURNED T; tturned; \textturnt (tipa)  
16548 \DeclareTextCommand{\textturnt}{PU}{\82\207}% U+0287  
16549 %\* \textturnt -> \clickt (wsuipa)  
16550 % U+0288 LATIN SMALL LETTER T WITH RETROFLEX HOOK; retroflex-  
hook;  
16551 % \textrtailt (tipa)  
16552 \DeclareTextCommand{\textrtailt}{PU}{\82\210}% U+0288  
16553 %\* \textrtailt -> \tailt (wsuipa)  
16554 % U+0289 LATIN SMALL LETTER U BAR; ubar;  
16555 % \textbaru (tipa), \baru (wsuipa)  
16556 \DeclareTextCommand{\textbaru}{PU}{\82\211}%\* U+0289  
16557 %\* \textbaru -> \ubar (phonetic)  
16558 % U+028A LATIN SMALL LETTER UPSILON; \niupsilon (wsuipa)  
16559 \DeclareTextCommand{\textniupsilon}{PU}{\82\212}%\* U+028A  
16560 %\* \textniupsilon -> \rotOmega (phonetic)  
16561 % U+028B LATIN SMALL LETTER V WITH HOOK/LATIN SMALL LET-  
TER SCRIPT V;  
16562 % vhook; \textscriptv (tipa), \scriptv (wsuipa)  
16563 \DeclareTextCommand{\textscriptv}{PU}{\82\213}%\* U+028B  
16564 % U+028C LATIN SMALL LETTER TURNED V; vturned; \textturnv (tipa)  
16565 \DeclareTextCommand{\textturnv}{PU}{\82\214}%\* U+028C  
16566 %\* \textturnv -> \invv (wsuipa)  
16567 %\* \textturnv -> \pwedge (phonetic)  
16568 % U+028D LATIN SMALL LETTER TURNED W; wturned; \textturnw (tipa)  
16569 \DeclareTextCommand{\textturnw}{PU}{\82\215}%\* U+028D  
16570 %\* \textturnw -> \invw (wsuipa)  
16571 %\* \textturnw -> \rotw (phonetic)  
16572 % U+028E LATIN SMALL LETTER TURNED Y; yturned; \textturny (tipa)  
16573 \DeclareTextCommand{\textturny}{PU}{\82\216}%\* U+028E  
16574 %\* \textturny -> \invy (wsuipa)  
16575 %\* \textturny -> \roty (phonetic)  
16576 % U+028F LATIN LETTER SMALL CAPITAL Y; \textscy (tipa), \scy (wsuipa)  
16577 \DeclareTextCommand{\textscy}{PU}{\82\217}%\* U+028F  
16578 % U+0290 LATIN SMALL LETTER Z WITH RETROFLEX HOOK; zretroflex-  
hook;  
16579 % \textrtailz (tipa)  
16580 \DeclareTextCommand{\textrtailz}{PU}{\82\220}% U+0290  
16581 %\* \textrtailz -> \tailz (wsuipa)  
16582 % U+0291 LATIN SMALL LETTER Z WITH CURL; zcurl; \textctz (tipa)  
16583 \DeclareTextCommand{\textctz}{PU}{\82\221}% U+0291  
16584 %\* \textctz -> \curlyz (wsuipa)  
16585 % U+0292 LATIN SMALL LETTER EZH/LATIN SMALL LETTER YOGH; ezh;  
16586 % \textyogh (tipa), \yogh (wsuipa)

16587 \DeclareTextCommand{\textyogh}{PU}{\82\222}%\* U+0292  
16588 % U+0293 LATIN SMALL LETTER EZH WITH CURL/LATIN SMALL LET-  
TER YOGH CURL;  
16589 % ezhcurl; \textctyogh (tipa)  
16590 \DeclareTextCommand{\textctyogh}{PU}{\82\223}% U+0293  
16591 %\* \textctyogh -> \curlyyogh (wsuipa)  
16592 % U+0294 LATIN LETTER GLOTTAL STOP; glottalstop;  
16593 % \textglotstop (tipa), \glotstop (wsuipa)  
16594 \DeclareTextCommand{\textglotstop}{PU}{\82\224}%\* U+0294  
16595 %\* \textglotstop -> \ejective (wsuipa)  
16596 %\* \textglotstop -> \glottal (phonetic)  
16597 % U+0295 LATIN LETTER PHARYNGEAL VOICED FRICATIVE/  
16598 % LATIN LETTER REVERSED GLOTTAL STOP; glottalstopreversed;  
16599 % \textrevglotstop (tipa), \revglotstop (wsuipa)  
16600 \DeclareTextCommand{\textrevglotstop}{PU}{\82\225}%\* U+0295  
16601 %\* \textrevglotstop -> \reveject (wsuipa)  
16602 % U+0296 LATIN LETTER INVERTED GLOTTAL STOP; glottalstopinverted;  
16603 % \textinvglotstop (tipa), \invglotstop (wsuipa)  
16604 \DeclareTextCommand{\textinvglotstop}{PU}{\82\226}%\* U+0296  
16605 % U+0297 LATIN LETTER STRETCHED C; cstretched; \textstretchc (tipa)  
16606 \DeclareTextCommand{\textstretchc}{PU}{\82\227}% U+0297  
16607 %\* \textstretchc -> \clickc (wsuipa)  
16608 %\* \textstretchc -> \textstretchcvar (tipx)  
16609 % U+0298 LATIN LETTER BILABIAL CLICK; bilabialclick;  
16610 % \textbullseye (tipa)  
16611 \DeclareTextCommand{\textbullseye}{PU}{\82\230}% U+0298  
16612 %\* \textbullseye -> \clickb (wsuipa)  
16613 %\* \textbullseye -> \textObullseye (tipx)  
16614 % U+0299 LATIN LETTER SMALL CAPITAL B; \textscb (tipa)  
16615 \DeclareTextCommand{\textscb}{PU}{\82\231}% U+0299  
16616 % U+029A LATIN SMALL LETTER CLOSED OPEN E; eopenclosed;  
16617 % \textclosepsilon (tipa)  
16618 \DeclareTextCommand{\textclosepsilon}{PU}{\82\232}% U+029A  
16619 % U+029B LATIN LETTER SMALL CAPITAL G WITH HOOK; Gsmallhook;  
16620 % \texthtscg (tipa)  
16621 \DeclareTextCommand{\texthtscg}{PU}{\82\233}% U+029B  
16622 % U+029C LATIN LETTER SMALL CAPITAL H; \textsch (tipa)  
16623 \DeclareTextCommand{\textsch}{PU}{\82\234}% U+029C  
16624 % U+029D LATIN SMALL LETTER J WITH CROSSED-TAIL; jcrossed-  
tail; \textcdj (tipa)  
16625 \DeclareTextCommand{\textctj}{PU}{\82\235}% U+029D  
16626 %\* \textctj -> \textctjvar (tipx)  
16627 % U+029E LATIN SMALL LETTER TURNED K; kturned; \textturnk (tipa)  
16628 \DeclareTextCommand{\textturnk}{PU}{\82\236}% U+029E  
16629 %\* \textturnk -> \textturnsck (tipx)  
16630 % U+029F LATIN LETTER SMALL CAPITAL L; \textscL (tipa)  
16631 \DeclareTextCommand{\textscL}{PU}{\82\237}% U+029F  
16632 % U+02A0 LATIN SMALL LETTER Q WITH HOOK; qhook; \texthtq (tipa)  
16633 \DeclareTextCommand{\texthtq}{PU}{\82\240}% U+02A0  
16634 % U+02A1 LATIN LETTER GLOTTAL STOP WITH STROKE; glottalstop-  
stroke;  
16635 % \textbarglotstop (tipa)  
16636 \DeclareTextCommand{\textbarglotstop}{PU}{\82\241}% U+02A1  
16637 % U+02A2 LATIN LETTER REVERSED GLOTTAL STOP WITH STROKE/  
16638 % LATIN LETTER REVERSED GLOTTAL STOP BAR; glottalstopstrokere-  
versed;  
16639 % \textbarrevglotstop (tipa)

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16640 \DeclareTextCommand{\textbarrevglotstop}{PU}{\82\242}% U+02A2
16641 % U+02A3 LATIN SMALL LETTER DZ DIGRAPH; dzaltone; \textdzlig (tipa)
16642 \DeclareTextCommand{\textdzlig}{PU}{\82\243}% U+02A3
16643 %* \textdzlig -> \dz (wsupipa)
16644 % U+02A4 LATIN SMALL LETTER DEZH DIGRAPH; dezh; \textdyogh-
      lig (tipa)
16645 \DeclareTextCommand{\textdyoghlig}{PU}{\82\244}% U+02A4
16646 % U+02A5 LATIN SMALL LETTER DZ DIGRAPH WITH CURL; dzcurl;
16647 % \textdctzlig (tipa)
16648 \DeclareTextCommand{\textdctzlig}{PU}{\82\245}% U+02A5
16649 % U+02A6 LATIN SMALL LETTER TS DIGRAPH; ts; \texttslig (tipa)
16650 \DeclareTextCommand{\texttslig}{PU}{\82\246}% U+02A6
16651 % U+02A7 LATIN SMALL LETTER TESH DIGRAPH; tesh; \textteshlig (tipa)
16652 \DeclareTextCommand{\textteshlig}{PU}{\82\247}% U+02A7
16653 %* \textteshlig -> \tesh (wsuipa)
16654 % U+02A8 LATIN SMALL LETTER TC DIGRAPH WITH CURL; tccurl;
16655 % \texttctclig (tipa)
16656 \DeclareTextCommand{\texttctclig}{PU}{\82\250}% U+02A8
16657 % U+02AE LATIN SMALL LETTER TURNED H WITH FISHHOOK;
16658 % \textlhtlongy (tipa)
16659 \DeclareTextCommand{\textlhtlongy}{PU}{\82\256}% U+02AE
16660 % U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;
16661 % \textvibyy (tipa)
16662 \DeclareTextCommand{\textvibyy}{PU}{\82\257}% U+02AF

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### 51.2.7 Spacing Modifier Letters: U+02B0 to U+02FF

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16663 % U+02BD MODIFIER LETTER REVERSED COMMA;
16664 % commareversedmod, afii64937; \textrevapostrophe (tipa)
16665 \DeclareTextCommand{\textrevapostrophe}{PU}{\82\275}% U+02BD
16666 % U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;
16667 % \textraiseglotstop (tipa)
16668 \DeclareTextCommand{\textraiseglotstop}{PU}{\82\300}% U+02C0
16669 % U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;
16670 % \textlptr (tipa)
16671 \DeclareTextCommand{\textlptr}{PU}{\82\302}% U+02C2
16672 % U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;
16673 % \textrptr (tipa)
16674 \DeclareTextCommand{\textrptr}{PU}{\82\303}% U+02C3
16675 % U+02C7 CARON; caron
16676 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
16677 % U+02C8 MODIFIER LETTER VERTICAL LINE; verticallinemod;
16678 % \textprimstress (tipa)
16679 \DeclareTextCommand{\textprimstress}{PU}{\82\310}% U+02C8
16680 % U+02CC MODIFIER LETTER LOW VERTICAL LINE; verticallinelowmod;
16681 % \textsecstress (tipa)
16682 \DeclareTextCommand{\textsecstress}{PU}{\82\314}% U+02CC
16683 % U+02D0 MODIFIER LETTER TRIANGULAR COLON; colontriangularmod;
16684 % \textlengthmark (tipa)
16685 \DeclareTextCommand{\textlengthmark}{PU}{\82\320}% U+02D0
16686 % U+02D1 MODIFIER LETTER HALF TRIANGULAR COLON; colontriangu-
      larhalfmod;
16687 % \texthalflength (tipa)
16688 \DeclareTextCommand{\texthalflength}{PU}{\82\321}% U+02D1
16689 % U+02D8 BREVE; breve
16690 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
16691 % U+02D9 DOT ABOVE; dotaccent
16692 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9

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16693 % U+02DA RING ABOVE; ring  
 16694 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
 16695 % U+02DB OGONEK; ogonek  
 16696 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
 16697 % U+02DC SMALL TILDE; ilde, \*tilde  
 16698 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
 16699 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut  
 16700 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
 16701 \DeclareTextCommand{\textacutedbl}{PU}{\82\335}% U+02DD  
 16702 % U+02F3 MODIFIER LETTER LOW RING  
 16703 \DeclareTextCommand{\textringlow}{PU}{\82\363}% U+02F3  
 16704 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
 16705 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
 16706 % U+02F7 MODIFIER LETTER LOW TILDE  
 16707 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7  
 16708 % U+02F9 MODIFIER LETTER BEGIN HIGH TONE; \textopencorner (tipa)  
 16709 \DeclareTextCommand{\textopencorner}{PU}{\82\371}% U+02F9  
 16710 % U+02FA MODIFIER LETTER END HIGH TONE; \textcorner (tipa)  
 16711 \DeclareTextCommand{\textcorner}{PU}{\82\372}% U+02FA

### 51.2.8 Combining Diacritical Marks: U+0300 to U+036F

16712 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
 16713 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 16714 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
 16715 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 16716 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcomb  
 16717 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 16718 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
 16719 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 16720 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
 16721 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

### 51.2.9 Greek and Coptic: U+0370 to U+03FF

16722 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
 16723 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
 16724 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
 16725 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
 16726 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanos  
 16727 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
 16728 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
 16729 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
 16730 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
 16731 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
 16732 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
 16733 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
 16734 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrontonos  
 16735 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
 16736 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilonontonos  
 16737 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
 16738 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
 16739 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
 16740 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS;  
 16741 % iotadieresis  
 16742 \DeclareTextCompositeCommand{\'}{PU}{\textIotadieresis}{\83\220}% U+0390  
 16743 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha



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16744 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
16745 % U+0392 GREEK CAPITAL LETTER BETA; Beta
16746 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
16747 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma; \Gamma (LaTeX)
16748 \DeclareTextCommand{\textGamma}{PU}{\83\223}%* U+0393
16749 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta; \Delta (LaTeX)
16750 \DeclareTextCommand{\textDelta}{PU}{\83\224}%* U+0394
16751 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
16752 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
16753 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
16754 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
16755 % U+0397 GREEK CAPITAL LETTER ETA; Eta
16756 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
16757 % U+0398 GREEK CAPITAL LETTER THETA; Theta; \Theta (LaTeX)
16758 \DeclareTextCommand{\textTheta}{PU}{\83\230}%* U+0398
16759 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
16760 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
16761 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
16762 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
16763 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda; \Lambda (LaTeX)
16764 \DeclareTextCommand{\textLambda}{PU}{\83\233}%* U+039B
16765 % U+039C GREEK CAPITAL LETTER MU; Mu
16766 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
16767 % U+039D GREEK CAPITAL LETTER NU; Nu
16768 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
16769 % U+039E GREEK CAPITAL LETTER XI; Xi; \Xi (LaTeX)
16770 \DeclareTextCommand{\textXi}{PU}{\83\236}%* U+039E
16771 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
16772 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
16773 % U+03A0 GREEK CAPITAL LETTER PI; Pi
16774 \DeclareTextCommand{\textPi}{PU}{\83\240}%* U+03A0
16775 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
16776 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
16777 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma; \Sigma (LaTeX)
16778 \DeclareTextCommand{\textSigma}{PU}{\83\243}%* U+03A3
16779 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
16780 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
16781 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon; \Upsilon (LaTeX)
16782 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}%* U+03A5
16783 % U+03A6 GREEK CAPITAL LETTER PHI; Phi; \Phi (LaTeX)
16784 \DeclareTextCommand{\textPhi}{PU}{\83\246}%* U+03A6
16785 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
16786 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
16787 % U+03A8 GREEK CAPITAL LETTER PSI; Psi; \Psi (LaTeX)
16788 \DeclareTextCommand{\textPsi}{PU}{\83\250}%* U+03A8
16789 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega;
16790 % \Omega (LaTeX)
16791 \DeclareTextCommand{\textOmega}{PU}{\83\251}%* U+03A9
16792 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
16793 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
16794 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA
16795 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilonondieresis
16796 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB
16797 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphatonos
16798 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}%* U+03AC

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16799 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon-tonos  
16800 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}% U+03AD  
16801 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; eta-tonos  
16802 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}% U+03AE  
16803 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iota-tonos  
16804 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}% U+03AF  
16805 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA  
16806 % AND TONOS; upsilon-dieresisto  
16807 \DeclareTextCompositeCommand{\"}{PU}{\textupsilonacute}{\83\260}% U+03B0  
16808 % U+03B1 GREEK SMALL LETTER ALPHA; alpha; \alpha (LaTeX)  
16809 \DeclareTextCommand{\textalpha}{PU}{\83\261}%\* U+03B1  
16810 % U+03B2 GREEK SMALL LETTER BETA; beta; \beta (LaTeX)  
16811 \DeclareTextCommand{\textbeta}{PU}{\83\262}%\* U+03B2  
16812 % U+03B3 GREEK SMALL LETTER GAMMA; gamma; \gamma (LaTeX)  
16813 \DeclareTextCommand{\textgamma}{PU}{\83\263}%\* U+03B3  
16814 % U+03B4 GREEK SMALL LETTER DELTA; delta; \delta (LaTeX)  
16815 \DeclareTextCommand{\textdelta}{PU}{\83\264}%\* U+03B4  
16816 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon; \epsilon (LaTeX)  
16817 \DeclareTextCommand{\textepsilon}{PU}{\83\265}%\* U+03B5  
16818 % U+03B6 GREEK SMALL LETTER ZETA; zeta; \zeta (LaTeX)  
16819 \DeclareTextCommand{\textzeta}{PU}{\83\266}%\* U+03B6  
16820 % U+03B7 GREEK SMALL LETTER ETA; eta; \eta (LaTeX)  
16821 \DeclareTextCommand{\texteta}{PU}{\83\267}%\* U+03B7  
16822 % U+03B8 GREEK SMALL LETTER THETA; theta; \theta (LaTeX)  
16823 \DeclareTextCommand{\texttheta}{PU}{\83\270}%\* U+03B8  
16824 % U+03B9 GREEK SMALL LETTER IOTA; iota; \iota (LaTeX)  
16825 \DeclareTextCommand{\textiota}{PU}{\83\271}%\* U+03B9  
16826 % U+03BA GREEK SMALL LETTER KAPPA; kappa; \kappa (LaTeX)  
16827 \DeclareTextCommand{\textkappa}{PU}{\83\272}%\* U+03BA  
16828 % U+03BB GREEK SMALL LETTER LAMDA; lambda; \lambda (LaTeX)  
16829 \DeclareTextCommand{\textlambda}{PU}{\83\273}%\* U+03BB  
16830 % U+03BC GREEK SMALL LETTER MU; mugreek, \*mu; \mu (LaTeX)  
16831 \DeclareTextCommand{\textmugreek}{PU}{\83\274}%\* U+03BC  
16832 % U+03BD GREEK SMALL LETTER NU; nu; \nu (LaTeX)  
16833 \DeclareTextCommand{\textnu}{PU}{\83\275}%\* U+03BD  
16834 % U+03BE GREEK SMALL LETTER XI; xi; \xi (LaTeX)  
16835 \DeclareTextCommand{\textxi}{PU}{\83\276}%\* U+03BE  
16836 % U+03BF GREEK SMALL LETTER OMICRON; omicron  
16837 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF  
16838 % U+03C0 GREEK SMALL LETTER PI; pi; \pi (LaTeX)  
16839 \DeclareTextCommand{\textpi}{PU}{\83\300}%\* U+03C0  
16840 % U+03C1 GREEK SMALL LETTER RHO; rho; \rho (LaTeX)  
16841 \DeclareTextCommand{\textrho}{PU}{\83\301}%\* U+03C1  
16842 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; \*sigma1, sigmafinal  
16843 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}%\* U+03C2  
16844 % U+03C3 GREEK SMALL LETTER SIGMA; sigma; \sigma (LaTeX)  
16845 \DeclareTextCommand{\textsigma}{PU}{\83\303}%\* U+03C3  
16846 % U+03C4 GREEK SMALL LETTER TAU; tau; \tau (LaTeX)  
16847 \DeclareTextCommand{\texttau}{PU}{\83\304}%\* U+03C4  
16848 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon; \upsilon (LaTeX)  
16849 \DeclareTextCommand{\textupsilon}{PU}{\83\305}%\* U+03C5  
16850 % U+03C6 GREEK SMALL LETTER PHI; phi; \phi (LaTeX)  
16851 \DeclareTextCommand{\textphi}{PU}{\83\306}%\* U+03C6  
16852 % U+03C7 GREEK SMALL LETTER CHI; chi; \chi (LaTeX)  
16853 \DeclareTextCommand{\textchi}{PU}{\83\307}%\* U+03C7  
16854 % U+03C8 GREEK SMALL LETTER PSI; psi; \psi (LaTeX)  
16855 \DeclareTextCommand{\textpsi}{PU}{\83\310}%\* U+03C8

16856 % U+03C9 GREEK SMALL LETTER OMEGA; omega; \omega (LaTeX)  
 16857 \DeclareTextCommand{\textomega}{PU}{\83\311}%\* U+03C9  
 16858 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis  
 16859 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\312}% U+03CA  
 16860 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-  
 silondieresis  
 16861 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\313}% U+03CB  
 16862 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos  
 16863 \DeclareTextCompositeCommand{\'}{PU}{\textomicron}{\83\314}% U+03CC  
 16864 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos  
 16865 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD  
 16866 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\315}% U+03CD  
 16867 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos  
 16868 \DeclareTextCompositeCommand{\'}{PU}{\textomega}{\83\316}% U+03CE  
 16869 % U+03DA GREEK LETTER STIGMA; Stigmatgreek  
 16870 \DeclareTextCommand{\textStigmatgreek}{PU}{\83\332}% U+03DA  
 16871 % U+03DB GREEK SMALL LETTER STIGMA  
 16872 \DeclareTextCommand{\textstigmatgreek}{PU}{\83\333}% U+03DB  
 16873 % U+03DC GREEK LETTER DIGAMMA; Digammagreek  
 16874 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC  
 16875 % U+03DD GREEK SMALL LETTER DIGAMMA  
 16876 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD  
 16877 %\* \textdigammagreek -> \digamma (AmS)  
 16878 % U+03DE GREEK LETTER KOPPA; Koppagreek  
 16879 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE  
 16880 % U+03DF GREEK SMALL LETTER KOPPA  
 16881 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF  
 16882 % U+03E0 GREEK LETTER SAMPI; Sampigreek  
 16883 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0  
 16884 % U+03E1 GREEK SMALL LETTER SAMPI  
 16885 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1  
 16886 % U+03F6 GREEK REVERSED LUNATE EPSILON SYMBOL;  
 16887 % \backepsilon (AmS)  
 16888 \DeclareTextCommand{\textbackepsilon}{PU}{\83\366}% U+03F6

#### 51.2.10 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names.

16889 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE  
 16890 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\000}% U+0400  
 16891 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrrilic, \*afi10023  
 16892 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401  
 16893 \DeclareTextCompositeCommand{\'}{PU}{\CYRE}{\84\001}% U+0401  
 16894 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, \*afi10051  
 16895 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402  
 16896 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, \*afi10052  
 16897 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403  
 16898 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrrilic, \*afi10053  
 16899 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404  
 16900 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, \*afi10054  
 16901 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405  
 16902 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I;  
 16903 % Icyrrilic, \*afi10055  
 16904 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406  
 16905 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrrilic, \*afi10056  
 16906 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407  
 16907 \DeclareTextCompositeCommand{\'}{PU}{\CYRII}{\84\007}% U+0407

16908 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, \*afii10057  
16909 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408  
16910 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, \*afii10058  
16911 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409  
16912 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
16913 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
16914 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
16915 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
16916 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
16917 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
16918 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
16919 \DeclareTextCompositeCommand{\'}{PU}{\CYRI}{\84\015}% U+040D  
16920 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, \*afii10062  
16921 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
16922 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
16923 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, \*afii10145  
16924 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
16925 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
16926 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
16927 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
16928 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
16929 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
16930 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
16931 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
16932 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
16933 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
16934 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
16935 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
16936 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
16937 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
16938 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
16939 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
16940 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
16941 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
16942 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
16943 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
16944 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
16945 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
16946 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
16947 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
16948 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
16949 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
16950 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
16951 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
16952 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
16953 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
16954 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
16955 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
16956 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
16957 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
16958 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
16959 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
16960 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
16961 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
16962 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
16963 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
16964 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037

16965 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
16966 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
16967 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
16968 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039  
16969 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
16970 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
16971 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
16972 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
16973 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
16974 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
16975 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
16976 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
16977 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
16978 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN;  
16979 % Hardsigncyrillic, \*afii10044  
16980 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
16981 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
16982 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
16983 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN;  
16984 % Softsigncyrillic, \*afii10046  
16985 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
16986 % U+042D CYRILLIC CAPITAL LETTER E; Eversedcyrillic, \*afii10047  
16987 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
16988 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afii10048  
16989 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
16990 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049  
16991 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
16992 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
16993 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
16994 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
16995 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
16996 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
16997 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
16998 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
16999 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
17000 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
17001 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
17002 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
17003 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
17004 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhacyrillic  
17005 \DeclareTextCommand{\cyrz}{PU}{\84\066}% U+0436  
17006 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
17007 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
17008 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
17009 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
17010 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
17011 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
17012 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
17013 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
17014 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
17015 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
17016 \DeclareTextCommand{\cyl}{PU}{\84\073}% U+043B  
17017 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
17018 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C  
17019 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
17020 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
17021 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic

17022 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
17023 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
17024 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
17025 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
17026 \DeclareTextCommand{\cyrre}{PU}{\84\100}% U+0440  
17027 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
17028 \DeclareTextCommand{\cyrse}{PU}{\84\101}% U+0441  
17029 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
17030 \DeclareTextCommand{\cyrte}{PU}{\84\102}% U+0442  
17031 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
17032 \DeclareTextCommand{\cyrue}{PU}{\84\103}% U+0443  
17033 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
17034 \DeclareTextCommand{\cyrfe}{PU}{\84\104}% U+0444  
17035 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
17036 \DeclareTextCommand{\cyrha}{PU}{\84\105}% U+0445  
17037 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
17038 \DeclareTextCommand{\cyrts}{PU}{\84\106}% U+0446  
17039 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
17040 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447  
17041 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
17042 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448  
17043 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
17044 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449  
17045 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
17046 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A  
17047 %\* \cyrhrdsn -> \hardsign (tipa)  
17048 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
17049 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B  
17050 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
17051 \DeclareTextCommand{\cyrstsn}{PU}{\84\114}% U+044C  
17052 %\* \cyrstsn -> \softsign (tipa)  
17053 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
17054 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D  
17055 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
17056 \DeclareTextCommand{\cyrue}{PU}{\84\116}% U+044E  
17057 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
17058 \DeclareTextCommand{\cyrue}{PU}{\84\117}% U+044F  
17059 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
17060 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450  
17061 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
17062 \DeclareTextCommand{\cyrue}{PU}{\84\121}% U+0451  
17063 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\121}% U+0451  
17064 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
17065 \DeclareTextCommand{\cyrde}{PU}{\84\122}% U+0452  
17066 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
17067 \DeclareTextCompositeCommand{\'}{PU}{\cyrge}{\84\123}% U+0453  
17068 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
17069 \DeclareTextCommand{\cyrue}{PU}{\84\124}% U+0454  
17070 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
17071 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455  
17072 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I;  
17073 % \*afii10103, icyrillic  
17074 \DeclareTextCommand{\cyrue}{PU}{\84\126}% U+0456  
17075 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
17076 \DeclareTextCommand{\cyrue}{PU}{\84\127}% U+0457  
17077 \DeclareTextCompositeCommand{\'}{PU}{\cyrue}{\84\127}% U+0457

17078 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
17079 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
17080 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
17081 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459  
17082 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
17083 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
17084 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
17085 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
17086 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
17087 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
17088 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
17089 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D  
17090 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
17091 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
17092 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
17093 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
17094 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
17095 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
17096 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
17097 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
17098 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
17099 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
17100 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
17101 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
17102 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
17103 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
17104 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
17105 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
17106 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
17107 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslitlecyrillic  
17108 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
17109 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslitlecyrillic  
17110 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
17111 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitlei-  
otifiedcyrillic  
17112 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
17113 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitleioti-  
fiedcyrillic  
17114 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
17115 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
17116 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
17117 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
17118 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
17119 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-  
cyrillic  
17120 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
17121 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-  
cyrillic  
17122 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
17123 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
17124 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
17125 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
17126 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
17127 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
17128 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
17129 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
17130 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471

17131 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afi10147  
 17132 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
 17133 % U+0473 CYRILLIC SMALL LETTER FITA; \*afi10195, fitacyrillic  
 17134 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473  
 17135 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afi10148  
 17136 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
 17137 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afi10196, izhitsacyrillic  
 17138 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
 17139 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE  
 17140 % GRAVE ACCENT; Izhitsadblgravecyrillic  
 17141 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
 17142 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE  
 17143 % GRAVE ACCENT; izhitsadblgravecyrillic  
 17144 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
 17145 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
 17146 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
 17147 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
 17148 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
 17149 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyril-  
 lic  
 17150 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
 17151 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
 17152 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
 17153 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatit-  
 locyrillic  
 17154 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
 17155 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlo-  
 cyrillic  
 17156 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
 17157 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
 17158 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
 17159 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
 17160 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
 17161 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
 17162 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
 17163 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
 17164 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
 17165 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
 17166 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrillicmb  
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalization-  
 cyrillicmb  
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneu-  
 matacyrillicmb  
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumat-  
 acyrillicmb  
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
 17167 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
 17168 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
 17169 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
 17170 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
 17171 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
 17172 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
 17173 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN



17174 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
17175 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
17176 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
17177 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
17178 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
17179 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-  
cyrillic, \*afii10050  
17180 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
17181 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, ghe-  
upturncyrillic  
17182 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
17183 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-  
cyrillic  
17184 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
17185 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
17186 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
17187 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK;  
17188 % Ghemiddlehookcyrillic  
17189 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
17190 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK;  
17191 % ghemiddlehookcyrillic  
17192 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
17193 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER;  
17194 % Zhedescendercyrillic  
17195 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
17196 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER;  
17197 % zhedescendercyrillic  
17198 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
17199 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-  
dercyrillic  
17200 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
17201 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
17202 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-  
cyrillic  
17203 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499  
17204 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
17205 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-  
dercyrillic  
17206 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
17207 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescen-  
dercyrillic  
17208 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
17209 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE;  
17210 % Kavertikalstrokecyrillic  
17211 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
17212 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE;  
17213 % kavertikalstrokecyrillic  
17214 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
17215 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
17216 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
17217 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
17218 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
17219 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
17220 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
17221 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
17222 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1

17223 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic  
 17224 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
 17225 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic  
 17226 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
 17227 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
 17228 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
 17229 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
 17230 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
 17231 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic  
 17232 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
 17233 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic  
 17234 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
 17235 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic  
 17236 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
 17237 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
 17238 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
 17239 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic  
 17240 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
 17241 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
 17242 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic  
 17243 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
 17244 \DeclareTextCompositeCommand{\k}{PU}{\cyrs}{\84\253}% U+04AB  
 17245 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic  
 17246 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
 17247 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic  
 17248 \DeclareTextCommand{\cyrtddsc}{PU}{\84\255}% U+04AD  
 17249 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
 17250 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
 17251 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
 17252 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF  
 17253 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic  
 17254 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
 17255 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; usstraightstrokecyrillic  
 17256 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1  
 17257 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesendercyrillic  
 17258 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
 17259 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic  
 17260 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
 17261 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
 17262 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
 17263 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
 17264 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5  
 17265 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER;  
 17266 % Chedescendercyrillic

17267 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
17268 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic  
17269 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7  
17270 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE;  
17271 % Cheverticalstrokecyrillic  
17272 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
17273 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE;  
17274 % cheverticalstrokecyrillic  
17275 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
17276 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
17277 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
17278 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
17279 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
17280 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic  
17281 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
17282 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic  
17283 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
17284 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic  
17285 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
17286 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
17287 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic  
17288 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
17289 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
17290 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
17291 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
17292 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
17293 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
17294 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
17295 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
17296 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
17297 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
17298 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
17299 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
17300 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
17301 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
17302 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
17303 \DeclareTextCommand{\cyrlldsc}{PU}{\84\306}% U+04C6  
17304 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
17305 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
17306 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
17307 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
17308 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakasiancyrillic  
17309 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
17310 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassiancyrillic  
17311 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
17312 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
17313 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
17314 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
17315 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA

17316 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevacyrillic  
17317 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
17318 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevacyrillic  
17319 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
17320 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic  
17321 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\322}% U+04D2  
17322 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
17323 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\323}% U+04D3  
17324 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
17325 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
17326 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
17327 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
17328 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevacyrillic  
17329 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
17330 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevacyrillic  
17331 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
17332 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
17333 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
17334 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic  
17335 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9  
17336 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS;  
17337 % Schwadieresiscyrillic  
17338 \DeclareTextCompositeCommand{\U}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
17339 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS;  
17340 % schwadieresiscyrillic  
17341 \DeclareTextCompositeCommand{\U}{PU}{\cyrschwa}{\84\333}% U+04DB  
17342 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedieresiscyrillic  
17343 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\334}% U+04DC  
17344 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresiscyrillic  
17345 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\335}% U+04DD  
17346 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresiscyrillic  
17347 \DeclareTextCompositeCommand{\U}{PU}{\CYRZ}{\84\336}% U+04DE  
17348 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyrillic  
17349 \DeclareTextCompositeCommand{\U}{PU}{\cyrz}{\84\337}% U+04DF  
17350 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasiancyrillic  
17351 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
17352 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyrillic  
17353 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
17354 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic  
17355 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\342}% U+04E2  
17356 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
17357 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\343}% U+04E3  
17358 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic  
17359 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\344}% U+04E4  
17360 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic  
17361 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\345}% U+04E5  
17362 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic  
17363 \DeclareTextCompositeCommand{\U}{PU}{\CYRO}{\84\346}% U+04E6  
17364 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic

17365 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7  
17366 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic  
17367 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
17368 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic  
17369 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
17370 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS;  
17371 % Obarreddieresiscyrillic  
17372 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA  
17373 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS;  
17374 % obarreddieresiscyrillic  
17375 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB  
17376 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
17377 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
17378 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
17379 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED  
17380 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
17381 \DeclareTextCompositeCommand{=} {PU}{\CYRU}{\84\356}% U+04EE  
17382 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
17383 \DeclareTextCompositeCommand{=} {PU}{\cyru}{\84\357}% U+04EF  
17384 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic  
17385 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
17386 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
17387 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1  
17388 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic  
17389 \DeclareTextCompositeCommand{H}{PU}{\CYRU}{\84\362}% U+04F2  
17390 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic  
17391 \DeclareTextCompositeCommand{H}{PU}{\cyru}{\84\363}% U+04F3  
17392 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic  
17393 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4  
17394 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic  
17395 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5  
17396 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
17397 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
17398 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
17399 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7  
17400 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic  
17401 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8  
17402 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic  
17403 \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  
17404 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
17405 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
17406 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
17407 \DeclareTextCommand{\cyrrhk}{PU}{\84\375}% U+04FD  
\84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE  
\84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

### 51.2.11 Hebrew: U+0590 to U+05FF

Macro names are taken from `he8enc.def`.

```
17408 % U+05C3 HEBREW PUNCTUATION SOF PASUQ
17409 \DeclareTextCommand{\sofpasuq}{PU}{\85\303}% U+05C3
17410 % U+05D0 HEBREW LETTER ALEF
17411 \DeclareTextCommand{\hebalef}{PU}{\85\320}% U+05D0
17412 % U+05D1 HEBREW LETTER BET
17413 \DeclareTextCommand{\hebbet}{PU}{\85\321}% U+05D1
17414 % U+05D2 HEBREW LETTER GIMEL
17415 \DeclareTextCommand{\hebgimel}{PU}{\85\322}% U+05D2
17416 % U+05D3 HEBREW LETTER DALET
17417 \DeclareTextCommand{\hebdalet}{PU}{\85\323}% U+05D3
17418 % U+05D4 HEBREW LETTER HE
17419 \DeclareTextCommand{\hebhe}{PU}{\85\324}% U+05D4
17420 % U+05D5 HEBREW LETTER VAV
17421 \DeclareTextCommand{\hebvav}{PU}{\85\325}% U+05D5
17422 % U+05D6 HEBREW LETTER ZAYIN
17423 \DeclareTextCommand{\hebzayin}{PU}{\85\326}% U+05D6
17424 % U+05D7 HEBREW LETTER HET
17425 \DeclareTextCommand{\hebbhet}{PU}{\85\327}% U+05D7
17426 % U+05D8 HEBREW LETTER TET
17427 \DeclareTextCommand{\hebtet}{PU}{\85\330}% U+05D8
17428 % U+05D9 HEBREW LETTER YOD
17429 \DeclareTextCommand{\hebyod}{PU}{\85\331}% U+05D9
17430 % U+05DA HEBREW LETTER FINAL KAF
17431 \DeclareTextCommand{\hebfinalkaf}{PU}{\85\332}% U+05DA
17432 % U+05DB HEBREW LETTER KAF
17433 \DeclareTextCommand{\hebkafe}{PU}{\85\333}% U+05DB
17434 % U+05DC HEBREW LETTER LAMED
17435 \DeclareTextCommand{\heblamed}{PU}{\85\334}% U+05DC
17436 % U+05DD HEBREW LETTER FINAL MEM
17437 \DeclareTextCommand{\hebfinalmem}{PU}{\85\335}% U+05DD
17438 % U+05DE HEBREW LETTER MEM
17439 \DeclareTextCommand{\hebmeme}{PU}{\85\336}% U+05DE
17440 % U+05DF HEBREW LETTER FINAL NUN
17441 \DeclareTextCommand{\hebfinalnun}{PU}{\85\337}% U+05DF
17442 % U+05E0 HEBREW LETTER NUN
17443 \DeclareTextCommand{\hebnun}{PU}{\85\340}% U+05E0
17444 % U+05E1 HEBREW LETTER SAMEKH
17445 \DeclareTextCommand{\hebsamekh}{PU}{\85\341}% U+05E1
17446 % U+05E2 HEBREW LETTER AYIN
17447 \DeclareTextCommand{\hebayin}{PU}{\85\342}% U+05E2
17448 % U+05E3 HEBREW LETTER FINAL PE
17449 \DeclareTextCommand{\hebfinalpe}{PU}{\85\343}% U+05E3
17450 % U+05E4 HEBREW LETTER PE
17451 \DeclareTextCommand{\hebpe}{PU}{\85\344}% U+05E4
17452 % U+05E5 HEBREW LETTER FINAL TSADI
17453 \DeclareTextCommand{\hebfinaltsadi}{PU}{\85\345}% U+05E5
17454 % U+05E6 HEBREW LETTER TSADI
17455 \DeclareTextCommand{\hebtsadi}{PU}{\85\346}% U+05E6
17456 % U+05E7 HEBREW LETTER QOF
17457 \DeclareTextCommand{\hebqof}{PU}{\85\347}% U+05E7
17458 % U+05E8 HEBREW LETTER RESH
17459 \DeclareTextCommand{\hebresh}{PU}{\85\350}% U+05E8
17460 % U+05E9 HEBREW LETTER SHIN
17461 \DeclareTextCommand{\hebshin}{PU}{\85\351}% U+05E9
```

17462 %\* \hebshin -> \hebsin (he8)  
 17463 % U+05EA HEBREW LETTER TAV  
 17464 \DeclareTextCommand{\hebtav}{PU}{\85\352}% U+05EA  
 17465 % U+05F0 HEBREW LIGATURE YIDDISH DOUBLE VAV  
 17466 \DeclareTextCommand{\doublevav}{PU}{\85\360}% U+05F0  
 17467 % U+05F1 HEBREW LIGATURE YIDDISH VAV YOD  
 17468 \DeclareTextCommand{\vavyod}{PU}{\85\361}% U+05F1  
 17469 % U+05F2 HEBREW LIGATURE YIDDISH DOUBLE YOD  
 17470 \DeclareTextCommand{\doubleyod}{PU}{\85\362}% U+05F2

### 51.2.12 Thai: U+0E00 to U+0E7F

17471 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 17472 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

### 51.2.13 Phonetic Extensions: U+1D00 to U+1D7F

17473 % U+1D00 LATIN LETTER SMALL CAPITAL A; \textsca (tipa)  
 17474 \DeclareTextCommand{\textsca}{PU}{\9035\000}% U+1D00  
 17475 % U+1D05 LATIN LETTER SMALL CAPITAL D; \scd (wsuipa)  
 17476 \DeclareTextCommand{\textscd}{PU}{\9035\005}% U+1D05  
 17477 % U+1D07 LATIN LETTER SMALL CAPITAL E; \textsce (tipa)  
 17478 \DeclareTextCommand{\textsce}{PU}{\9035\007}% U+1D07  
 17479 % U+1D0A LATIN LETTER SMALL CAPITAL J; \textscj (tipa)  
 17480 \DeclareTextCommand{\textscj}{PU}{\9035\012}% U+1D0A  
 17481 % U+1D0B LATIN LETTER SMALL CAPITAL K; \textस्क (tipx)  
 17482 \DeclareTextCommand{\textPUस्क}{PU}{\9035\013}% U+1D0B  
 17483 %\* \textPUस्क -> \textस्क (tipx)  
 17484 % U+1D0D LATIN LETTER SMALL CAPITAL M; \textscm (tipx)  
 17485 \DeclareTextCommand{\textPUscm}{PU}{\9035\015}% U+1D0D  
 17486 %\* \textPUscm -> \textscm (tipx)  
 17487 % U+1D18 LATIN LETTER SMALL CAPITAL P; \textscp (tipx)  
 17488 \DeclareTextCommand{\textPUscp}{PU}{\9035\030}% U+1D18  
 17489 %\* \textPUscp -> \textscp (tipx)  
 17490 % U+1D19 LATIN LETTER SMALL CAPITAL REVERSED R; \textrevscr (tipx)  
 17491 \DeclareTextCommand{\textPUrevscr}{PU}{\9035\031}% U+1D19  
 17492 %\* \textPUrevscr -> \textrevscr (tipx)  
 17493 % U+1D1C LATIN LETTER SMALL CAPITAL U; \textscu (tipa), \scu (wsuipa)  
 17494 \DeclareTextCommand{\textscu}{PU}{\9035\034}% U+1D1C  
 17495 % U+1D62 LATIN SUBSCRIPT SMALL LETTER I  
 17496 \DeclareTextCommand{\textiinferior}{PU}{\9035\142}% U+1D62  
 17497 % U+1D63 LATIN SUBSCRIPT SMALL LETTER R  
 17498 \DeclareTextCommand{\textrinferior}{PU}{\9035\143}% U+1D63  
 17499 % U+1D64 LATIN SUBSCRIPT SMALL LETTER U  
 17500 \DeclareTextCommand{\textuinferior}{PU}{\9035\144}% U+1D64  
 17501 % U+1D65 LATIN SUBSCRIPT SMALL LETTER V  
 17502 \DeclareTextCommand{\textvinferior}{PU}{\9035\145}% U+1D65  
 17503 % U+1D66 GREEK SUBSCRIPT SMALL LETTER BETA  
 17504 \DeclareTextCommand{\textbetainferior}{PU}{\9035\146}% U+1D66  
 17505 % U+1D67 GREEK SUBSCRIPT SMALL LETTER GAMMA  
 17506 \DeclareTextCommand{\textgammainferior}{PU}{\9035\147}% U+1D67  
 17507 % U+1D68 GREEK SUBSCRIPT SMALL LETTER RHO  
 17508 \DeclareTextCommand{\textrhoinferior}{PU}{\9035\150}% U+1D68  
 17509 % U+1D69 GREEK SUBSCRIPT SMALL LETTER PHI  
 17510 \DeclareTextCommand{\textphiinferior}{PU}{\9035\151}% U+1D69  
 17511 % U+1D6A GREEK SUBSCRIPT SMALL LETTER CHI  
 17512 \DeclareTextCommand{\textchiinferior}{PU}{\9035\152}% U+1D6A  
 17513 % U+1D7B LATIN SMALL CAPITAL LETTER I WITH STROKE;

17514 % \barsci (wsuipa)  
17515 \DeclareTextCommand{\textbarsci}{PU}{\9035\173}%\* U+1D7B  
17516 % U+1D7D LATIN SMALL LETTER P WITH STROKE; \barp (wsuipa)  
17517 \DeclareTextCommand{\textbarp}{PU}{\9035\175}%\* U+1D7D  
17518 % U+1D7E LATIN SMALL CAPITAL LETTER U WITH STROKE;  
17519 % \barscu (wsuipa)  
17520 \DeclareTextCommand{\textbarscu}{PU}{\9035\176}%\* U+1D7E

#### 51.2.14 Phonetic Extensions Supplement: U+1D80 to U+1DBF

17521 % U+1D8F LATIN SMALL LETTER A WITH RETROFLEX HOOK; \tex-  
trhooka (tipx)  
17522 \DeclareTextCommand{\textPUrhooka}{PU}{\9035\217}% U+1D8F  
17523 %\* \textPUrhooka -> \textrhooka (tipx)  
17524 % U+1D91 LATIN SMALL LETTER D WITH HOOK AND TAIL; \texthtr-  
taild (tipa)  
17525 \DeclareTextCommand{\texthtrtaild}{PU}{\9035\221}%\* U+1D91  
17526 % U+1D92 LATIN SMALL LETTER E WITH RETROFLEX HOOK; \tex-  
trhooke (tipx)  
17527 \DeclareTextCommand{\textPUrhooke}{PU}{\9035\222}% U+1D92  
17528 %\* \textPUrhooke -> \textrhooke (tipx)  
17529 % U+1D93 LATIN SMALL LETTER OPEN E WITH RETROFLEX HOOK;  
17530 % \textrhookepsilon (tipx)  
17531 \DeclareTextCommand{\textPUrhookepsilon}{PU}{\9035\223}% U+1D93  
17532 %\* \textPUrhookepsilon -> \textrhookepsilon (tipx)  
17533 % U+1D97 LATIN SMALL LETTER OPEN O WITH RETROFLEX HOOK;  
17534 % \textrhookopeno (tipx)  
17535 \DeclareTextCommand{\textPUrhookopeno}{PU}{\9035\227}% U+1D97  
17536 %\* \textPUrhookopeno -> \textrhookopeno (tipx)

#### 51.2.15 Latin Extended Additional: U+1E00 to U+1EFF

17537 % U+1E00 LATIN CAPITAL LETTER A WITH RING BELOW; Aringbelow  
17538 \DeclareTextCompositeCommand{\textsubring}{PU}{A}{\9036\000}% U+1E00  
17539 % U+1E01 LATIN SMALL LETTER A WITH RING BELOW; aringbelow  
17540 \DeclareTextCompositeCommand{\textsubring}{PU}{a}{\9036\001}% U+1E01  
17541 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
17542 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02  
17543 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
17544 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03  
17545 % U+1E04 LATIN CAPITAL LETTER B WITH DOT BELOW; Bdotbelow  
17546 \DeclareTextCompositeCommand{\d}{PU}{B}{\9036\004}% U+1E04  
17547 % U+1E05 LATIN SMALL LETTER B WITH DOT BELOW; bdotbelow  
17548 \DeclareTextCompositeCommand{\d}{PU}{b}{\9036\005}% U+1E05  
17549 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
17550 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06  
17551 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
17552 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
17553 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
17554 \DeclareTextCompositeCommand{.}{PU}{D}{\9036\012}% U+1E0A  
17555 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
17556 \DeclareTextCompositeCommand{.}{PU}{d}{\9036\013}% U+1E0B  
17557 % U+1E0C LATIN CAPITAL LETTER D WITH DOT BELOW; Ddotbelow  
17558 \DeclareTextCompositeCommand{\d}{PU}{D}{\9036\014}% U+1E0C  
17559 % U+1E0D LATIN SMALL LETTER D WITH DOT BELOW; ddotbelow  
17560 \DeclareTextCompositeCommand{\d}{PU}{d}{\9036\015}% U+1E0D  
17561 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
17562 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
17563 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow



17564 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
17565 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
17566 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
17567 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
17568 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
17569 % U+1E12 LATIN CAPITAL LETTER D WITH CIRCUMFLEX BELOW; Dcir-  
cumflexbelow  
17570 \DeclareTextCompositeCommand{\textsubcircum}{PU}{D}{\9036\022}% U+1E12  
17571 % U+1E13 LATIN SMALL LETTER D WITH CIRCUMFLEX BELOW; dcir-  
cumflexbelow  
17572 \DeclareTextCompositeCommand{\textsubcircum}{PU}{d}{\9036\023}% U+1E13  
17573 % U+1E14 LATIN CAPITAL LETTER E WITH MACRON AND GRAVE;  
17574 % Emacrongrave  
17575 \DeclareTextCompositeCommand{\textgravemacron}{PU}{E}{\9036\024}% U+1E14  
17576 % U+1E15 LATIN SMALL LETTER E WITH MACRON AND GRAVE;  
17577 % emacrongrave  
17578 \DeclareTextCompositeCommand{\textgravemacron}{PU}{e}{\9036\025}% U+1E15  
17579 % U+1E16 LATIN CAPITAL LETTER E WITH MACRON AND ACUTE;  
17580 % Emacronacute  
17581 \DeclareTextCompositeCommand{\textacutemacron}{PU}{E}{\9036\026}% U+1E16  
17582 % U+1E17 LATIN SMALL LETTER E WITH MACRON AND ACUTE;  
17583 % emacronacute  
17584 \DeclareTextCompositeCommand{\textacutemacron}{PU}{e}{\9036\027}% U+1E17  
17585 % U+1E18 LATIN CAPITAL LETTER E WITH CIRCUMFLEX BELOW; Ecir-  
cumflexbelow  
17586 \DeclareTextCompositeCommand{\textsubcircum}{PU}{E}{\9036\030}% U+1E18  
17587 % U+1E19 LATIN SMALL LETTER E WITH CIRCUMFLEX BELOW; ecir-  
cumflexbelow  
17588 \DeclareTextCompositeCommand{\textsubcircum}{PU}{e}{\9036\031}% U+1E19  
17589 % U+1E1A LATIN CAPITAL LETTER E WITH TILDE BELOW; Etildebelow  
17590 \DeclareTextCompositeCommand{\textsubtilde}{PU}{E}{\9036\032}% U+1E1A  
17591 % U+1E1B LATIN SMALL LETTER E WITH TILDE BELOW; etildebelow  
17592 \DeclareTextCompositeCommand{\textsubtilde}{PU}{e}{\9036\033}% U+1E1B  
17593 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
17594 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
17595 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
17596 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
17597 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
17598 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20  
17599 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
17600 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21  
17601 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
17602 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
17603 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
17604 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
17605 % U+1E24 LATIN CAPITAL LETTER H WITH DOT BELOW; Hdotbelow  
17606 \DeclareTextCompositeCommand{\d}{PU}{H}{\9036\044}% U+1E24  
17607 % U+1E25 LATIN SMALL LETTER H WITH DOT BELOW; hdotbelow  
17608 \DeclareTextCompositeCommand{\d}{PU}{h}{\9036\045}% U+1E25  
17609 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
17610 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26  
17611 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
17612 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27  
17613 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
17614 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
17615 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
17616 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29

17617 % U+1E2A LATIN CAPITAL LETTER H WITH BREVE BELOW; Hbrevebelow  
17618 \DeclareTextCompositeCommand{\textsubbreve}{PU}{H}{\9036\052}% U+1E2A  
17619 % U+1E2B LATIN SMALL LETTER H WITH BREVE BELOW; hbrevebelow  
17620 \DeclareTextCompositeCommand{\textsubbreve}{PU}{h}{\9036\053}% U+1E2B  
17621 % U+1E2C LATIN CAPITAL LETTER I WITH TILDE BELOW; Itildebelow  
17622 \DeclareTextCompositeCommand{\textsubtilde}{PU}{I}{\9036\054}% U+1E2C  
17623 % U+1E2D LATIN SMALL LETTER I WITH TILDE BELOW; itildebelow  
17624 \DeclareTextCompositeCommand{\textsubtilde}{PU}{i}{\9036\055}% U+1E2D  
17625 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
17626 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30  
17627 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
17628 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31  
17629 % U+1E32 LATIN CAPITAL LETTER K WITH DOT BELOW; Kdotbelow  
17630 \DeclareTextCompositeCommand{\d}{PU}{K}{\9036\062}% U+1E32  
17631 % U+1E33 LATIN SMALL LETTER K WITH DOT BELOW; kdotbelow  
17632 \DeclareTextCompositeCommand{\d}{PU}{k}{\9036\063}% U+1E33  
17633 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
17634 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
17635 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
17636 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
17637 % U+1E36 LATIN CAPITAL LETTER L WITH DOT BELOW; Ldotbelow  
17638 \DeclareTextCompositeCommand{\d}{PU}{L}{\9036\066}% U+1E36  
17639 % U+1E37 LATIN SMALL LETTER L WITH DOT BELOW; ldotbelow  
17640 \DeclareTextCompositeCommand{\d}{PU}{l}{\9036\067}% U+1E37  
17641 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
17642 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
17643 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
17644 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
17645 % U+1E3C LATIN CAPITAL LETTER L WITH CIRCUMFLEX BELOW; Lcir-  
cumflexbelow  
17646 \DeclareTextCompositeCommand{\textsubcircum}{PU}{L}{\9036\074}% U+1E3C  
17647 % U+1E3D LATIN SMALL LETTER L WITH CIRCUMFLEX BELOW; lcir-  
cumflexbelow  
17648 \DeclareTextCompositeCommand{\textsubcircum}{PU}{l}{\9036\075}% U+1E3D  
17649 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
17650 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E  
17651 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
17652 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F  
17653 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
17654 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
17655 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
17656 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
17657 % U+1E42 LATIN CAPITAL LETTER M WITH DOT BELOW; Mdotbelow  
17658 \DeclareTextCompositeCommand{\d}{PU}{M}{\9036\102}% U+1E42  
17659 % U+1E43 LATIN SMALL LETTER M WITH DOT BELOW; mdotbelow  
17660 \DeclareTextCompositeCommand{\d}{PU}{m}{\9036\103}% U+1E43  
17661 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
17662 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
17663 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
17664 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
17665 % U+1E46 LATIN CAPITAL LETTER N WITH DOT BELOW; Ndotbelow  
17666 \DeclareTextCompositeCommand{\d}{PU}{N}{\9036\106}% U+1E46  
17667 % U+1E47 LATIN SMALL LETTER N WITH DOT BELOW; ndotbelow  
17668 \DeclareTextCompositeCommand{\d}{PU}{n}{\9036\107}% U+1E47  
17669 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
17670 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
17671 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow

17672 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
17673 % U+1E4A LATIN CAPITAL LETTER N WITH CIRCUMFLEX BELOW; Ncir-  
cumflexbelow  
17674 \DeclareTextCompositeCommand{\textsubcircum}{PU}{N}{\9036\112}% U+1E4A  
17675 % U+1E4B LATIN SMALL LETTER N WITH CIRCUMFLEX BELOW; ncir-  
cumflexbelow  
17676 \DeclareTextCompositeCommand{\textsubcircum}{PU}{n}{\9036\113}% U+1E4B  
17677 % U+1E50 LATIN CAPITAL LETTER O WITH MACRON AND GRAVE;  
17678 % Omacrongrave  
17679 \DeclareTextCompositeCommand{\textgravemacron}{PU}{O}{\9036\120}% U+1E50  
17680 % U+1E51 LATIN SMALL LETTER O WITH MACRON AND GRAVE;  
17681 % omacrongrave  
17682 \DeclareTextCompositeCommand{\textgravemacron}{PU}{o}{\9036\121}% U+1E51  
17683 % U+1E52 LATIN CAPITAL LETTER O WITH MACRON AND ACUTE;  
17684 % Omacronacute  
17685 \DeclareTextCompositeCommand{\textacutemacron}{PU}{O}{\9036\122}% U+1E52  
17686 % U+1E53 LATIN SMALL LETTER O WITH MACRON AND ACUTE;  
17687 % omacronacute  
17688 \DeclareTextCompositeCommand{\textacutemacron}{PU}{o}{\9036\123}% U+1E53  
17689 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
17690 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54  
17691 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
17692 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55  
17693 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
17694 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
17695 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
17696 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
17697 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
17698 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
17699 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
17700 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
17701 % U+1E5A LATIN CAPITAL LETTER R WITH DOT BELOW; Rdotbelow  
17702 \DeclareTextCompositeCommand{\d}{PU}{R}{\9036\132}% U+1E5A  
17703 % U+1E5B LATIN SMALL LETTER R WITH DOT BELOW; rdotbelow  
17704 \DeclareTextCompositeCommand{\d}{PU}{r}{\9036\133}% U+1E5B  
17705 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
17706 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
17707 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
17708 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
17709 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
17710 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60  
17711 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
17712 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61  
17713 % U+1E62 LATIN CAPITAL LETTER S WITH DOT BELOW; Sdotbelow  
17714 \DeclareTextCompositeCommand{\d}{PU}{S}{\9036\142}% U+1E62  
17715 % U+1E63 LATIN SMALL LETTER S WITH DOT BELOW; sdotbelow  
17716 \DeclareTextCompositeCommand{\d}{PU}{s}{\9036\143}% U+1E63  
17717 % U+1E6A LATIN CAPITAL LETTER T WITH DOT ABOVE; Tdotaccent  
17718 \DeclareTextCompositeCommand{\.}{PU}{T}{\9036\152}% U+1E6A  
17719 % U+1E6B LATIN SMALL LETTER T WITH DOT ABOVE; tdotaccent  
17720 \DeclareTextCompositeCommand{\.}{PU}{t}{\9036\153}% U+1E6B  
17721 % U+1E6C LATIN CAPITAL LETTER T WITH DOT BELOW; Tdotbelow  
17722 \DeclareTextCompositeCommand{\d}{PU}{T}{\9036\154}% U+1E6C  
17723 % U+1E6D LATIN SMALL LETTER T WITH DOT BELOW; tdotbelow  
17724 \DeclareTextCompositeCommand{\d}{PU}{t}{\9036\155}% U+1E6D  
17725 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
17726 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E

17727 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
17728 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F  
17729 % U+1E70 LATIN CAPITAL LETTER T WITH CIRCUMFLEX BELOW; Tcir-  
cumflexbelow  
17730 \DeclareTextCompositeCommand{\textsubcircum}{PU}{T}{\9036\160}% U+1E70  
17731 % U+1E71 LATIN SMALL LETTER T WITH CIRCUMFLEX BELOW; tcir-  
cumflexbelow  
17732 \DeclareTextCompositeCommand{\textsubcircum}{PU}{t}{\9036\161}% U+1E71  
17733 % U+1E72 LATIN CAPITAL LETTER U WITH DIAERESIS BELOW; Udiere-  
sisbelow  
17734 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{U}{\9036\162}% U+1E72  
17735 % U+1E73 LATIN SMALL LETTER U WITH DIAERESIS BELOW; udiere-  
sisbelow  
17736 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{u}{\9036\163}% U+1E73  
17737 % U+1E74 LATIN CAPITAL LETTER U WITH TILDE BELOW; Utildebelow  
17738 \DeclareTextCompositeCommand{\textsubtilde}{PU}{U}{\9036\164}% U+1E74  
17739 % U+1E75 LATIN SMALL LETTER U WITH TILDE BELOW; utildebelow  
17740 \DeclareTextCompositeCommand{\textsubtilde}{PU}{u}{\9036\165}% U+1E75  
17741 % U+1E76 LATIN CAPITAL LETTER U WITH CIRCUMFLEX BELOW; Ucir-  
cumflexbelow  
17742 \DeclareTextCompositeCommand{\textsubcircum}{PU}{U}{\9036\166}% U+1E76  
17743 % U+1E77 LATIN SMALL LETTER U WITH CIRCUMFLEX BELOW; ucir-  
cumflexbelow  
17744 \DeclareTextCompositeCommand{\textsubcircum}{PU}{u}{\9036\167}% U+1E77  
17745 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
17746 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
17747 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
17748 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
17749 % U+1E7E LATIN CAPITAL LETTER V WITH DOT BELOW; Vdotbelow  
17750 \DeclareTextCompositeCommand{\d}{PU}{V}{\9036\176}% U+1E7E  
17751 % U+1E7F LATIN SMALL LETTER V WITH DOT BELOW; vdotbelow  
17752 \DeclareTextCompositeCommand{\d}{PU}{v}{\9036\177}% U+1E7F  
17753 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
17754 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80  
17755 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
17756 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81  
17757 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
17758 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82  
17759 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
17760 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83  
17761 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
17762 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84  
17763 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
17764 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85  
17765 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
17766 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86  
17767 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
17768 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
17769 % U+1E88 LATIN CAPITAL LETTER W WITH DOT BELOW; Wdotbelow  
17770 \DeclareTextCompositeCommand{\d}{PU}{W}{\9036\210}% U+1E88  
17771 % U+1E89 LATIN SMALL LETTER W WITH DOT BELOW; wdotbelow  
17772 \DeclareTextCompositeCommand{\d}{PU}{w}{\9036\211}% U+1E89  
17773 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
17774 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
17775 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
17776 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
17777 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis

17778 \DeclareTextCompositeCommand{"}{PU}{X}{\9036\214}% U+1E8C  
17779 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
17780 \DeclareTextCompositeCommand{"}{PU}{x}{\9036\215}% U+1E8D  
17781 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
17782 \DeclareTextCompositeCommand{.}{PU}{Y}{\9036\216}% U+1E8E  
17783 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
17784 \DeclareTextCompositeCommand{.}{PU}{y}{\9036\217}% U+1E8F  
17785 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
17786 \DeclareTextCompositeCommand{^}{PU}{Z}{\9036\220}% U+1E90  
17787 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
17788 \DeclareTextCompositeCommand{^}{PU}{z}{\9036\221}% U+1E91  
17789 % U+1E92 LATIN CAPITAL LETTER Z WITH DOT BELOW; Zdotbelow  
17790 \DeclareTextCompositeCommand{d}{PU}{Z}{\9036\222}% U+1E92  
17791 % U+1E93 LATIN SMALL LETTER Z WITH DOT BELOW; zdotbelow  
17792 \DeclareTextCompositeCommand{d}{PU}{z}{\9036\223}% U+1E93  
17793 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
17794 \DeclareTextCompositeCommand{b}{PU}{Z}{\9036\224}% U+1E94  
17795 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
17796 \DeclareTextCompositeCommand{b}{PU}{z}{\9036\225}% U+1E95  
17797 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
17798 \DeclareTextCompositeCommand{b}{PU}{h}{\9036\226}% U+1E96  
17799 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
17800 \DeclareTextCompositeCommand{"}{PU}{t}{\9036\227}% U+1E97  
17801 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
17802 \DeclareTextCompositeCommand{r}{PU}{w}{\9036\230}% U+1E98  
17803 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
17804 \DeclareTextCompositeCommand{r}{PU}{y}{\9036\231}% U+1E99  
17805 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdo-  
taccent  
17806 \DeclareTextCompositeCommand{.}{PU}{\textlongs}{\9036\233}% U+1E9B  
17807 % U+1EA0 LATIN CAPITAL LETTER A WITH DOT BELOW; Adotbelow  
17808 \DeclareTextCompositeCommand{d}{PU}{A}{\9036\240}% U+1EA0  
17809 % U+1EA1 LATIN SMALL LETTER A WITH DOT BELOW; adotbelow  
17810 \DeclareTextCompositeCommand{d}{PU}{a}{\9036\241}% U+1EA1  
17811 % U+1EB8 LATIN CAPITAL LETTER E WITH DOT BELOW; Edotbelow  
17812 \DeclareTextCompositeCommand{d}{PU}{E}{\9036\270}% U+1EB8  
17813 % U+1EB9 LATIN SMALL LETTER E WITH DOT BELOW; edotbelow  
17814 \DeclareTextCompositeCommand{d}{PU}{e}{\9036\271}% U+1EB9  
17815 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
17816 \DeclareTextCompositeCommand{~}{PU}{E}{\9036\274}% U+1EBC  
17817 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
17818 \DeclareTextCompositeCommand{~}{PU}{e}{\9036\275}% U+1EBD  
17819 % U+1ECA LATIN CAPITAL LETTER I WITH DOT BELOW; Idotbelow  
17820 \DeclareTextCompositeCommand{d}{PU}{I}{\9036\312}% U+1ECA  
17821 % U+1ECB LATIN SMALL LETTER I WITH DOT BELOW; idotbelow  
17822 \DeclareTextCompositeCommand{d}{PU}{i}{\9036\313}% U+1ECB  
17823 % U+1ECC LATIN CAPITAL LETTER O WITH DOT BELOW; Odotbelow  
17824 \DeclareTextCompositeCommand{d}{PU}{O}{\9036\314}% U+1ECC  
17825 % U+1ECD LATIN SMALL LETTER O WITH DOT BELOW; odotbelow  
17826 \DeclareTextCompositeCommand{d}{PU}{o}{\9036\315}% U+1ECD  
17827 % U+1EE4 LATIN CAPITAL LETTER U WITH DOT BELOW; Udotbelow  
17828 \DeclareTextCompositeCommand{d}{PU}{U}{\9036\344}% U+1EE4  
17829 % U+1EE5 LATIN SMALL LETTER U WITH DOT BELOW; udotbelow  
17830 \DeclareTextCompositeCommand{d}{PU}{u}{\9036\345}% U+1EE5  
17831 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
17832 \DeclareTextCompositeCommand{'}{PU}{Y}{\9036\362}% U+1EF2  
17833 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave

17834 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3  
 17835 % U+1EF4 LATIN CAPITAL LETTER Y WITH DOT BELOW; Ydotbelow  
 17836 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4  
 17837 % U+1EF5 LATIN SMALL LETTER Y WITH DOT BELOW; ydotbelow  
 17838 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
 17839 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
 17840 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
 17841 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
 17842 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

### 51.2.16 General Punctuation: U+2000 to U+206F

17843 % U+200C ZERO WIDTH NON-JOINER; \*afii61664, zerowidthnonjoiner  
 17844 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
 17845 % U+2013 EN DASH; endash  
 17846 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
 17847 % U+2014 EM DASH; emdash  
 17848 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
 17849 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
 17850 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
 17851 %\* \textbardbl -> \textdoublevertline (tipa)  
 17852 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 17853 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
 17854 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 17855 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
 17856 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 17857 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
 17858 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 17859 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
 17860 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 17861 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
 17862 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 17863 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
 17864 % U+2020 DAGGER; dagger  
 17865 \DeclareTextCommand{\textdagger}{PU}{\9040\040}%\* U+2020  
 17866 %\* \textdagger -> \dag (LaTeX)  
 17867 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
 17868 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
 17869 %\* \textdaggerdbl -> \ddagger (LaTeX)  
 17870 %\* \textdaggerdbl -> \ddag (LaTeX)  
 17871 % U+2022 BULLET; bullet  
 17872 \DeclareTextCommand{\textbullet}{PU}{\9040\042}%\* U+2022  
 17873 % U+2025 TWO DOT LEADER; \hdotfor (MnSymbol)  
 17874 \DeclareTextCommand{\texthdotfor}{PU}{\9040\045}%\* U+2025  
 17875 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 17876 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
 17877 %\* \textellipsis -> \mathellipsis  
 17878 % U+2030 PER MILLE SIGN; perthousand  
 17879 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 17880 % U+2031 PER TEN THOUSAND SIGN  
 17881 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
 17882 % U+2032 PRIME; minute; \prime (MnSymbol)  
 17883 \DeclareTextCommand{\textprime}{PU}{\9040\062}%\* U+2032  
 17884 % U+2033 DOUBLE PRIME; \second (mathabx)  
 17885 \DeclareTextCommand{\textsecond}{PU}{\9040\063}%\* U+2033  
 17886 % U+2034 TRIPLE PRIME; \third (mathabx)  
 17887 \DeclareTextCommand{\textthird}{PU}{\9040\064}%\* U+2034  
 17888 % U+2035 REVERSED PRIME; \backprime (AmsS)

17889 \DeclareTextCommand{\textbackprime}{PU}{\9040\065}%\* U+2035  
 17890 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
 lingleft  
 17891 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039  
 17892 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guils-  
 inglright  
 17893 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A  
 17894 % U+203B REFERENCE MARK; referencemark  
 17895 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
 17896 % U+203D INTERROBANG  
 17897 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
 17898 % U+2044 FRACTION SLASH; fraction  
 17899 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
 17900 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 17901 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 17902 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 17903 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 17904 % U+2052 COMMERCIAL MINUS SIGN  
 17905 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052  
 17906 % U+2056 THREE DOT PUNCTUATION; \lefttherefore (MnSymbol)  
 17907 \DeclareTextCommand{\textlefttherefore}{PU}{\9040\126}%\* U+2056  
 17908 % U+2057 QUADRUPLE PRIME; \fourth (mathabx)  
 17909 \DeclareTextCommand{\textfourth}{PU}{\9040\127}%\* U+2057  
 17910 % U+2058 FOUR DOT PUNCTUATION; \diamonddots (MnSymbol)  
 17911 \DeclareTextCommand{\textdiamonddots}{PU}{\9040\130}%\* U+2058

### 51.2.17 Superscripts and Subscripts: U+2070 to U+209F

17912 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
 17913 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}%\* U+2070  
 17914 % U+2071 SUPERSCRIPT LATIN SMALL LETTER I  
 17915 \DeclareTextCommand{\textisuperior}{PU}{\9040\161}%\* U+2071  
 17916 % U+2074 SUPERSCRIPT FOUR; foursuperior  
 17917 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}%\* U+2074  
 17918 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
 17919 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}%\* U+2075  
 17920 % U+2076 SUPERSCRIPT SIX; sixsuperior  
 17921 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}%\* U+2076  
 17922 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
 17923 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}%\* U+2077  
 17924 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
 17925 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}%\* U+2078  
 17926 % U+2079 SUPERSCRIPT NINE; ninesuperior  
 17927 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}%\* U+2079  
 17928 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
 17929 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}%\* U+207A  
 17930 % U+207B SUPERSCRIPT MINUS  
 17931 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}%\* U+207B  
 17932 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
 17933 \DeclareTextCommand{\textequalssuperior}{PU}{\9040\174}%\* U+207C  
 17934 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
 17935 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}%\* U+207D  
 17936 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
 17937 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}%\* U+207E  
 17938 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
 17939 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}%\* U+207F  
 17940 % U+2080 SUBSCRIPT ZERO; zeroinferior  
 17941 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}%\* U+2080

17942 % U+2081 SUBSCRIPT ONE; oneinferior  
 17943 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}%\* U+2081  
 17944 % U+2082 SUBSCRIPT TWO; twoinferior  
 17945 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}%\* U+2082  
 17946 % U+2083 SUBSCRIPT THREE; threeinferior  
 17947 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}%\* U+2083  
 17948 % U+2084 SUBSCRIPT FOUR; fourinferior  
 17949 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}%\* U+2084  
 17950 % U+2085 SUBSCRIPT FIVE; fiveinferior  
 17951 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}%\* U+2085  
 17952 % U+2086 SUBSCRIPT SIX; sixinferior  
 17953 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}%\* U+2086  
 17954 % U+2087 SUBSCRIPT SEVEN; seveninferior  
 17955 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}%\* U+2087  
 17956 % U+2088 SUBSCRIPT EIGHT; eightinferior  
 17957 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}%\* U+2088  
 17958 % U+2089 SUBSCRIPT NINE; nineinferior  
 17959 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}%\* U+2089  
 17960 % U+208A SUBSCRIPT PLUS SIGN  
 17961 \DeclareTextCommand{\textplusinferior}{PU}{\9040\212}%\* U+208A  
 17962 % U+208B SUBSCRIPT MINUS  
 17963 \DeclareTextCommand{\textminusinferior}{PU}{\9040\213}%\* U+208B  
 17964 % U+208C SUBSCRIPT EQUALS SIGN  
 17965 \DeclareTextCommand{\textequalsinferior}{PU}{\9040\214}%\* U+208C  
 17966 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
 17967 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}%\* U+208D  
 17968 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
 17969 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}%\* U+208E  
 17970 % U+2090 LATIN SUBSCRIPT SMALL LETTER A  
 17971 \DeclareTextCommand{\textainferior}{PU}{\9040\220}%\* U+2090  
 17972 % U+2091 LATIN SUBSCRIPT SMALL LETTER E  
 17973 \DeclareTextCommand{\texteinferior}{PU}{\9040\221}%\* U+2091  
 17974 % U+2092 LATIN SUBSCRIPT SMALL LETTER O  
 17975 \DeclareTextCommand{\textoinferior}{PU}{\9040\222}%\* U+2092  
 17976 % U+2093 LATIN SUBSCRIPT SMALL LETTER X  
 17977 \DeclareTextCommand{\textxinferior}{PU}{\9040\223}%\* U+2093  
 17978 % U+2094 LATIN SUBSCRIPT SMALL LETTER SCHWA  
 17979 \DeclareTextCommand{\textschwainferior}{PU}{\9040\224}%\* U+2094  
 17980 % U+2095 LATIN SUBSCRIPT SMALL LETTER H  
 17981 \DeclareTextCommand{\texthinferior}{PU}{\9040\225}%\* U+2095  
 17982 % U+2096 LATIN SUBSCRIPT SMALL LETTER K  
 17983 \DeclareTextCommand{\textkinferior}{PU}{\9040\226}%\* U+2096  
 17984 % U+2097 LATIN SUBSCRIPT SMALL LETTER L  
 17985 \DeclareTextCommand{\textlinferior}{PU}{\9040\227}%\* U+2097  
 17986 % U+2098 LATIN SUBSCRIPT SMALL LETTER M  
 17987 \DeclareTextCommand{\textminferior}{PU}{\9040\230}%\* U+2098  
 17988 % U+2099 LATIN SUBSCRIPT SMALL LETTER N  
 17989 \DeclareTextCommand{\textninferior}{PU}{\9040\231}%\* U+2099  
 17990 % U+209A LATIN SUBSCRIPT SMALL LETTER P  
 17991 \DeclareTextCommand{\textpinferior}{PU}{\9040\232}%\* U+209A  
 17992 % U+209B LATIN SUBSCRIPT SMALL LETTER S  
 17993 \DeclareTextCommand{\textsinferior}{PU}{\9040\233}%\* U+209B  
 17994 % U+209C LATIN SUBSCRIPT SMALL LETTER T  
 17995 \DeclareTextCommand{\texttinferior}{PU}{\9040\234}%\* U+209C

### 51.2.18 Currency Symbols: U+20A0 to U+20CF

17996 % U+20A1 COLON SIGN; \*colonmonetary, colonsign



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17997 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
17998 % U+20A4 LIRA SIGN; afii08941, *lira
17999 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
18000 % U+20A6 NAIRA SIGN
18001 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
18002 % U+20A7 PESETA SIGN; peseta
18003 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
18004 % U+20A9 WON SIGN; won
18005 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
18006 % U+20AB DONG SIGN; dong
18007 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
18008 % U+20AC EURO SIGN; *Euro, euro
18009 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
18010 %* \texteuro -> \EurDig (marvosym)
18011 %* \texteuro -> \EURdig (marvosym)
18012 %* \texteuro -> \EurHv (marvosym)
18013 %* \texteuro -> \EURhv (marvosym)
18014 %* \texteuro -> \EurCr (marvosym)
18015 %* \texteuro -> \EURcr (marvosym)
18016 %* \texteuro -> \EurTm (marvosym)
18017 %* \texteuro -> \EURtm (marvosym)
18018 %* \texteuro -> \Eur (marvosym)
18019 % U+20B0 GERMAN PENNY SIGN; \Deleatur (marvosym)
18020 \DeclareTextCommand{\textDeleatur}{PU}{\9040\260}%* U+20B0
18021 %* \textDeleatur -> \Denarius (marvosym)
18022 % U+20B1 PESO SIGN
18023 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
18024 % U+20B2 GUARANI SIGN
18025 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

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### 51.2.19 Letterlike Symbols: U+2100 to U+214F

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18026 % U+2103 DEGREE CELSIUS; centigrade
18027 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
18028 % U+210F PLANCK CONSTANT OVER TWO PI; \hslash (AmS)
18029 \DeclareTextCommand{\texthslash}{PU}{\9041\017}%* U+210F
18030 % U+2111 BLACK-LETTER CAPITAL I (=imaginary part); Ifraktur; \Im (La-
TeX)
18031 \DeclareTextCommand{\textIm}{PU}{\9041\021}%* U+2111
18032 % U+2113 SCRIPT SMALL L (=ell, liter); afii61289, lsquare; \ell (LaTeX)
18033 \DeclareTextCommand{\textell}{PU}{\9041\023}%* U+2113
18034 % U+2116 NUMERO SIGN; *afii61352, numero
18035 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
18036 % U+2117 SOUND RECORDING COPYRIGHT
18037 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
18038 % U+2118 SCRIPT CAPITAL P (=Weierstrass elliptic function);
18039 % weierstrass; \wp (LaTeX)
18040 \DeclareTextCommand{\textwp}{PU}{\9041\030}%* U+2118
18041 % U+211C BLACK-LETTER CAPITAL R (=real part); Rfraktur; \Re (LaTeX)
18042 \DeclareTextCommand{\textRe}{PU}{\9041\034}%* U+211C
18043 % U+211E PRESCRIPTION TAKE; prescription
18044 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
18045 % U+2120 SERVICE MARK
18046 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
18047 % U+2122 TRADE MARK SIGN; trademark
18048 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
18049 % U+2126 OHM SIGN; Ohm, Omega
18050 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126

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18051 % U+2127 INVERTED OHM SIGN  
 18052 \DeclareTextCommand{\textmho}{PU}{\9041\047}%\* U+2127  
 18053 %\* \textmho -> \agemO (wasysym)  
 18054 % U+2129 TURNED GREEK SMALL LETTER IOTA; \riota (phonetic)  
 18055 \DeclareTextCommand{\textriota}{PU}{\9041\051}%\* U+2129  
 18056 % U+212B ANGSTROM SIGN; angstrom  
 18057 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
 18058 % U+212E ESTIMATED SYMBOL; estimated  
 18059 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
 18060 %\* \textestimated -> \EstimatedSign (marvosym)  
 18061 %\* \textestimated -> \Ecommerce (marvosym)  
 18062 % U+2132 TURNED CAPITAL F; \Finv (AmS)  
 18063 \DeclareTextCommand{\textFinv}{PU}{\9041\062}%\* U+2132  
 18064 % U+2135 ALEF SYMBOL; aleph; \aleph (LaTeX)  
 18065 \DeclareTextCommand{\textaleph}{PU}{\9041\065}%\* U+2135  
 18066 % U+2136 BET SYMBOL; \beth (AmS, MnSymbol)  
 18067 \DeclareTextCommand{\textbeth}{PU}{\9041\066}%\* U+2136  
 18068 % U+2137 GIMEL SYMBOL; \gimel (AmS, MnSymbol)  
 18069 \DeclareTextCommand{\textgimel}{PU}{\9041\067}%\* U+2137  
 18070 % U+2138 DALET SYMBOL; \daleth (AmS, MnSymbol)  
 18071 \DeclareTextCommand{\textdaleth}{PU}{\9041\070}%\* U+2138  
 18072 % U+213B FACSIMILE SIGN; \fax (marvosym)  
 18073 \DeclareTextCommand{\textfax}{PU}{\9041\073}%\* U+213B  
 18074 % U+2141 TURNED SANS-SERIF CAPITAL G (=game); \Game  
 18075 \DeclareTextCommand{\textGame}{PU}{\9041\101}%\* U+2141  
 18076 % U+214B TURNED AMPERSAND; \invamp (txfonts/pxfonts)  
 18077 \DeclareTextCommand{\textinvamp}{PU}{\9041\113}% U+214B  
 18078 %\* \textinvamp -> \bindnasrepma (stmaryrd)  
 18079 %\* \textinvamp -> \parr (cml)

### 51.2.20 Number Forms: U+2150 to U+218F

18080 % U+2150 VULGAR FRACTION ONE SEVENTH  
 18081 \DeclareTextCommand{\textoneseventh}{PU}{\9041\120}% U+2150  
 18082 % U+2151 VULGAR FRACTION ONE NINTH  
 18083 \DeclareTextCommand{\textoneninth}{PU}{\9041\121}% U+2151  
 18084 % U+2152 VULGAR FRACTION ONE TENTH  
 18085 \DeclareTextCommand{\textonetenth}{PU}{\9041\122}% U+2152  
 18086 % U+2153 VULGAR FRACTION ONE THIRD; onethird  
 18087 \DeclareTextCommand{\textonethird}{PU}{\9041\123}% U+2153  
 18088 % U+2154 VULGAR FRACTION TWO THIRDS; twothirds  
 18089 \DeclareTextCommand{\texttwothirds}{PU}{\9041\124}% U+2154  
 18090 % U+2155 VULGAR FRACTION ONE FIFTH  
 18091 \DeclareTextCommand{\textonefifth}{PU}{\9041\125}% U+2155  
 18092 % U+2156 VULGAR FRACTION TWO FIFTHS  
 18093 \DeclareTextCommand{\texttwofifths}{PU}{\9041\126}% U+2156  
 18094 % U+2157 VULGAR FRACTION THREE FIFTHS  
 18095 \DeclareTextCommand{\textthreefifths}{PU}{\9041\127}% U+2157  
 18096 % U+2158 VULGAR FRACTION FOUR FIFTHS  
 18097 \DeclareTextCommand{\textfourfifths}{PU}{\9041\130}% U+2158  
 18098 % U+2159 VULGAR FRACTION ONE SIXTH  
 18099 \DeclareTextCommand{\textonesixth}{PU}{\9041\131}% U+2159  
 18100 % U+215A VULGAR FRACTION FIVE SIXTHS  
 18101 \DeclareTextCommand{\textfivesixths}{PU}{\9041\132}% U+215A  
 18102 % U+215B VULGAR FRACTION ONE EIGHTH; oneeighth  
 18103 \DeclareTextCommand{\textoneeighth}{PU}{\9041\133}% U+215B  
 18104 % U+215C VULGAR FRACTION THREE EIGHTHS; threeeighths  
 18105 \DeclareTextCommand{\textthreeeighths}{PU}{\9041\134}% U+215C

18106 % U+215D VULGAR FRACTION FIVE EIGHTHS; fiveeighths  
18107 \DeclareTextCommand{\textfiveeighths}{PU}{\9041\135}% U+215D  
18108 % U+215E VULGAR FRACTION SEVEN EIGHTHS; seveneighths  
18109 \DeclareTextCommand{\textseveneighths}{PU}{\9041\136}% U+215E  
18110 % U+2184 LATIN SMALL LETTER REVERSED C  
18111 \DeclareTextCommand{\textrevc}{PU}{\9041\204}% U+2184  
18112 % U+2189 VULGAR FRACTION ZERO THIRDS  
18113 \DeclareTextCommand{\textzer thirds}{PU}{\9041\211}% U+2189

### 51.2.21 Arrows: U+2190 to U+21FF

18114 % U+2190 LEFTWARDS ARROW; arrowleft  
18115 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}%\* U+2190  
18116 % U+2191 UPWARDS ARROW; arrowup  
18117 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}%\* U+2191  
18118 % U+2192 RIGHTWARDS ARROW; arrowright  
18119 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}%\* U+2192  
18120 %\* \textrightarrow -> \MVRightArrow (marvosym)  
18121 %\* \textrightarrow -> \MVRightarrow (marvosym)  
18122 % U+2193 DOWNWARDS ARROW; arrowdown  
18123 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}%\* U+2193  
18124 %\* \textdownarrow -> \MVArrowDown (marvosym)  
18125 %\* \textdownarrow -> \Force (marvosym)  
18126 % U+2194 LEFT RIGHT ARROW; arrowboth; \leftrightharrow (LaTeX)  
18127 \DeclareTextCommand{\textleftrightharrow}{PU}{\9041\224}%\* U+2194  
18128 % U+2195 UP DOWN ARROW; arrowupdn; \updownarrow (LaTeX)  
18129 \DeclareTextCommand{\textupdownarrow}{PU}{\9041\225}%\* U+2195  
18130 % U+2196 NORTH WEST ARROW; arrowupleft; \nwarrow (LaTeX)  
18131 \DeclareTextCommand{\textnwarrow}{PU}{\9041\226}%\* U+2196  
18132 % U+2197 NORTH EAST ARROW; arrowupright; \nearrow (LaTeX)  
18133 \DeclareTextCommand{\textnearrow}{PU}{\9041\227}%\* U+2197  
18134 %\* \textnearrow -> \textglobrise (tipa)  
18135 % U+2198 SOUTH EAST ARROW; arrowdownright; \searrow (LaTeX)  
18136 \DeclareTextCommand{\textsearrow}{PU}{\9041\230}%\* U+2198  
18137 %\* \textsearrow -> \textglobfall (tipa)  
18138 % U+2199 SOUTH WEST ARROW; arrowdownleft; \swarrow (LaTeX)  
18139 \DeclareTextCommand{\textswarrow}{PU}{\9041\231}%\* U+2199  
18140 % U+219A LEFTWARDS ARROW WITH STROKE; \nleftarrow (AmS)  
18141 \DeclareTextCommand{\textnleftarrow}{PU}{\9041\232}%\* U+219A  
18142 % U+219B RIGHTWARDS ARROW WITH STROKE; \nrightarrow (AmS)  
18143 \DeclareTextCommand{\textnrightarrow}{PU}{\9041\233}%\* U+219B  
18144 % U+219E LEFTWARDS TWO HEADED ARROW; \twoheadleftarrow (AmS)  
18145 \DeclareTextCommand{\texttwoheadleftarrow}{PU}{\9041\236}%\* U+219E  
18146 % \ntwoheadleftarrow (txfonts/pxfonts)  
18147 \DeclareTextCommand{\textntwoheadleftarrow}{PU}{\9041\236\83\070}%\* U+219E U+0338  
18148 % U+219F UPWARDS TWO HEADED ARROW; \twoheaduparrow (MnSymbol)  
18149 \DeclareTextCommand{\texttwoheaduparrow}{PU}{\9041\237}%\* U+219F  
18150 % U+21A0 RIGHTWARDS TWO HEADED ARROW;  
18151 % \twoheadrightarrow (AmS)  
18152 \DeclareTextCommand{\texttwoheadrightarrow}{PU}{\9041\240}%\* U+21A0  
18153 % \ntwoheadrightarrow (txfonts/pxfonts)  
18154 \DeclareTextCommand{\textntwoheadrightarrow}{PU}{\9041\240\83\070}%\* U+21A0 U+0338  
18155 % U+21A1 DOWNWARDS TWO HEADED ARROW; \twoheaddownarrow (Mn-  
Symbol)  
18156 \DeclareTextCommand{\texttwoheaddownarrow}{PU}{\9041\241}%\* U+21A1  
18157 % U+21A2 LEFTWARDS ARROW WITH TAIL; \leftarrowtail (AmS)  
18158 \DeclareTextCommand{\textleftarrowtail}{PU}{\9041\242}%\* U+21A2  
18159 % U+21A3 RIGHTWARDS ARROW WITH TAIL; \rightarrowtail (AmS)

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18160 \DeclareTextCommand{\textrightarrowtail}{PU}{\9041\243}%* U+21A3
18161 % U+21A6 RIGHTWARDS ARROW FROM BAR; \mapsto (LaTeX)
18162 \DeclareTextCommand{\textmapsto}{PU}{\9041\246}%* U+21A6
18163 % U+21A9 LEFTWARDS ARROW WITH HOOK; \hookleftarrow (LaTeX)
18164 \DeclareTextCommand{\texthookleftarrow}{PU}{\9041\251}%* U+21A9
18165 % U+21AA RIGHTWARDS ARROW WITH HOOK; \hookrightarrow (LaTeX)
18166 \DeclareTextCommand{\texthookrightarrow}{PU}{\9041\252}%* U+21AA
18167 % U+21AB LEFTWARDS ARROW WITH LOOP; \looparrowleft (AmS)
18168 \DeclareTextCommand{\textlooparrowleft}{PU}{\9041\253}%* U+21AB
18169 % U+21AC RIGHTWARDS ARROW WITH LOOP; \looparrowright (AmS)
18170 \DeclareTextCommand{\textlooparrowright}{PU}{\9041\254}%* U+21AC
18171 % U+21AE LEFT RIGHT ARROW WITH STROKE; \leftrightarrows (AmS)
18172 \DeclareTextCommand{\textnleftrightarrows}{PU}{\9041\256}%* U+21AE
18173 % U+21AF DOWNWARDS ZIGZAG ARROW; \lightning (stmaryrd)
18174 \DeclareTextCommand{\textlightning}{PU}{\9041\257}%* U+21AF
18175 %* \textlightning -> \Lightning (marvosym)
18176 % U+21B5 DOWNWARDS ARROW WITH CORNER LEFTWARDS;
18177 % \dls (mathabx)
18178 \DeclareTextCommand{\textdls}{PU}{\9041\265}%* U+21B5
18179 % U+21B6 ANTICLOCKWISE TOP SEMICIRCLE ARROW;
18180 % \curvearrowleft (AmS)
18181 \DeclareTextCommand{\textcurvearrowleft}{PU}{\9041\266}%* U+21B6
18182 % U+21B7 CLOCKWISE TOP SEMICIRCLE ARROW; \curvearrowright (AmS)
18183 \DeclareTextCommand{\textcurvearrowright}{PU}{\9041\267}%* U+21B7
18184 % U+21BC LEFTWARDS HARPOON WITH BARB UPWARDS; harpoonleft-
    barbup;
18185 % \leftharpoonup (LaTeX)
18186 \DeclareTextCommand{\textleftharpoonup}{PU}{\9041\274}%* U+21BC
18187 % U+21BD LEFTWARDS HARPOON WITH BARB DOWNWARDS;
18188 % \leftharpoondown (LaTeX)
18189 \DeclareTextCommand{\textleftharpoondown}{PU}{\9041\275}%* U+21BD
18190 % U+21BE UPWARDS HARPOON WITH BARB RIGHTWARDS;
18191 % \upharpoonright (AmS)
18192 \DeclareTextCommand{\textupharpoonright}{PU}{\9041\276}%* U+21BE
18193 % U+21BF UPWARDS HARPOON WITH BARB LEFTWARDS;
18194 % \upharpoonleft (AmS)
18195 \DeclareTextCommand{\textupharpoonleft}{PU}{\9041\277}%* U+21BF
18196 % U+21C0 RIGHTWARDS HARPOON WITH BARB UPWARDS; harpoonright-
    barbup
18197 % \rightharpoonup (LaTeX)
18198 \DeclareTextCommand{\textrightharpoonup}{PU}{\9041\300}%* U+21C0
18199 % U+21C1 RIGHTWARDS HARPOON WITH BARB DOWNWARDS;
18200 % \rightharpoondown (LaTeX)
18201 \DeclareTextCommand{\textrightharpoondown}{PU}{\9041\301}%* U+21C1
18202 % U+21C2 DOWNWARDS HARPOON WITH BARB RIGHTWARDS;
18203 % \downharpoonright (AmS)
18204 \DeclareTextCommand{\textdownharpoonright}{PU}{\9041\302}%* U+21C2
18205 % U+21C3 DOWNWARDS HARPOON WITH BARB LEFTWARDS;
18206 % \downharpoonleft (AmS)
18207 \DeclareTextCommand{\textdownharpoonleft}{PU}{\9041\303}%* U+21C3
18208 % U+21C4 RIGHTWARDS ARROW OVER LEFTWARDS ARROW;
18209 % \rightarrowoverleftarrow; \rightleftarrows (MnSymbol)
18210 \DeclareTextCommand{\textrightleftarrows}{PU}{\9041\304}%* U+21C4
18211 % U+21C5 UPWARDS ARROW LEFTWARDS OF DOWNWARDS ARROW; ar-
    rowupleftofdown;
18212 % \updownarrows (MnSymbol)
18213 \DeclareTextCommand{\textupdownarrows}{PU}{\9041\305}%* U+21C5

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18214 % U+21C6 LEFTWARDS ARROW OVER RIGHTWARDS ARROW; arrowleft-  
 overright;  
 18215 % \leftrightharrows (AmS)  
 18216 \DeclareTextCommand{\textleftrightharrows}{PU}{\9041\306}%\* U+21C6  
 18217 % U+21C7 LEFTWARDS PAIRED ARROWS; \leftleftarrows (AmS)  
 18218 \DeclareTextCommand{\textleftleftarrows}{PU}{\9041\307}%\* U+21C7  
 18219 % U+21C8 UPWARDS PAIRED ARROWS; \upuparrows (AmS)  
 18220 \DeclareTextCommand{\textupuparrows}{PU}{\9041\310}%\* U+21C8  
 18221 % U+21C9 RIGHTWARDS PAIRED ARROWS; \rightrightarrows (AmS)  
 18222 \DeclareTextCommand{\textrightrightarrows}{PU}{\9041\311}%\* U+21C9  
 18223 % U+21CA DOWNWARDS PAIRED ARROWS; \downdownarrows (AmS)  
 18224 \DeclareTextCommand{\textdowndownarrows}{PU}{\9041\312}%\* U+21CA  
 18225 % U+21CB LEFTWARDS HARPOON OVER RIGHTWARDS HARPOON;  
 18226 % \leftrightharpoons (AmS);  
 18227 \DeclareTextCommand{\textleftrightharpoons}{PU}{\9041\313}%\* U+21CB  
 18228 % U+21CC RIGHTWARDS HARPOON OVER LEFTWARDS HARPOON;  
 18229 % \rightleftharpoons (LaTeX, AmS)  
 18230 \DeclareTextCommand{\textrightleftharpoons}{PU}{\9041\314}%\* U+21CC  
 18231 % U+21CD LEFTWARDS DOUBLE ARROW WITH STROKE; arrowleftd-  
 blstroke;  
 18232 % \nLeftarrow (AmS)  
 18233 \DeclareTextCommand{\textnLeftarrow}{PU}{\9041\315}%\* U+21CD  
 18234 % U+21CE LEFT RIGHT DOUBLE ARROW WITH STROKE; \nLeftrightar-  
 row (AmS)  
 18235 \DeclareTextCommand{\textnLeftrightarrow}{PU}{\9041\316}%\* U+21CE  
 18236 % U+21CF RIGHTWARDS DOUBLE ARROW WITH STROKE; arrowrightd-  
 blstroke;  
 18237 % \nRightarrow (AmS)  
 18238 \DeclareTextCommand{\textnRightarrow}{PU}{\9041\317}%\* U+21CF  
 18239 % U+21D0 LEFTWARDS DOUBLE ARROW; arrowdblleft, arrowleftdbl;  
 18240 % \Leftarrow (LaTeX)  
 18241 \DeclareTextCommand{\textLeftarrow}{PU}{\9041\320}%\* U+21D0  
 18242 % U+21D1 UPWARDS DOUBLE ARROW; arrowdblup; \Uparrow (LaTeX)  
 18243 \DeclareTextCommand{\textUparrow}{PU}{\9041\321}%\* U+21D1  
 18244 % U+21D2 RIGHTWARDS DOUBLE ARROW; arrowdblright, dblarrowright;  
 18245 % \Rightarrow (LaTeX)  
 18246 \DeclareTextCommand{\textRightarrow}{PU}{\9041\322}%\* U+21D2  
 18247 %\* \textRightarrow -> \Conclusion (marvosym)  
 18248 % U+21D3 DOWNWARDS DOUBLE ARROW; arrowdbldown; \Downarrow (La-  
 TeX)  
 18249 \DeclareTextCommand{\textDownarrow}{PU}{\9041\323}%\* U+21D3  
 18250 % U+21D4 LEFT RIGHT DOUBLE ARROW; arrowdblboth;  
 18251 % \Leftrightarrow (LaTeX)  
 18252 \DeclareTextCommand{\textLeftrightarrow}{PU}{\9041\324}%\* U+21D4  
 18253 %\* \textLeftrightarrow -> \Equivalence (marvosym)  
 18254 % U+21D5 UP DOWN DOUBLE ARROW; \Updownarrow (LaTeX)  
 18255 \DeclareTextCommand{\textUpdownarrow}{PU}{\9041\325}%\* U+21D5  
 18256 % U+21D6 NORTH WEST DOUBLE ARROW; \Nwarrow (MnSymbol)  
 18257 \DeclareTextCommand{\textNwarrow}{PU}{\9041\326}%\* U+21D6  
 18258 % U+21D7 NORTH EAST DOUBLE ARROW; \Nearrow (MnSymbol)  
 18259 \DeclareTextCommand{\textNearrow}{PU}{\9041\327}%\* U+21D7  
 18260 % U+21D8 SOUTH EAST DOUBLE ARROW; \Searrow (MnSymbol)  
 18261 \DeclareTextCommand{\textSearrow}{PU}{\9041\330}%\* U+21D8  
 18262 % U+21D9 SOUTH WEST DOUBLE ARROW; \Svarrow (MnSymbol)  
 18263 \DeclareTextCommand{\textSvarrow}{PU}{\9041\331}%\* U+21D9  
 18264 % U+21DA LEFTWARDS TRIPLE ARROW; \Lleftarrow (AmS)  
 18265 \DeclareTextCommand{\textLleftarrow}{PU}{\9041\332}%\* U+21DA

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18266 % U+21DB RIGHTWARDS TRIPLE ARROW; \Rrightarrow (MnSymbol)
18267 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\333}%* U+21DB
18268 % U+21DC LEFTWARDS SQUIGGLE ARROW; \leftsquigarrow (mathabx)
18269 \DeclareTextCommand{\textleftsquigarrow}{PU}{\9041\334}%* U+21DC
18270 % U+21DD RIGHTWARDS SQUIGGLE ARROW; \rightsquigarrow (mathabx)
18271 \DeclareTextCommand{\textright squigarrow}{PU}{\9041\335}%* U+21DD
18272 % U+21E0 LEFTWARDS DASHED ARROW; arrowdashleft;
18273 % \dashleftarrow (AmS)
18274 \DeclareTextCommand{\textdashleftarrow}{PU}{\9041\340}%* U+21E0
18275 %* \textdashleftarrow -> \dashedleftarrow (MnSymbol)
18276 % U+21E1 UPWARDS DASHED ARROW; arrowdashup; \dasheduparrow (Mn-
Symbol)
18277 \DeclareTextCommand{\textdasheduparrow}{PU}{\9041\341}%* U+21E1
18278 % U+21E2 RIGHTWARDS DASHED ARROW; arrowdashright; \dashrightarrow
(AmS)
18279 \DeclareTextCommand{\textdashrightarrow}{PU}{\9041\342}%* U+21E2
18280 %* \textdashrightarrow -> \dashedrightarrow (MnSymbol)
18281 % U+21E3 DOWNWARDS DASHED ARROW; arrowdashdown; \dasheddownarrow
(MnSymbol)
18282 \DeclareTextCommand{\textdasheddownarrow}{PU}{\9041\343}%* U+21E3
18283 % U+21E8 RIGHTWARDS WHITE ARROW; \pointer (wasysym)
18284 \DeclareTextCommand{\textpointer}{PU}{\9041\350}%* U+21E8
18285 % U+21F5 DOWNWARDS ARROW LEFTWARDS OF UPWARDS ARROW;
18286 % \downuparrows (MnSymbol)
18287 \DeclareTextCommand{\textdownuparrows}{PU}{\9041\365}%* U+21F5
18288 % U+21FD LEFTWARDS OPEN-HEADED ARROW; \leftarrowtriangle (stmaryrd)
18289 \DeclareTextCommand{\textleftarrowtriangle}{PU}{\9041\375}%* U+21FD
18290 % U+21FE RIGHTWARDS OPEN-HEADED ARROW; \rightarrowtriangle (stmaryrd)
18291 \DeclareTextCommand{\textrightarrowtriangle}{PU}{\9041\376}%* U+21FE
18292 % U+21FF LEFT RIGHT OPEN-HEADED ARROW; \leftrightarrowtriangle
(stmaryrd)
18293 \DeclareTextCommand{\textleftrightarrowtriangle}{PU}{\9041\377}%* U+21FF

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### 51.2.22 Mathematical Operators: U+2200 to U+22FF

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18294 % U+2200 FOR ALL; forall; \forall (LaTeX)
18295 \DeclareTextCommand{\textforall}{PU}{\9042\000}%* U+2200
18296 % U+2201 COMPLEMENT; \complement (AmS)
18297 \DeclareTextCommand{\textcomplement}{PU}{\9042\001}%* U+2201
18298 % U+2202 PARTIAL DIFFERENTIAL; partialdiff; \partial (LaTeX)
18299 \DeclareTextCommand{\textpartial}{PU}{\9042\002}%* U+2202
18300 % U+2203 THERE EXISTS; existential; \exists (LaTeX)
18301 \DeclareTextCommand{\textexists}{PU}{\9042\003}%* U+2203
18302 % U+2204 THERE DOES NOT EXIST; \nexists (AmS)
18303 \DeclareTextCommand{\textnexists}{PU}{\9042\004}%* U+2204
18304 % U+2205 EMPTY SET; emptyset; \emptyset (LaTeX), \varnothing (AmS)
18305 \DeclareTextCommand{\textemptyset}{PU}{\9042\005}%* U+2205
18306 %* \textemptyset -> \varnothing (AmS)
18307 % U+2206 INCREMENT; increment, Delta; \triangle (LaTeX)
18308 \DeclareTextCommand{\texttriangle}{PU}{\9042\006}%* U+2206
18309 % U+2207 NABLA; nabla, gradient; \nabla (LaTeX)
18310 \DeclareTextCommand{\textnabla}{PU}{\9042\007}%* U+2207
18311 % U+2208 ELEMENT OF; element; \in (LaTeX)
18312 \DeclareTextCommand{\textin}{PU}{\9042\010}%* U+2208
18313 % U+2209 NOT AN ELEMENT OF; notelement, notelementof; \notin (LaTeX)
18314 \DeclareTextCommand{\textnotin}{PU}{\9042\011}%* U+2209
18315 % U+220A SMALL ELEMENT OF; \smallin (mathdesign)
18316 \DeclareTextCommand{\textsmallin}{PU}{\9042\012}%* U+220A

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18317 % U+220B CONTAINS AS MEMBER; suchthat; \ni (LaTeX)
18318 \DeclareTextCommand{\textni}{PU}{\9042\013}%* U+220B
18319 %* \textni -> \owns (mathabx)
18320 % U+220C DOES NOT CONTAIN AS MEMBER; \notowner (mathabx)
18321 \DeclareTextCommand{\textnotowner}{PU}{\9042\014}%* U+220C
18322 %* \textnotowner -> \notni (txfonts/pxfonts)
18323 % U+220D SMALL CONTAINS AS MEMBER; \smallowns (mathdesign)
18324 \DeclareTextCommand{\textsmallowns}{PU}{\9042\015}%* U+220D
18325 % U+220F N-ARY PRODUCT; \prod (LaTeX)
18326 \DeclareTextCommand{\textprod}{PU}{\9042\017}%* U+220F
18327 % U+2210 N-ARY COPRODUCT; \amalg (LaTeX)
18328 \DeclareTextCommand{\textamalg}{PU}{\9042\020}%* U+2210
18329 % U+2211 N-ARY SUMMATION; summation; \sum (LaTeX)
18330 \DeclareTextCommand{\textsum}{PU}{\9042\021}%* U+2211
18331 % U+2212 MINUS SIGN; minus
18332 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
18333 % U+2213 MINUS-OR-PLUS SIGN; minusplus; \mp (LaTeX)
18334 \DeclareTextCommand{\textmp}{PU}{\9042\023}%* U+2213
18335 % U+2214 DOT PLUS; \dotplus (AmS)
18336 \DeclareTextCommand{\textdotplus}{PU}{\9042\024}%* U+2214
18337 % U+2215 DIVISION SLASH; divisionslash; \Divides (marvosym)
18338 \DeclareTextCommand{\textDivides}{PU}{\9042\025}%* U+2215
18339 % \DividesNot (marvosym)
18340 \DeclareTextCommand{\textDividesNot}{PU}{\9042\025\9040\322}%* U+2215 U+20D2
18341 % U+2216 SET MINUS; \setminus (LaTeX)
18342 \DeclareTextCommand{\textsetminus}{PU}{\9042\026}%* U+2216
18343 % U+2217 ASTERISK OPERATOR; asteriskmath; \ast (LaTeX)
18344 \DeclareTextCommand{\textast}{PU}{\9042\027}%* U+2217
18345 % U+2218 RING OPERATOR; \circ (LaTeX)
18346 \DeclareTextCommand{\textcirc}{PU}{\9042\030}%* U+2218
18347 % U+2219 BULLET OPERATOR; bulletoperator; \bullet (LaTeX)
18348 \DeclareTextCommand{\textbulletoperator}{PU}{\9042\031}% U+2219
18349 % U+221A SQUARE ROOT; radical
18350 \DeclareTextCommand{\textsqrt}{PU}{\9042\032}%* U+221A
18351 % U+221D PROPORTIONAL TO; proportional; \propto (LaTeX)
18352 \DeclareTextCommand{\textpropto}{PU}{\9042\035}%* U+221D
18353 %* \textpropto -> \varpropto (wasysym)
18354 % U+221E INFINITY; infinity; \infty (LaTeX)
18355 \DeclareTextCommand{\textinfty}{PU}{\9042\036}%* U+221E
18356 % U+2220 ANGLE; angle; \angle (LaTeX)
18357 \DeclareTextCommand{\textangle}{PU}{\9042\040}%* U+2220
18358 % U+2221 MEASURED ANGLE; \measuredangle (mathabx, MnSymbol)
18359 \DeclareTextCommand{\textmeasuredangle}{PU}{\9042\041}%* U+2221
18360 % U+2222 SPHERICAL ANGLE; \sphericalangle (AmS)
18361 \DeclareTextCommand{\textsphericalangle}{PU}{\9042\042}%* U+2222
18362 %* \textsphericalangle -> \varangle (wasysym)
18363 %* \textsphericalangle -> \Anglesign (marvosym)
18364 %* \textsphericalangle -> \AngleSign (marvosym)
18365 % U+2223 DIVIDES; divides; \mid (LaTeX)
18366 \DeclareTextCommand{\textmid}{PU}{\9042\043}%* U+2223
18367 % U+2224 DOES NOT DIVIDE; \nmid (AmS)
18368 \DeclareTextCommand{\textnmid}{PU}{\9042\044}%* U+2224
18369 %* \textnmid -> \notdivides (mathabx)
18370 % U+2225 PARALLEL TO; parallel; \parallel (LaTeX)
18371 \DeclareTextCommand{\textparallel}{PU}{\9042\045}%* U+2225
18372 % U+2226 NOT PARALLEL TO; notparallel; \nparallel (AmS)
18373 \DeclareTextCommand{\textnparallel}{PU}{\9042\046}%* U+2226

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18374 %* \textnparallel -> nUpdownline (MnSymbol)
18375 % U+2227 LOGICAL AND; logicaland; \wedge (LaTeX)
18376 \DeclareTextCommand{\textwedge}{PU}{\9042\047}%* U+2227
18377 % \owedge (stmaryrd)
18378 \DeclareTextCommand{\textowedge}{PU}{\9042\047\9040\335}%* U+2227 U+20DD
18379 %* \textowedge -> \varowedge (stmaryrd)
18380 % U+2228 LOGICAL OR; logicalor; \vee (LaTeX)
18381 \DeclareTextCommand{\textvee}{PU}{\9042\050}%* U+2228
18382 % \ovee (stmaryrd)
18383 \DeclareTextCommand{\textovee}{PU}{\9042\050\9040\335}%* U+2228 U+20DD
18384 %* \textovee -> \varovee (stmaryrd)
18385 % U+2229 INTERSECTION; intersection; \cap (LaTeX)
18386 \DeclareTextCommand{\textcap}{PU}{\9042\051}%* U+2229
18387 % U+222A UNION; union; \cup (LaTeX)
18388 \DeclareTextCommand{\textcup}{PU}{\9042\052}%* U+222A
18389 % U+222B INTEGRAL; integral; \int (LaTeX)
18390 \DeclareTextCommand{\textint}{PU}{\9042\053}%* U+222B
18391 %* \textint -> \varint (wasysym)
18392 % U+222C DOUBLE INTEGRAL; dblintegral; \iint (AmS)
18393 \DeclareTextCommand{\textiint}{PU}{\9042\054}%* U+222C
18394 % U+222D TRIPLE INTEGRAL; \iiint (AmS)
18395 \DeclareTextCommand{\textiiint}{PU}{\9042\055}%* U+222D
18396 % U+222E CONTOUR INTEGRAL; contourintegral; \oint (LaTeX)
18397 \DeclareTextCommand{\textoint}{PU}{\9042\056}%* U+222E
18398 %* \textoint -> \varoint (wasysym)
18399 % U+222F SURFACE INTEGRAL; \oiint (wasysym)
18400 \DeclareTextCommand{\textoiint}{PU}{\9042\057}%* U+222F
18401 % U+2232 CLOCKWISE CONTOUR INTEGRAL;
18402 % \ointclockwise (txfonts/pxfonts)
18403 \DeclareTextCommand{\textointclockwise}{PU}{\9042\062}%* U+2232
18404 % U+2233 ANTICLOCKWISE CONTOUR INTEGRAL; \ointctrclockwise (tx-
      fonts/pxfonts)
18405 \DeclareTextCommand{\textointctrclockwise}{PU}{\9042\063}%* U+2233
18406 % U+2234 THEREFORE; therefore; \therefore (AmS)
18407 \DeclareTextCommand{\texttherefore}{PU}{\9042\064}%* U+2234
18408 %* \texttherefore -> uptherefore (MnSymbol)
18409 % U+2235 BECAUSE; because; \because (AmS)
18410 \DeclareTextCommand{\textbecause}{PU}{\9042\065}%* U+2235
18411 %* \textbecause -> \downtherefore (MnSymbol)
18412 % U+2236 RATIO; \vdotdot (MnSymbol)
18413 \DeclareTextCommand{\textvdotdot}{PU}{\9042\066}%* U+2236
18414 % U+2237 PROPORTION; \squaredots (MnSymbol)
18415 \DeclareTextCommand{\textsquaredots}{PU}{\9042\067}%* U+2237
18416 % U+2238 DOT MINUS; \dotminus (MnSymbol)
18417 \DeclareTextCommand{\textdotminus}{PU}{\9042\070}%* U+2238
18418 %* \textdotminus -> \textdotdiv (mathabx)
18419 % U+2239 EXCESS; \eqcolon (txfonts/pxfonts)
18420 \DeclareTextCommand{\texteqcolon}{PU}{\9042\071}%* U+2239
18421 % U+223C TILDE OPERATOR; similar; \sim (LaTeX)
18422 \DeclareTextCommand{\textsim}{PU}{\9042\074}%* U+223C
18423 %* \textsim -> \AC (wasysym)
18424 % U+223D REVERSED TILDE; reverseditilde; \backsim (AmS)
18425 \DeclareTextCommand{\textbacksim}{PU}{\9042\075}%* U+223D
18426 % \nbacksim (txfonts/pxfonts)
18427 \DeclareTextCommand{\textnbacksim}{PU}{\9042\075\83\070}%* U+223D U+0338
18428 % U+2240 WREATH PRODUCT; \wr (LaTeX)
18429 \DeclareTextCommand{\textwr}{PU}{\9042\100}%* U+2240

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18430 %* \textwr -> \wreath (MnSymbol)
18431 % U+2241 NOT TILDE; \nsim (AmS)
18432 \DeclareTextCommand{\textnsim}{PU}{\9042\101}%* U+2241
18433 % U+2242 MINUS TILDE; \eqsim (MnSymbol)
18434 \DeclareTextCommand{\texteqsim}{PU}{\9042\102}%* U+2242
18435 % \neqsim (MnSymbol)
18436 \DeclareTextCommand{\textneqsim}{PU}{\9042\102\83\070}%* U+2242 U+0338
18437 % U+2243 ASYMPTOTICALLY EQUAL TO; asymptoticallyequal; \simeq (La-
TeX)
18438 \DeclareTextCommand{\textsimeq}{PU}{\9042\103}%* U+2243
18439 % U+2244 NOT ASYMPTOTICALLY EQUAL TO; \nsimeq (txfonts/pxfonts)
18440 \DeclareTextCommand{\textnsimeq}{PU}{\9042\104}%* U+2244
18441 % U+2245 APPROXIMATELY EQUAL TO; approximatelyequal; \cong (LaTeX)
18442 \DeclareTextCommand{\textcong}{PU}{\9042\105}%* U+2245
18443 % U+2247 NEITHER APPROXIMATELY NOR ACTUALLY EQUAL TO;
18444 % \ncong (AmS)
18445 \DeclareTextCommand{\textncong}{PU}{\9042\107}%* U+2247
18446 % U+2248 ALMOST EQUAL TO; approxequal; \approx (LaTeX)
18447 \DeclareTextCommand{\textapprox}{PU}{\9042\110}%* U+2248
18448 % U+2249 NOT ALMOST EQUAL TO; \napprox (txfonts/pxfonts)
18449 \DeclareTextCommand{\textnapprox}{PU}{\9042\111}%* U+2249
18450 %* \textnapprox -> \nthickapprox (txfonts/pxfonts)
18451 % U+224A ALMOST EQUAL OR EQUAL TO; \approxeq (AmS)
18452 \DeclareTextCommand{\textapproxeq}{PU}{\9042\112}%* U+224A
18453 % \napproxeq (txfonts/pxfonts)
18454 \DeclareTextCommand{\textnapproxeq}{PU}{\9042\112\83\070}%* U+224A U+0338
18455 % U+224B TRIPLE TILDE; \triplesim (MnSymbol)
18456 \DeclareTextCommand{\texttriplesim}{PU}{\9042\113}%* U+224B
18457 %* \texttriplesim -> \VHF (wasysym)
18458 % \ntriplesim (MnSymbol)
18459 \DeclareTextCommand{\textntriplesim}{PU}{\9042\113\83\070}%* U+224B U+0338
18460 % U+224C ALL EQUAL TO; allequal; \backcong (MnSymbol)
18461 \DeclareTextCommand{\textbackcong}{PU}{\9042\114}%* U+224C
18462 % \nbackcong (MnSymbol)
18463 \DeclareTextCommand{\textnbackcong}{PU}{\9042\114\83\070}%* U+224C U+0338
18464 % U+224D EQUIVALENT TO; \asymp (LaTeX)
18465 \DeclareTextCommand{\textasympt}{PU}{\9042\115}%* U+224D
18466 % \nasympt (txfonts/pxfonts)
18467 \DeclareTextCommand{\textnasympt}{PU}{\9042\115\83\070}%* U+224D U+0338
18468 %* \textnasympt -> \notasympt (mathabx)
18469 % U+224E GEOMETRICALLY EQUIVALENT TO; \Bumpeq (AmS)
18470 \DeclareTextCommand{\textBumpeq}{PU}{\9042\116}%* U+224E
18471 % \nBumpeq (txfonts/pxfonts)
18472 \DeclareTextCommand{\textnBumpeq}{PU}{\9042\116\83\070}%* U+224E U+0338
18473 % U+224F DIFFERENCE BETWEEN; \bumpeq (AmS)
18474 \DeclareTextCommand{\textbumpeq}{PU}{\9042\117}%* U+224F
18475 % \nbumpeq (txfonts/pxfonts)
18476 \DeclareTextCommand{\textnbumpeq}{PU}{\9042\117\83\070}%* U+224F U+0338
18477 % U+2250 APPROACHES THE LIMIT; approaches; \doteq (LaTeX)
18478 \DeclareTextCommand{\textdoteq}{PU}{\9042\120}%* U+2250
18479 % \ndoteq (MnSymbol)
18480 \DeclareTextCommand{\textndoteq}{PU}{\9042\120\83\070}%* U+2250 U+0338
18481 % U+2251 GEOMETRICALLY EQUAL TO; geometricallyequal;
18482 % \doteqdot (AmS)
18483 \DeclareTextCommand{\textdoteqdot}{PU}{\9042\121}%* U+2251
18484 %* \textdoteqdot -> \Doteq (MnSymbol)
18485 % \nDoteq (MnSymbol)

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18486 \DeclareTextCommand{\textnDoteq}{PU}{\9042\121\83\070}%* U+2251 U+0338
18487 % U+2252 APPROXIMATELY EQUAL TO OR THE IMAGE OF; approx-
      qualorimage;
18488 % \fallingdotseq (AmS)
18489 \DeclareTextCommand{\textfallingdoteq}{PU}{\9042\122}%* U+2252
18490 % \nfallingdotseq (MnSymbol)
18491 \DeclareTextCommand{\textnfallingdoteq}{PU}{\9042\122\83\070}%* U+2252 U+0338
18492 % U+2253 IMAGE OF OR APPROXIMATELY EQUAL TO; imageorapproxi-
      matelyequal;
18493 % \risingdotseq (AmS)
18494 \DeclareTextCommand{\textrisingdoteq}{PU}{\9042\123}%* U+2253
18495 % \nrisingdoteq (MnSymbol)
18496 \DeclareTextCommand{\textnrisingdoteq}{PU}{\9042\123\83\070}%* U+2253 U+0338
18497 % U+2254 COLON EQUALS; \colonequals (colonequals)
18498 \DeclareTextCommand{\textcolonequals}{PU}{\9042\124}%* U+2254
18499 % U+2255 EQUALS COLON; \equalscolon (colonequals)
18500 \DeclareTextCommand{\textequalscolon}{PU}{\9042\125}%* U+2255
18501 % U+2256 RING IN EQUAL TO; \eqcirc (AmS)
18502 \DeclareTextCommand{\texteqcirc}{PU}{\9042\126}%* U+2256
18503 % \neqcirc (MnSymbol)
18504 \DeclareTextCommand{\textneqcirc}{PU}{\9042\126\83\070}%* U+2256 U+0338
18505 % U+2257 RING EQUAL TO; \circeq (AmS)
18506 \DeclareTextCommand{\textcirceq}{PU}{\9042\127}%* U+2257
18507 % \ncirceq (MnSymbol)
18508 \DeclareTextCommand{\textncirceq}{PU}{\9042\127\83\070}%* U+2257 U+0338
18509 % U+2259 ESTIMATES; \hateq (MnSymbol)
18510 \DeclareTextCommand{\texthateq}{PU}{\9042\131}%* U+2259
18511 %* \texthateq -> \corresponds (mathabx)
18512 %* \texthateq -> \Corresponds (marvosym)
18513 % \nhateq (MnSymbol)
18514 \DeclareTextCommand{\textnhateq}{PU}{\9042\131\83\070}%* U+2259 U+0338
18515 % U+225C DELTA EQUAL TO; \triangleeq (AmS)
18516 \DeclareTextCommand{\texttriangleeq}{PU}{\9042\134}%* U+225C
18517 % U+2260 NOT EQUAL TO; notequal; \ne (LaTeX), \neq (LaTeX)
18518 \DeclareTextCommand{\textneq}{PU}{\9042\140}%* U+2260
18519 \DeclareTextCommand{\textne}{PU}{\9042\140}%* U+2260
18520 %* \textneq -> \nequal (MnSymbol)
18521 % U+2261 IDENTICAL TO; equivalence; \equiv (LaTeX)
18522 \DeclareTextCommand{\textequiv}{PU}{\9042\141}%* U+2261
18523 %* \textequiv -> \Congruent (marvosym)
18524 % U+2262 NOT IDENTICAL TO; notidentical; \nequiv (txfonts/pxfonts)
18525 \DeclareTextCommand{\textnequiv}{PU}{\9042\142}%* U+2262
18526 %* \textnequiv -> \NotCongruent (marvosym)
18527 %* \textnequiv -> \notequiv (mathabx)
18528 % U+2264 LESS-THAN OR EQUAL TO; lessequal; \le (LaTeX), \leq (LaTeX)
18529 \DeclareTextCommand{\textleq}{PU}{\9042\144}%* U+2264
18530 \DeclareTextCommand{\textle}{PU}{\9042\144}%* U+2264
18531 %* \textleq -> \LessOrEqual (marvosym)
18532 % U+2265 GREATER-THAN OR EQUAL TO; greaterequal;
18533 % \ge (LaTeX), \geq (LaTeX)
18534 \DeclareTextCommand{\textgeq}{PU}{\9042\145}%* U+2265
18535 \DeclareTextCommand{\textge}{PU}{\9042\145}%* U+2265
18536 %* \textgeq -> \LargerOrEqual (marvosym)
18537 % U+2266 LESS-THAN OVER EQUAL TO; lessorequal; \leqq (AmS)
18538 \DeclareTextCommand{\textleqq}{PU}{\9042\146}%* U+2266
18539 % \nleqq (txfonts/pxfonts)
18540 \DeclareTextCommand{\textnleqq}{PU}{\9042\146\83\070}%* U+2266 U+0338

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18541 % U+2267 GREATER-THAN OVER EQUAL TO; greateroverequal; \geqq (AmS)
18542 \DeclareTextCommand{\textgeqq}{PU}{\9042\147}%* U+2267
18543 % \ngeqq (txfonts/pxfonts)
18544 \DeclareTextCommand{\textngeqq}{PU}{\9042\147\83\070}%* U+2267 U+0338
18545 % U+2268 LESS-THAN BUT NOT EQUAL TO; \lneqq (AmS)
18546 \DeclareTextCommand{\textlneqq}{PU}{\9042\150}%* U+2268
18547 % U+2269 GREATER-THAN BUT NOT EQUAL TO; \gneqq (AmS)
18548 \DeclareTextCommand{\textgneqq}{PU}{\9042\151}%* U+2269
18549 % U+226A MUCH LESS-THAN; muchless; \ll (LaTeX)
18550 \DeclareTextCommand{\textll}{PU}{\9042\152}%* U+226A
18551 % \nll (txfonts/pxfonts)
18552 \DeclareTextCommand{\textnll}{PU}{\9042\152\83\070}%* U+226A U+0338
18553 % U+226B MUCH GREATER-THAN; muchgreater; \gg (LaTeX)
18554 \DeclareTextCommand{\textgg}{PU}{\9042\153}%* U+226B
18555 % \ngg (txfonts/pxfonts)
18556 \DeclareTextCommand{\textngg}{PU}{\9042\153\83\070}%* U+226B U+0338
18557 % U+226C BETWEEN; \between (AmS)
18558 \DeclareTextCommand{\textbetween}{PU}{\9042\154}%* U+226C
18559 % U+226E NOT LESS-THAN; notless; \nless (AmS)
18560 \DeclareTextCommand{\textnless}{PU}{\9042\156}%* U+226E
18561 % U+226F NOT GREATER-THAN; notgreater; \ngtr (AmS)
18562 \DeclareTextCommand{\textngtr}{PU}{\9042\157}%* U+226F
18563 % U+2270 NEITHER LESS-THAN NOR EQUAL TO; notlessnorequal;
18564 % \nleq (AmS)
18565 \DeclareTextCommand{\textnleq}{PU}{\9042\160}%* U+2270
18566 % U+2271 NEITHER GREATER-THAN NOR EQUAL TO; notgreaternorequal; \ngeq (AmS)
18567 \DeclareTextCommand{\textngeq}{PU}{\9042\161}%* U+2271
18568 % U+2272 LESS-THAN OR EQUIVALENT TO; lessorequivalent; \lessim (AmS)
18569 \DeclareTextCommand{\textlessim}{PU}{\9042\162}%* U+2272
18570 %* \textlessim -> \apprle (wasysym)
18571 % U+2273 GREATER-THAN OR EQUIVALENT TO; greaterorequivalent; \gtrsim (AmS)
18572 \DeclareTextCommand{\textgtrsim}{PU}{\9042\163}%* U+2273
18573 %* \textgtrsim -> \apprge (wasysym)
18574 % U+2274 NEITHER LESS-THAN NOR EQUIVALENT TO; \nlessim (txfonts/pxfonts)
18575 \DeclareTextCommand{\textnlessim}{PU}{\9042\164}%* U+2274
18576 % U+2275 NEITHER GREATER-THAN NOR EQUIVALENT TO; \ngtrsim (txfonts/pxfonts)
18577 \DeclareTextCommand{\textngtrsim}{PU}{\9042\165}%* U+2275
18578 % U+2276 LESS-THAN OR GREATER-THAN; lessorgreater; \lessgtr (AmS)
18579 \DeclareTextCommand{\textlessgtr}{PU}{\9042\166}%* U+2276
18580 % U+2277 GREATER-THAN OR LESS-THAN; greaterorless; \gtrless (AmS)
18581 \DeclareTextCommand{\textgtrless}{PU}{\9042\167}%* U+2277
18582 % U+2278 NEITHER LESS-THAN NOR GREATER-THAN; \ngtrless (txfonts/pxfonts)
18583 \DeclareTextCommand{\textngtrless}{PU}{\9042\170}%* U+2278
18584 % U+2279 NEITHER GREATER-THAN NOR LESS-THAN; \nlessgtr (txfonts/pxfonts)
18585 \DeclareTextCommand{\textnlessgtr}{PU}{\9042\171}%* U+2279
18586 % U+227A PRECEDES; precedes; \prec (LaTeX)
18587 \DeclareTextCommand{\textprec}{PU}{\9042\172}%* U+227A
18588 % U+227B SUCCEEDS; succeeds; \succ (LaTeX)
18589 \DeclareTextCommand{\textsucc}{PU}{\9042\173}%* U+227B
18590 % U+227C PRECEDES OR EQUAL TO; \preccurlyeq (AmS)
18591 \DeclareTextCommand{\textpreccurlyeq}{PU}{\9042\174}%* U+227C

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18592 % U+227D SUCCEEDS OR EQUAL TO; \succcurlyeq (AmS)  
18593 \DeclareTextCommand{\textsucccurlyeq}{PU}{\9042\175}%\* U+227D  
18594 % U+227E PRECEDES OR EQUIVALENT TO; \precsim (AmS)  
18595 \DeclareTextCommand{\textprecsim}{PU}{\9042\176}%\* U+227E  
18596 % \nprecsim (txfonts/pxfonts)  
18597 \DeclareTextCommand{\textnprecsim}{PU}{\9042\176\83\070}%\* U+227E U+0338  
18598 % U+227F SUCCEEDS OR EQUIVALENT TO; \succsim (AmS)  
18599 \DeclareTextCommand{\textsuccsim}{PU}{\9042\177}%\* U+227F  
18600 % \nsuccsim (txfonts/pxfonts)  
18601 \DeclareTextCommand{\textnsuccsim}{PU}{\9042\177\83\070}%\* U+227F U+0338  
18602 % U+2280 DOES NOT PRECEDE; notprecedes; \nprec (AmS)  
18603 \DeclareTextCommand{\textnprec}{PU}{\9042\200}%\* U+2280  
18604 % U+2281 DOES NOT SUCCEED; notsucceeds; \nsucc (AmS)  
18605 \DeclareTextCommand{\textnsucc}{PU}{\9042\201}%\* U+2281  
18606 % U+2282 SUBSET OF; propersubset; \subset (LaTeX)  
18607 \DeclareTextCommand{\textsubset}{PU}{\9042\202}%\* U+2282  
18608 % U+2283 SUPERSET OF; propersuperset; \supset (LaTeX)  
18609 \DeclareTextCommand{\textsupset}{PU}{\9042\203}%\* U+2283  
18610 % U+2284 NOT A SUBSET OF; notsubset; \nsubset (mathabx)  
18611 \DeclareTextCommand{\textnsubset}{PU}{\9042\204}%\* U+2284  
18612 % U+2285 NOT A SUPERSET OF; notsuperset; \nsupset (mathabx)  
18613 \DeclareTextCommand{\textnsupset}{PU}{\9042\205}%\* U+2285  
18614 % U+2286 SUBSET OF OR EQUAL TO; reflexsubset; \subseq (LaTeX)  
18615 \DeclareTextCommand{\textsubseq}{PU}{\9042\206}%\* U+2286  
18616 % U+2287 SUPERSET OF OR EQUAL TO; reflexsuperset; \supseteq (LaTeX)  
18617 \DeclareTextCommand{\textsupseteq}{PU}{\9042\207}%\* U+2287  
18618 % U+2288 NEITHER A SUBSET OF NOR EQUAL TO; \nsubseq (AmS)  
18619 \DeclareTextCommand{\textnsubseq}{PU}{\9042\210}%\* U+2288  
18620 % U+2289 NEITHER A SUPERSET OF NOR EQUAL TO; \nsupseteq (AmS)  
18621 \DeclareTextCommand{\textnsupseteq}{PU}{\9042\211}%\* U+2289  
18622 % U+228A SUBSET OF WITH NOT EQUAL TO; subsetnotequal; \subset-  
neq (AmS)  
18623 \DeclareTextCommand{\textsubsetneq}{PU}{\9042\212}%\* U+228A  
18624 % U+228B SUPERSET OF WITH NOT EQUAL TO; supersetnotequal; \supset-  
neq (AmS)  
18625 \DeclareTextCommand{\textsupsetneq}{PU}{\9042\213}%\* U+228B  
18626 % U+228D MULTISET MULTIPLICATION; \cupdot (MnSymbol)  
18627 \DeclareTextCommand{\textcupdot}{PU}{\9042\215}%\* U+228D  
18628 % U+228E MULTISET UNION; \cupplus (MnSymbol)  
18629 \DeclareTextCommand{\textcupplus}{PU}{\9042\216}%\* U+228E  
18630 % U+228F SQUARE IMAGE OF; \sqsubset (latexsym, ...)  
18631 \DeclareTextCommand{\textsqsubset}{PU}{\9042\217}%\* U+228F  
18632 % \nsqsubset (txfonts/pxfonts)  
18633 \DeclareTextCommand{\textnsqsubset}{PU}{\9042\217\83\070}%\* U+228F U+0338  
18634 % U+2290 SQUARE ORIGINAL OF; \sqsupset (latexsym, ...)  
18635 \DeclareTextCommand{\textsqsupset}{PU}{\9042\220}%\* U+2290  
18636 % \nsqsupset (txfonts/pxfonts)  
18637 \DeclareTextCommand{\textnsqsupset}{PU}{\9042\220\83\070}%\* U+2290 U+0338  
18638 % U+2291 SQUARE IMAGE OF OR EQUAL TO; \sqsubseq (LaTeX)  
18639 \DeclareTextCommand{\textsqsubseq}{PU}{\9042\221}%\* U+2291  
18640 % \nsqsubseq (txfonts/pxfonts)  
18641 \DeclareTextCommand{\textnsqsubseq}{PU}{\9042\221\83\070}%\* U+2291 U+0338  
18642 % U+2292 SQUARE ORIGINAL OF OR EQUAL TO; \sqsupseteq (LaTeX)  
18643 \DeclareTextCommand{\textsqsupseteq}{PU}{\9042\222}%\* U+2292  
18644 % \nsqsupseteq (txfonts/pxfonts)  
18645 \DeclareTextCommand{\textnsqsupseteq}{PU}{\9042\222\83\070}%\* U+2292 U+0338  
18646 % U+2293 SQUARE CAP; \sqcap (LaTeX)

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18647 \DeclareTextCommand{\textsqcap}{PU}{\9042\223}%* U+2293
18648 % U+2294 SQUARE CUP; \sqcup (LaTeX)
18649 \DeclareTextCommand{\textsqcup}{PU}{\9042\224}%* U+2294
18650 % U+2295 CIRCLED PLUS; circleplus; \oplus (LaTeX)
18651 \DeclareTextCommand{\textoplus}{PU}{\9042\225}%* U+2295
18652 %* \textoplus -> \varoplus (stmaryrd)
18653 % U+2296 CIRCLED MINUS; minuscircle; \ominus (LaTeX)
18654 \DeclareTextCommand{\textominus}{PU}{\9042\226}%* U+2296
18655 %* \textominus -> \varominus (stmaryrd)
18656 % U+2297 CIRCLED TIMES; circlemultiply; \otimes (LaTeX)
18657 \DeclareTextCommand{\textotimes}{PU}{\9042\227}%* U+2297
18658 %* \textotimes -> \varotimes (stmaryrd)
18659 % U+2298 CIRCLED DIVISION SLASH; \oslash (LaTeX)
18660 \DeclareTextCommand{\textoslash}{PU}{\9042\230}%* U+2298
18661 %* \textoslash -> \varoslash (stmaryrd)
18662 % U+2299 CIRCLED DOT OPERATOR; circle(d?)ot; \odot (LaTeX)
18663 \DeclareTextCommand{\textodot}{PU}{\9042\231}%* U+2299
18664 %* \textodot -> \varodot (stmaryrd)
18665 % U+229A CIRCLED RING OPERATOR; \circledcirc (AmS)
18666 \DeclareTextCommand{\textcircledcirc}{PU}{\9042\232}%* U+229A
18667 %* \textcircledcirc -> \ocirc (mathabx)
18668 %* \textcircledcirc -> \varocircle (stmaryrd)
18669 % U+229B CIRCLED ASTERISK OPERATOR; \circledast (AmS)
18670 \DeclareTextCommand{\textcircledast}{PU}{\9042\233}%* U+229B
18671 %* \textcircledast -> \varoast (stmaryrd)
18672 %* \textcircledast -> \oasterisk (mathabx)
18673 % U+229D CIRCLED DASH; \circleddash (AmS)
18674 \DeclareTextCommand{\textcircleddash}{PU}{\9042\235}%* U+229D
18675 % U+229E SQUARED PLUS; \boxplus (AmS)
18676 \DeclareTextCommand{\textboxplus}{PU}{\9042\236}%* U+229E
18677 % U+229F SQUARED MINUS; \boxminus (AmS)
18678 \DeclareTextCommand{\textboxminus}{PU}{\9042\237}%* U+229F
18679 % U+22A0 SQUARED TIMES; \boxtimes (AmS)
18680 \DeclareTextCommand{\textboxtimes}{PU}{\9042\240}%* U+22A0
18681 % U+22A1 SQUARED DOT OPERATOR; \boxdot (AmS)
18682 \DeclareTextCommand{\textboxdot}{PU}{\9042\241}%* U+22A1
18683 % U+22A2 RIGHT TACK; \vdash (LaTeX)
18684 \DeclareTextCommand{\textvdash}{PU}{\9042\242}%* U+22A2
18685 %* \textvdash -> \rightvdash (MnSymbol)
18686 % U+22A3 LEFT TACK; \lhd; \dashv (LaTeX)
18687 \DeclareTextCommand{\textdashv}{PU}{\9042\243}%* U+22A3
18688 %* \textdashv -> \leftvdash (MnSymbol)
18689 % \ndashv (mathabx)
18690 \DeclareTextCommand{\textndashv}{PU}{\9042\243\83\070}%* U+22A3 U+0338
18691 %* \textndashv -> \nleftvdash (MnSymbol)
18692 % U+22A4 DOWN TACK (=top); \tackdown; \top (LaTeX)
18693 \DeclareTextCommand{\textttop}{PU}{\9042\244}%* U+22A4
18694 %* \textttop -> \downvdash (MnSymbol)
18695 % \ndownvdash (MnSymbol)
18696 \DeclareTextCommand{\textndownvdash}{PU}{\9042\244\83\070}%* U+22A4 U+0338
18697 % U+22A5 UP TACK (=base, bottom); \bot (LaTeX)
18698 \DeclareTextCommand{\textbot}{PU}{\9042\245}%* U+22A5
18699 %* \textbot -> \upvdash (MnSymbol)
18700 % \nupvdash (MnSymbol)
18701 \DeclareTextCommand{\textnupvdash}{PU}{\9042\245\83\070}%* U+22A5 U+0338
18702 %* \textnupvdash -> \nperp (MnSymbol)
18703 % U+22A8 TRUE; \vDash (AmS)

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18704 \DeclareTextCommand{\textvDash}{PU}{\9042\250}%* U+22A8
18705 %* \textvDash -> \models (LaTeX)
18706 %* \textvDash -> \rightmodels (MnSymbol)
18707 % U+22A9 FORCES; \Vdash (AmS)
18708 \DeclareTextCommand{\textVdash}{PU}{\9042\251}%* U+22A9
18709 %* \textVdash -> \rightVdash (MnSymbol)
18710 % U+22AA TRIPLE VERTICAL BAR RIGHT TURNSTILE; \Vvdash (AmS)
18711 \DeclareTextCommand{\textVvdash}{PU}{\9042\252}%* U+22AA
18712 % \nVdash (mathabx)
18713 \DeclareTextCommand{\textnVdash}{PU}{\9042\252\83\070}%* U+22AA U+0338
18714 % U+22AB DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE;
18715 % \VDash (mathabx)
18716 \DeclareTextCommand{\textVDash}{PU}{\9042\253}%* U+22AB
18717 %* \textVDash -> \rightModels (MnSymbol)
18718 % U+22AC DOES NOT PROVE; \nvDash (AmS)
18719 \DeclareTextCommand{\textnvDash}{PU}{\9042\254}%* U+22AC
18720 %* \textnvDash -> \nrighnvDash (MnSymbol)
18721 % U+22AD NOT TRUE; \nVDash (AmS)
18722 \DeclareTextCommand{\textnVDash}{PU}{\9042\255}%* U+22AD
18723 %* \textnVDash -> \nrighmodels (MnSymbol)
18724 %* \textnVDash -> \nmodels (MnSymbol)
18725 % U+22AE DOES NOT FORCE; \nVdash (txfonts/pxfonts)
18726 \DeclareTextCommand{\textnVdash}{PU}{\9042\256}%* U+22AE
18727 %* \textnVdash -> \nrighVdash (MnSymbol)
18728 % U+22AF NEGATED DOUBLE VERTICAL BAR DOUBLE RIGHT TURN-
      STILE; \nVDash (AmS)
18729 \DeclareTextCommand{\textnVDash}{PU}{\9042\257}%* U+22AF
18730 %* \textnVDash -> \nrighModels (MnSymbol)
18731 % U+22B2 NORMAL SUBGROUP OF; \lhd (latexsym, ...)
18732 \DeclareTextCommand{\textlhd}{PU}{\9042\262}%* U+22B2
18733 %* \textlhd -> \lessclosed (MnSymbol)
18734 % U+22B3 CONTAINS AS NORMAL SUBGROUP; \rhd (latexsym, ...)
18735 \DeclareTextCommand{\textrhd}{PU}{\9042\263}%* U+22B3
18736 %* \textrhd -> \gtrclosed (MnSymbol)
18737 % U+22B4 NORMAL SUBGROUP OF OR EQUAL TO; \unlhd (latexsym, ...)
18738 \DeclareTextCommand{\textunlhd}{PU}{\9042\264}%* U+22B4
18739 %* \textunlhd -> \leqclosed (MnSymbol)
18740 %* \textunlhd -> \trianglelefteq (MnSymbol)
18741 % U+22B5 CONTAINS AS NORMAL SUBGROUP OR EQUAL TO; \unrhd (la-
      texsym, ...)
18742 \DeclareTextCommand{\textunrhd}{PU}{\9042\265}%* U+22B5
18743 %* \textunrhd -> \geqclosed (MnSymbol)
18744 %* \textunrhd -> \trianglerighteq (MnSymbol)
18745 % U+22B6 ORIGINAL OF; \multimapdotbothA (txfonts/pxfonts)
18746 \DeclareTextCommand{\textmultimapdotbothA}{PU}{\9042\266}%* U+22B6
18747 % U+22B7 IMAGE OF; \multimapdotbothB (txfonts/pxfonts)
18748 \DeclareTextCommand{\textmultimapdotbothB}{PU}{\9042\267}%* U+22B7
18749 % U+22B8 MULTIMAP; \multimap (AmS, txfonts/pxfonts)
18750 \DeclareTextCommand{\textmultimap}{PU}{\9042\270}%* U+22B8
18751 % U+22BB XOR; \veebar (AmS)
18752 \DeclareTextCommand{\textveebar}{PU}{\9042\273}%* U+22BB
18753 % U+22BC NAND; \barwedge (mathabx)
18754 \DeclareTextCommand{\textbarwedge}{PU}{\9042\274}%* U+22BC
18755 % U+22C6 STAR OPERATOR; \star (LaTeX)
18756 \DeclareTextCommand{\textstar}{PU}{\9042\306}%* U+22C6
18757 % U+22C7 DIVISION TIMES; \divideontimes (AmS)
18758 \DeclareTextCommand{\textdivideontimes}{PU}{\9042\307}%* U+22C7

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18759 % U+22C8 BOWTIE; \bowtie (LaTeX)
18760 \DeclareTextCommand{\textbowtie}{PU}{\9042\310}%* U+22C8
18761 %* \textbowtie -> \Bowtie (wasysym)
18762 % U+22C9 LEFT NORMAL FACTOR SEMIDIRECT PRODUCT; \ltimes (AmS)
18763 \DeclareTextCommand{\textltimes}{PU}{\9042\311}%* U+22C9
18764 % U+22CA RIGHT NORMAL FACTOR SEMIDIRECT PRODUCT;
18765 % \rtimes (AmS)
18766 \DeclareTextCommand{\textrtimes}{PU}{\9042\312}%* U+22CA
18767 % U+22CB LEFT SEMIDIRECT PRODUCT; \leftthreetimes (AmS)
18768 \DeclareTextCommand{\textleftthreetimes}{PU}{\9042\313}%* U+22CB
18769 % U+22CC RIGHT SEMIDIRECT PRODUCT; \rightthreetimes (AmS)
18770 \DeclareTextCommand{\textrightthreetimes}{PU}{\9042\314}%* U+22CC
18771 % U+22CD REVERSED TILDE EQUALS; \backsimeq (AmS)
18772 \DeclareTextCommand{\textbacksimeq}{PU}{\9042\315}%* U+22CD
18773 % \nbacksimeq (txfonts/pxfonts)
18774 \DeclareTextCommand{\textnbacksimeq}{PU}{\9042\315\83\070}%* U+22CD U+0338
18775 % U+22CE CURLY LOGICAL OR; curlyor; \curlyvee (AmS)
18776 \DeclareTextCommand{\textcurlyvee}{PU}{\9042\316}%* U+22CE
18777 %* \textcurlyvee -> \varcurlyvee (stmaryrd)
18778 % U+22CF CURLY LOGICAL AND; curlyand; \curlywedge (AmS)
18779 \DeclareTextCommand{\textcurlywedge}{PU}{\9042\317}%* U+22CF
18780 %* \textcurlywedge -> \varcurlywedge (stmaryrd)
18781 % U+22D0 DOUBLE SUBSET; \Subset (AmS)
18782 \DeclareTextCommand{\textSubset}{PU}{\9042\320}%* U+22D0
18783 % \nSubset (txfonts/pxfonts)
18784 \DeclareTextCommand{\textnSubset}{PU}{\9042\320\83\070}%* U+22D0 U+0338
18785 % U+22D1 DOUBLE SUPERSET; \Supset (AmS)
18786 \DeclareTextCommand{\textSupset}{PU}{\9042\321}%* U+22D1
18787 % \nSupset (txfonts/pxfonts)
18788 \DeclareTextCommand{\textnSupset}{PU}{\9042\321\83\070}%* U+22D1 U+0338
18789 % U+22D2 DOUBLE INTERSECTION; \Cap (AmS)
18790 \DeclareTextCommand{\textCap}{PU}{\9042\322}%* U+22D2
18791 %* \textCap -> \doublecap (mathabx)
18792 % U+22D3 DOUBLE UNION; \Cup (AmS)
18793 \DeclareTextCommand{\textCup}{PU}{\9042\323}%* U+22D3
18794 %* \textCup -> \doublecup (mathabx)
18795 % U+22D4 PITCHFORK; \pitchfork (mathabx)
18796 \DeclareTextCommand{\textpitchfork}{PU}{\9042\324}%* U+22D4
18797 % U+22D6 LESS-THAN WITH DOT; \lessdot (AmS)
18798 \DeclareTextCommand{\textlessdot}{PU}{\9042\326}%* U+22D6
18799 % U+22D7 GREATER-THAN WITH DOT; \gtrdot (AmS)
18800 \DeclareTextCommand{\textgtrdot}{PU}{\9042\327}%* U+22D7
18801 % U+22D8 VERY MUCH LESS-THAN; \lll (AmS)
18802 \DeclareTextCommand{\textlll}{PU}{\9042\330}%* U+22D8
18803 % U+22D9 VERY MUCH GREATER-THAN; \ggg (AmS)
18804 \DeclareTextCommand{\textggg}{PU}{\9042\331}%* U+22D9
18805 % U+22DA LESS-THAN EQUAL TO OR GREATER-THAN; lessequalorgreater;
18806 % \lesseqgtr (AmS)
18807 \DeclareTextCommand{\textlesseqgtr}{PU}{\9042\332}%* U+22DA
18808 % U+22DB GREATER-THAN EQUAL TO OR LESS-THAN; greaterqualorless;
18809 % \gtreqless (AmS)
18810 \DeclareTextCommand{\textgtreqless}{PU}{\9042\333}%* U+22DB
18811 % U+22DE EQUAL TO OR PRECEDES; \curlyeqprec (MnSymbol)
18812 \DeclareTextCommand{\textcurlyeqprec}{PU}{\9042\336}%* U+22DE
18813 % \ncurlyeqprec (mathabx)
18814 \DeclareTextCommand{\textncurlyeqprec}{PU}{\9042\336\83\070}%* U+22DE U+0338
18815 % U+22DF EQUAL TO OR SUCCEEDS; \curlyeqsucc (MnSymbol)

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18816 \DeclareTextCommand{\textcurlyeqsucc}{PU}{\9042\337}%* U+22DF
18817 % \ncurlyeqsucc (mathabx)
18818 \DeclareTextCommand{\textncurlyeqsucc}{PU}{\9042\337\83\070}%* U+22DF U+0338
18819 % U+22E0 DOES NOT PRECEDE OR EQUAL; \npreccurlyeq (txfonts/pxfonts)
18820 \DeclareTextCommand{\textnpreccurlyeq}{PU}{\9042\340}%* U+22E0
18821 % U+22E1 DOES NOT SUCCEED OR EQUAL; \nsucccurlyeq (txfonts/pxfonts)
18822 \DeclareTextCommand{\textnsucccurlyeq}{PU}{\9042\341}%* U+22E1
18823 % U+22E2 NOT SQUARE IMAGE OF OR EQUAL TO; \nsqsubseteq (tx-
    fonts/pxfonts)
18824 \DeclareTextCommand{\textnqsubseteq}{PU}{\9042\342}%* U+22E2
18825 % U+22E3 NOT SQUARE ORIGINAL OF OR EQUAL TO; \nsqsupseteq (tx-
    fonts/pxfonts)
18826 \DeclareTextCommand{\textnqsupseteq}{PU}{\9042\343}%* U+22E3
18827 % U+22E4 SQUARE IMAGE OF OR NOT EQUAL TO; \sqsubsetneq (mathabx)
18828 \DeclareTextCommand{\textsqsubsetneq}{PU}{\9042\344}%* U+22E4
18829 %* \textsqsubsetneq -> \varsqsubsetneq (mathabx)
18830 % U+22E5 SQUARE ORIGINAL OF OR NOT EQUAL TO; \sqsupsetneq (math-
    abx)
18831 \DeclareTextCommand{\textsqsupsetneq}{PU}{\9042\345}%* U+22E5
18832 %* \textsqsupsetneq -> \varsqsupsetneq (mathabx)
18833 % U+22E6 LESS-THAN BUT NOT EQUIVALENT TO; \lnsim (AmS)
18834 \DeclareTextCommand{\textlnsim}{PU}{\9042\346}%* U+22E6
18835 % U+22E7 GREATER-THAN BUT NOT EQUIVALENT TO; \gnsim (AmS)
18836 \DeclareTextCommand{\textgnsim}{PU}{\9042\347}%* U+22E7
18837 % U+22E8 PRECEDES BUT NOT EQUIVALENT TO; \precsim (AmS)
18838 \DeclareTextCommand{\textprecsim}{PU}{\9042\350}%* U+22E8
18839 % U+22E9 SUCCEEDS BUT NOT EQUIVALENT TO; \succsim (AmS)
18840 \DeclareTextCommand{\textsuccsim}{PU}{\9042\351}%* U+22E9
18841 % U+22EA NOT NORMAL SUBGROUP OF; \ntriangleleft (AmS)
18842 \DeclareTextCommand{\textntriangleleft}{PU}{\9042\352}%* U+22EA
18843 %* \textntriangleleft -> \nlessclosed (MnSymbol)
18844 % U+22EB DOES NOT CONTAIN AS NORMAL SUBGROUP; \ntriang-
    leright (AmS)
18845 \DeclareTextCommand{\textntriangleright}{PU}{\9042\353}%* U+22EB
18846 %* \textntriangleright -> \ngtrclosed (MnSymbol)
18847 % U+22EC NOT NORMAL SUBGROUP OF OR EQUAL TO;
18848 % \ntrianglelefteq (AmS)
18849 \DeclareTextCommand{\textntrianglelefteq}{PU}{\9042\354}%* U+22EC
18850 % U+22ED DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL;
18851 % \ntrianglerighteq (AmS)
18852 \DeclareTextCommand{\textntrianglerighteq}{PU}{\9042\355}%* U+22ED
18853 %* \textntrianglerighteq -> \textngeqclosed
18854 % U+22EE VERTICAL ELLIPSIS; ellipsisvertical; \vdots (LaTeX)
18855 \DeclareTextCommand{\textvdots}{PU}{\9042\356}%* U+22EE
18856 % U+22EF MIDLINE HORIZONTAL ELLIPSIS; \cdots (LaTeX)
18857 \DeclareTextCommand{\textcdots}{PU}{\9042\357}%* U+22EF
18858 % U+22F0 UP RIGHT DIAGONAL ELLIPSIS; \udots (MnSymbol)
18859 \DeclareTextCommand{\textudots}{PU}{\9042\360}%* U+22F0
18860 % U+22F1 DOWN RIGHT DIAGONAL ELLIPSIS; \ddots (LaTeX)
18861 \DeclareTextCommand{\textddots}{PU}{\9042\361}%* U+22F1
18862 % U+22F6 ELEMENT OF WITH OVERBAR; \barin (mathabx)
18863 \DeclareTextCommand{\textbarin}{PU}{\9042\366}%* U+22F6

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### 51.2.23 Miscellaneous Technical: U+2300 to U+23FF

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18864 % U+2300 DIAMETER SIGN; \diameter (mathabx,wasysym)
18865 \DeclareTextCommand{\textdiameter}{PU}{\9043\000}%* U+2300
18866 % U+2310 REVERSED NOT SIGN; \backneg (MnSymbol)

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18867 \DeclareTextCommand{\textbackneg}{PU}{\9043\020}%* U+2310
18868 % U+2311 SQUARE LOZENGE; \wasylounge (wasysym)
18869 \DeclareTextCommand{\textwasylounge}{PU}{\9043\021}%* U+2311
18870 % U+2319 TURNED NOT SIGN; \invbackneg (MnSymbol)
18871 \DeclareTextCommand{\textinvbackneg}{PU}{\9043\031}%* U+2319
18872 % U+231A WATCH; \clock (wasysym)
18873 \DeclareTextCommand{\textclock}{PU}{\9043\032}%* U+231A
18874 %* \textclock -> \Clocklogo (marvosym)
18875 %* \textclock -> \ClockLogo (marvosym)
18876 % U+231C TOP LEFT CORNER; \ulcorner (AmS)
18877 \DeclareTextCommand{\textulcorner}{PU}{\9043\034}%* U+231C
18878 % U+231D TOP RIGHT CORNER; \urcorner (AmS)
18879 \DeclareTextCommand{\texturcorner}{PU}{\9043\035}%* U+231D
18880 % U+231E BOTTOM LEFT CORNER; \llcorner (AmS)
18881 \DeclareTextCommand{\textllcorner}{PU}{\9043\036}%* U+231E
18882 % U+231F BOTTOM RIGHT CORNER; \lrcorner (AmS)
18883 \DeclareTextCommand{\textlrcorner}{PU}{\9043\037}%* U+231F
18884 % U+2322 FROWN; \frown (LaTeX)
18885 \DeclareTextCommand{\textfrown}{PU}{\9043\042}%* U+2322
18886 % U+2323 SMILE; \smile (LaTeX)
18887 \DeclareTextCommand{\textsmile}{PU}{\9043\043}%* U+2323
18888 % U+2328 KEYBOARD; \Keyboard (marvosym)
18889 \DeclareTextCommand{\textKeyboard}{PU}{\9043\050}%* U+2328
18890 % U+2329 LEFT-POINTING ANGLE BRACKET; \angleleft; \langle (LaTeX)
18891 \DeclareTextCommand{\textlangle}{PU}{\9043\051}%* U+2329
18892 % U+232A RIGHT-POINTING ANGLE BRACKET; \angleright; \rangle (LaTeX)
18893 \DeclareTextCommand{\textrightangle}{PU}{\9043\052}%* U+232A
18894 % U+2339 APL FUNCTIONAL SYMBOL QUAD DIVIDE; \APLinv (wasysym)
18895 \DeclareTextCommand{\textAPLinv}{PU}{\9043\071}%* U+2339
18896 % U+233C APL FUNCTIONAL SYMBOL QUAD CIRCLE; \Tumbler (marvosym)
18897 \DeclareTextCommand{\textTumbler}{PU}{\9043\074}%* U+233C
18898 % U+233D APL FUNCTIONAL SYMBOL CIRCLE STILE; \baro (stmaryrd)
18899 \DeclareTextCommand{\textstmaryrdbaro}{PU}{\9043\075}%* U+233D
18900 %* \textstmaryrdbaro -> \baro (stmaryrd)
18901 % U+233F APL FUNCTIONAL SYMBOL SLASH BAR; \notslash (wasysym)
18902 \DeclareTextCommand{\textnotslash}{PU}{\9043\077}%* U+233F
18903 % U+2340 APL FUNCTIONAL SYMBOL BACKSLASH BAR;
18904 % \notbackslash (wasysym)
18905 \DeclareTextCommand{\textnotbackslash}{PU}{\9043\100}%* U+2340
18906 % U+2342 APL FUNCTIONAL SYMBOL QUAD BACKSLASH; \boxbackslash (mathabx)
18907 \DeclareTextCommand{\textboxbackslash}{PU}{\9043\102}%* U+2342
18908 % U+2347 APL FUNCTIONAL SYMBOL QUAD LEFTWARDS ARROW;
18909 % \APLleftarrowbox (wasysym)
18910 \DeclareTextCommand{\textAPLleftarrowbox}{PU}{\9043\107}%* U+2347
18911 % U+2348 APL FUNCTIONAL SYMBOL QUAD RIGHTWARDS ARROW;
18912 % \APLrightarrowbox (wasysym)
18913 \DeclareTextCommand{\textAPLrightarrowbox}{PU}{\9043\110}%* U+2348
18914 % U+2350 APL FUNCTIONAL SYMBOL QUAD UPWARDS ARROW; \APLuparrowbox (wasysym)
18915 \DeclareTextCommand{\textAPLuparrowbox}{PU}{\9043\120}%* U+2350
18916 % U+2357 APL FUNCTIONAL SYMBOL QUAD DOWNWARDS ARROW;
18917 % \APLdownarrowbox (wasysym)
18918 \DeclareTextCommand{\textAPLdownarrowbox}{PU}{\9043\127}%* U+2357
18919 % U+235E APL FUNCTIONAL SYMBOL QUOTE QUAD;
18920 % \APLinput (wasysym)

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18921 \DeclareTextCommand{\textAPLinput}{PU}{\9043\136}%\* U+235E  
 18922 % U+2370 APL FUNCTIONAL SYMBOL QUAD QUESTION; \Request (china2e)  
 18923 \DeclareTextCommand{\textRequest}{PU}{\9043\160}%\* U+2370  
 18924 % U+2393 DIRECT CURRENT SYMBOL FORM TWO; \Beam (marvosym)  
 18925 \DeclareTextCommand{\textBeam}{PU}{\9043\223}%\* U+2393  
 18926 % U+2394 SOFTWARE-FUNCTION SYMBOL; \hexagon (wasysym)  
 18927 \DeclareTextCommand{\texthexagon}{PU}{\9043\224}%\* U+2394  
 18928 % U+2395 APL FUNCTIONAL SYMBOL QUAD; \APLbox (wasysym)  
 18929 \DeclareTextCommand{\textAPLbox}{PU}{\9043\225}%\* U+2395  
 18930 % U+23ED BLACK RIGHT-POINTING DOUBLE TRIANGLE WITH VERTI-  
 CAL BAR;  
 18931 % \ForwardToIndex (marvosym)  
 18932 \DeclareTextCommand{\textForwardToIndex}{PU}{\9043\355}%\* U+23ED  
 18933 % U+23EE BLACK LEFT-POINTING DOUBLE TRIANGLE WITH VERTI-  
 CAL BAR;  
 18934 % \RewindToIndex (marvosym)  
 18935 \DeclareTextCommand{\textRewindToIndex}{PU}{\9043\356}%\* U+23EE

#### 51.2.24 Control Pictures: U+2400 to U+243F

18936 % U+2422 BLANK SYMBOL  
 18937 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
 18938 % U+2423 OPEN BOX; blank  
 18939 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

#### 51.2.25 Optical Character Recognition: U+2440 to U+245F

18940 % U+244A OCR DOUBLE BACKSLASH; \bbslash (stmaryrd)  
 18941 \DeclareTextCommand{\textbbslash}{PU}{\9044\112}%\* U+244A  
 18942 %\* \textbbslash -> \varparalelinv (txfonts/pxfonts)

#### 51.2.26 Enclosed Alphanumerics: U+2460 to U+24FF

18943 % U+2460 CIRCLED DIGIT ONE; onecircle  
 18944 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
 18945 % U+2461 CIRCLED DIGIT TWO; twocircle  
 18946 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
 18947 % U+2462 CIRCLED DIGIT THREE; threecircle  
 18948 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
 18949 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
 18950 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
 18951 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
 18952 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
 18953 % U+2465 CIRCLED DIGIT SIX; sixcircle  
 18954 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
 18955 % U+2466 CIRCLED DIGIT SEVEN; sevendcircle  
 18956 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
 18957 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
 18958 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
 18959 % U+2468 CIRCLED DIGIT NINE; ninecircle  
 18960 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
 18961 % U+2469 CIRCLED NUMBER TEN; tencircle  
 18962 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
 18963 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
 18964 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
 18965 % U+246B CIRCLED NUMBER TWELVE; twelvecircle  
 18966 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
 18967 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
 18968 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
 18969 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle

18970 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
 18971 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
 18972 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
 18973 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
 18974 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
 18975 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
 18976 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
 18977 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
 18978 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
 18979 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
 18980 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
 18981 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
 18982 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
 18983 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
 18984 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
 18985 % \CircledA (marvosym)  
 18986 \DeclareTextCommand{\textCircledA}{PU}{\9044\266}%\* U+24B6  
 18987 %\* \textCircledA -> \CleaningA  
 18988 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
 18989 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
 18990 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
 18991 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
 18992 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
 18993 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
 18994 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
 18995 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
 18996 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
 18997 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
 18998 % \CleaningF (marvosym)  
 18999 \DeclareTextCommand{\textCleaningF}{PU}{\9044\273}%\* U+24BB  
 19000 % \CleaningFF (marvosym)  
 19001 \DeclareTextCommand{\textCleaningFF}{PU}{\9044\273\83\062}%\* U+24BB U+0332  
 19002 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
 19003 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
 19004 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
 19005 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
 19006 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
 19007 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
 19008 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
 19009 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
 19010 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
 19011 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
 19012 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
 19013 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
 19014 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
 19015 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
 19016 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
 19017 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
 19018 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
 19019 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
 19020 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
 19021 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
 19022 % \CleaningP (marvosym)  
 19023 \DeclareTextCommand{\textCleaningP}{PU}{\9044\305}%\* U+24C5  
 19024 % \CleaningPP (marvosym)  
 19025 \DeclareTextCommand{\textCleaningPP}{PU}{\9044\305\83\062}%\* U+24C5 U+0332  
 19026 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle

19027 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
 19028 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
 19029 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
 19030 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
 19031 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
 19032 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
 19033 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
 19034 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
 19035 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
 19036 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
 19037 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
 19038 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
 19039 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
 19040 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
 19041 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
 19042 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
 19043 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
 19044 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
 19045 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
 19046 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
 19047 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
 19048 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
 19049 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
 19050 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
 19051 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
 19052 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
 19053 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
 19054 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
 19055 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
 19056 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
 19057 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
 19058 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
 19059 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
 19060 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
 19061 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
 19062 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
 19063 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
 19064 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
 19065 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 19066 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
 19067 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 19068 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
 19069 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 19070 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
 19071 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
 19072 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
 19073 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 19074 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
 19075 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 19076 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
 19077 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 19078 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
 19079 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
 19080 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
 19081 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 19082 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
 19083 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2

19084 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
 19085 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 19086 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
 19087 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 19088 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
 19089 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 19090 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
 19091 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
 19092 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle  
 19093 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
 19094 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle  
 19095 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
 19096 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
 19097 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
 19098 % U+24EA CIRCLED DIGIT ZERO  
 19099 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

### 51.2.27 Box Drawing: U+2500 to 257F

19100 % U+2504 BOX DRAWINGS LIGHT TRIPLE DASH HORIZONTAL; \Cutting-  
 Line (marvosym)  
 19101 \DeclareTextCommand{\textCuttingLine}{PU}{\9045\004}%\* U+2504  
 19102 %\* \textCuttingLine -> \Kutline (marvosym)  
 19103 %\* \textCuttingLine -> \CutLine (marvosym)  
 19104 %\* \textCuttingLine -> \Cutline (marvosym)

### 51.2.28 Geometric Shapes: U+25A0 to U+25FF

19105 % U+25B2 BLACK UP-POINTING TRIANGLE; \UParrow (wasysym)  
 19106 \DeclareTextCommand{\textUParrow}{PU}{\9045\262}%\* U+25B2  
 19107 %\* \textUParrow -> \MoveUp (marvosym)  
 19108 % U+25B3 WHITE UP-POINTING TRIANGLE; whiteuppointingtriangle;  
 19109 % \bigtriangleup (LaTeX)  
 19110 \DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}%\* U+25B3  
 19111 %\* \textbigtriangleup -> \APLup (wasysym)  
 19112 %\* \textbigtriangleup -> \Bleech (marvosym)  
 19113 % U+25B6 BLACK RIGHT-POINTING TRIANGLE; \Forward (marvosym)  
 19114 \DeclareTextCommand{\textForward}{PU}{\9045\266}%\* U+25B6  
 19115 % U+25B7 WHITE RIGHT-POINTING TRIANGLE (= z notation range restric-  
 tion);  
 19116 % whiterightpointingtriangle; \triangleright (LaTeX)  
 19117 \DeclareTextCommand{\texttriangleright}{PU}{\9045\267}%\* U+25B7  
 19118 % U+25BA BLACK RIGHT-POINTING POINTER; \RHD (wasysym)  
 19119 \DeclareTextCommand{\textRHD}{PU}{\9045\272}%\* U+25BA  
 19120 % U+25BC BLACK DOWN-POINTING TRIANGLE; \DOWNarrow (wasysym)  
 19121 \DeclareTextCommand{\textDOWNarrow}{PU}{\9045\274}%\* U+25BC  
 19122 %\* \textDOWNarrow -> \MoveDown (marvosym)  
 19123 % U+25BD WHITE DOWN-POINTING TRIANGLE; whitedownpointingtri-  
 angle;  
 19124 % \bigtriangledown (LaTeX)  
 19125 \DeclareTextCommand{\textbigtriangledown}{PU}{\9045\275}%\* U+25BD  
 19126 %\* \textbigtriangledown -> \APLdown (wasysym)  
 19127 % U+25C0 BLACK LEFT-POINTING TRIANGLE; \Rewind (marvosym)  
 19128 \DeclareTextCommand{\textRewind}{PU}{\9045\300}%\* U+25C0  
 19129 % U+25C1 WHITE RIGHT-POINTING TRIANGLE (= z notation domain re-  
 striction);  
 19130 % whiteleftpointingtriangle; \triangleleft (LaTeX)  
 19131 \DeclareTextCommand{\texttriangleleft}{PU}{\9045\301}%\* U+25C1  
 19132 % U+25C4 BLACK LEFT-POINTING POINTER; \LHD (wasysym)

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19133 \DeclareTextCommand{\textLHD}{PU}{\9045\304}%* U+25C4
19134 % U+25C7 WHITE DIAMOND; whitediamond; \diamond (LaTeX)
19135 \DeclareTextCommand{\textdiamond}{PU}{\9045\307}%* U+25C7
19136 %* \textdiamond -> \Diamond (wasysym)
19137 % U+25CA LOZENGE; lozenge; \lozenge (AmS)
19138 \DeclareTextCommand{\textlozenge}{PU}{\9045\312}%* U+25CA
19139 % U+25D6 LEFT HALF BLACK CIRCLE; \LEFTCIRCLE (wasysym)
19140 \DeclareTextCommand{\textLEFTCIRCLE}{PU}{\9045\326}%* U+25D6
19141 % U+25D7 RIGHT HALF BLACK CIRCLE; \RIGHTCIRCLE (wasysym)
19142 \DeclareTextCommand{\textRIGHTCIRCLE}{PU}{\9045\327}%* U+25D7
19143 % U+25E6 WHITE BULLET; *openbullet, whitebullet
19144 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}%* U+25E6
19145 % U+25EB WHITE SQUARE WITH VERTICAL BISECTING LINE;
19146 % \boxbar (stmaryrd)
19147 \DeclareTextCommand{\textboxbar}{PU}{\9045\353}%* U+25EB
19148 % U+25EF LARGE CIRCLE; largecircle
19149 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}%* U+25EF
19150 %* \textbigcircle -> \varbigcirc (stmaryrd)
19151 %

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### 51.2.29 Miscellaneous Symbols: U+2600 to U+26FF

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19152 % U+2601 CLOUD; \Cloud (ifsym)
19153 \DeclareTextCommand{\textCloud}{PU}{\9046\001}%* U+2601
19154 % U+2605 BLACK STAR; \FiveStar (bbding)
19155 \DeclareTextCommand{\textFiveStar}{PU}{\9046\005}%* U+2605
19156 % U+2606 WHITE STAR; \FiveStarOpen (bbding)
19157 \DeclareTextCommand{\textFiveStarOpen}{PU}{\9046\006}%* U+2606
19158 % U+260E BLACK TELEPHONE; telephoneblack; \Phone (bbding)
19159 \DeclareTextCommand{\textPhone}{PU}{\9046\016}%* U+260E
19160 %* \textPhone -> \Telefon (marvosym)
19161 % U+2610 BALLOT BOX; \boxempty (stmaryrd)
19162 \DeclareTextCommand{\textboxempty}{PU}{\9046\020}%* U+2610
19163 %* \textboxempty -> \Box (wasysym)
19164 % U+2611 BALLOT BOX WITH CHECK; \Checkedbox (marvosym)
19165 \DeclareTextCommand{\textCheckedbox}{PU}{\9046\021}%* U+2611
19166 %* \textCheckedbox -> \CheckedBox (marvosym)
19167 % U+2612 BALLOT BOX WITH X; \Crossedbox (marvosym)
19168 \DeclareTextCommand{\textCrossedbox}{PU}{\9046\022}%* U+2612
19169 %* \textCrossedbox -> \XBox (wasysym)
19170 %* \textCrossedbox -> \CrossedBox (marvosym)
19171 % U+2615 HOT BEVERAGE; \Coffeecup (marvosym)
19172 \DeclareTextCommand{\textCoffeecup}{PU}{\9046\025}%* U+2615
19173 % U+261A BLACK LEFT POINTING INDEX; \HandCuffLeft (bbding)
19174 \DeclareTextCommand{\textHandCuffLeft}{PU}{\9046\032}%* U+261A
19175 % U+261B BLACK RIGHT POINTING INDEX; \HandCuffRight (bbding)
19176 \DeclareTextCommand{\textHandCuffRight}{PU}{\9046\033}%* U+261B
19177 % U+261C WHITE LEFT POINTING INDEX; \HandLeft (bbding)
19178 \DeclareTextCommand{\textHandLeft}{PU}{\9046\034}%* U+261C
19179 %* \textHandLeft -> \rightpointleft (fourier)
19180 % U+261E WHITE RIGHT POINTING INDEX; \HandRight (bbding)
19181 \DeclareTextCommand{\textHandRight}{PU}{\9046\036}%* U+261E
19182 %* \textHandRight -> \leftpointright (fourier)
19183 %* \textHandRight -> \PointingHand (marvosym)
19184 %* \textHandRight -> \Pointinghand (marvosym)
19185 % U+2622 RADIOACTIVE SIGN; \Radioactivity (marvosym)
19186 \DeclareTextCommand{\textRadioactivity}{PU}{\9046\042}%* U+2622
19187 %* \textRadioactivity -> \Radiation (ifsym)

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19188 % U+2623 BIOHAZARD SIGN; \Biohazard (marvosym)  
19189 \DeclareTextCommand{\textBiohazard}{PU}{\9046\043}%\* U+2623  
19190 % U+2625 ANKH; \Ankh (marvosym)  
19191 \DeclareTextCommand{\textAnkh}{PU}{\9046\045}%\* U+2625  
19192 % U+262F YIN YANG; \YinYang (marvosym)  
19193 \DeclareTextCommand{\textYinYang}{PU}{\9046\057}%\* U+262F  
19194 %\* \textYinYang -> \Yinyang (marvosym)  
19195 %\* \textYinYang -> \YingYang (marvosym)  
19196 %\* \textYinYang -> \Yingyang (marvosym)  
19197 % U+2639 WHITE FROWNING FACE; \frownie (wasysym)  
19198 \DeclareTextCommand{\textfrownie}{PU}{\9046\071}%\* U+2639  
19199 %\* \textfrownie -> \Frowny (marvosym)  
19200 % U+263A WHITE SMILING FACE; \smiley (wasysym)  
19201 \DeclareTextCommand{\textsmiley}{PU}{\9046\072}%\* U+263A  
19202 %\* \textsmiley -> \Smiley (marvosym)  
19203 % U+263B BLACK SMILING FACE; \blacksmiley (wasysym)  
19204 \DeclareTextCommand{\textblacksmiley}{PU}{\9046\073}%\* U+263B  
19205 % U+263C WHITE SUN WITH RAYS; \sun (wasysym)  
19206 \DeclareTextCommand{\textsun}{PU}{\9046\074}%\* U+263C  
19207 %\* \textsun -> \Sun (marvosym)  
19208 % U+263D FIRST QUARTER MOON; \leftmoon (wasysym, mathabx)  
19209 \DeclareTextCommand{\textleftmoon}{PU}{\9046\075}%\* U+263D  
19210 % U+263E LAST QUARTER MOON; \rightmoon (wasysym, mathabx)  
19211 \DeclareTextCommand{\textrightmoon}{PU}{\9046\076}%\* U+263E  
19212 % U+263F MERCURY; \mercury (wasysym)  
19213 \DeclareTextCommand{\textmercury}{PU}{\9046\077}%\* U+263F  
19214 %\* \textmercury -> \Mercury (marvosym)  
19215 % U+2640 FEMALE SIGN; female; \female (wasysym)  
19216 \DeclareTextCommand{\textPUfemale}{PU}{\9046\100}% U+2640  
19217 %\* \textPUfemale -> \textfemale (tipx)  
19218 %\* \textPUfemale -> \female (wasysym)  
19219 %\* \textPUfemale -> \venus (wasysym)  
19220 %\* \textPUfemale -> \Venus (marvosym)  
19221 %\* \textPUfemale -> \Female (marvosym)  
19222 % U+2641 EARTH; \earth (wasysym)  
19223 \DeclareTextCommand{\textearth}{PU}{\9046\101}%\* U+2641  
19224 %\* \textearth -> \Earth (marvosym)  
19225 % U+2642 MALE SIGN; male, mars; \male (wasysym)  
19226 \DeclareTextCommand{\textmale}{PU}{\9046\102}%\* U+2642  
19227 %\* \textmale -> \mars (wasysym)  
19228 %\* \textmale -> \Mars (marvosym)  
19229 %\* \textmale -> \Male (marvosym)  
19230 % U+2643 JUPITER; \jupiter (wasysym)  
19231 \DeclareTextCommand{\textjupiter}{PU}{\9046\103}%\* U+2643  
19232 %\* \textjupiter -> \Jupiter (marvosym)  
19233 % U+2644 SATURN; \saturn (wasysym)  
19234 \DeclareTextCommand{\textsaturn}{PU}{\9046\104}%\* U+2644  
19235 %\* \textsaturn -> \Saturn (marvosym)  
19236 % U+2645 URANUS; \uranus (wasysym)  
19237 \DeclareTextCommand{\texturanus}{PU}{\9046\105}%\* U+2645  
19238 %\* \texturanus -> \Uranus (marvosym)  
19239 % U+2646 NEPTUNE; \neptune (wasysym)  
19240 \DeclareTextCommand{\textneptune}{PU}{\9046\106}%\* U+2646  
19241 %\* \textneptune -> \Neptune (marvosym)  
19242 % U+2647 PLUTO; \pluto (wasysym)  
19243 \DeclareTextCommand{\textpluto}{PU}{\9046\107}%\* U+2647  
19244 %\* \textpluto -> \Pluto (marvosym)

19245 % U+2648 ARIES; \aries (wasysym)  
 19246 \DeclareTextCommand{\textaries}{PU}{\9046\110}%\* U+2648  
 19247 %\* \textaries -> \Aries (marvosym)  
 19248 % U+2649 TAURUS; \taurus (wasysym)  
 19249 \DeclareTextCommand{\texttaurus}{PU}{\9046\111}%\* U+2649  
 19250 %\* \texttaurus -> \Taurus (marvosym)  
 19251 % U+264A GEMINI; \gemini (wasysym)  
 19252 \DeclareTextCommand{\textgemini}{PU}{\9046\112}%\* U+264A  
 19253 %\* \textgemini -> \Gemini (marvosym)  
 19254 % U+264B CANCER; \cancer (wasysym)  
 19255 \DeclareTextCommand{\textcancer}{PU}{\9046\113}%\* U+264B  
 19256 %\* \textcancer -> \Cancer (marvosym)  
 19257 % U+264C LEO; \leo (wasysym)  
 19258 \DeclareTextCommand{\textleo}{PU}{\9046\114}%\* U+264C  
 19259 %\* \textleo -> \Leo (marvosym)  
 19260 % U+264D VIRGO; \virgo (wasysym)  
 19261 \DeclareTextCommand{\textvirgo}{PU}{\9046\115}%\* U+264D  
 19262 %\* \textvirgo -> \Virgo (marvosym)  
 19263 % U+264E LIBRA; \libra (wasysym)  
 19264 \DeclareTextCommand{\textlibra}{PU}{\9046\116}%\* U+264E  
 19265 %\* \textlibra -> \Libra (marvosym)  
 19266 % U+264F SCORPIO; \scorpio (wasysym)  
 19267 \DeclareTextCommand{\textscorpio}{PU}{\9046\117}%\* U+264F  
 19268 %\* \textscorpio -> \Scorpio (marvosym)  
 19269 % U+2650 SAGITTARIUS; \sagittarius (wasysym)  
 19270 \DeclareTextCommand{\textsagittarius}{PU}{\9046\120}%\* U+2650  
 19271 %\* \textsagittarius -> \Sagittarius (marvosym)  
 19272 % U+2651 CAPRICORN; \capricorn (wasysym)  
 19273 \DeclareTextCommand{\textcapricorn}{PU}{\9046\121}%\* U+2651  
 19274 %\* \textcapricorn -> \Capricorn (marvosym)  
 19275 % U+2652 AQUARIUS; \aquarius (wasysym)  
 19276 \DeclareTextCommand{\textaquarius}{PU}{\9046\122}%\* U+2652  
 19277 %\* \textaquarius -> \Aquarius (marvosym)  
 19278 % U+2653 PISCES; \pisces (wasysym)  
 19279 \DeclareTextCommand{\textpisces}{PU}{\9046\123}%\* U+2653  
 19280 %\* \textpisces -> \Pisces (marvosym)  
 19281 % U+2660 BLACK SPADE SUIT; spade, spadesuitblack; \spadesuit (LaTeX)  
 19282 \DeclareTextCommand{\textspadesuitblack}{PU}{\9046\140}% U+2660  
 19283 %\* \textspadesuitblack -> \spadesuit (MnSymbol)  
 19284 % U+2661 WHITE HEART SUIT; heartsuitwhite; \heartsuit (LaTeX)  
 19285 \DeclareTextCommand{\textheartsuitwhite}{PU}{\9046\141}% U+2661  
 19286 %\* \textheartsuitwhite -> \Heart (marvosym)  
 19287 %\* \textheartsuitwhite -> \heartsuit (MnSymbol)  
 19288 % U+2662 WHITE DIAMOND SUIT; diamondsuitwhite; \diamondsuit (LaTeX)  
 19289 \DeclareTextCommand{\textdiamondsuitwhite}{PU}{\9046\142}% U+2662  
 19290 %\* \textdiamondsuitwhite -> \diamondsuit (MnSymbol)  
 19291 % U+2663 BLACK CLUB SUIT; club, clubsuitblack; \clubsuit (LaTeX)  
 19292 \DeclareTextCommand{\textclubsuitblack}{PU}{\9046\143}% U+2663  
 19293 %\* \textclubsuitblack -> \clubsuit (MnSymbol)  
 19294 % U+2664 WHITE SPADE SUIT; spadesuitwhite  
 19295 \DeclareTextCommand{\textspadesuitwhite}{PU}{\9046\144}% U+2664  
 19296 % U+2665 BLACK HEART SUIT; heartsuitblack, heart  
 19297 \DeclareTextCommand{\textheartsuitblack}{PU}{\9046\145}% U+2665  
 19298 % U+2666 BLACK DIAMOND SUIT; diamond  
 19299 \DeclareTextCommand{\textdiamondsuitblack}{PU}{\9046\146}% U+2666  
 19300 % U+2667 WHITE CLUB SUIT; clubsuitwhite  
 19301 \DeclareTextCommand{\textclubsuitwhite}{PU}{\9046\147}% U+2667



19302 % U+2669 QUARTER NOTE; quarternote; \quarternote (wasysym, arev)  
 19303 \DeclareTextCommand{\textquarternote}{PU}{\9046\151}%\* U+2669  
 19304 % U+266A EIGHTH NOTE; musicalnote; \textmusicalnote (textcomp)  
 19305 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A  
 19306 %\* \textmusicalnote -> \eighthnote (wasysym, arev)  
 19307 % U+266B BEAMED EIGHTH NOTES; eighthnotebeamed; \twonotes (wasysym)  
 19308 \DeclareTextCommand{\texttwonotes}{PU}{\9046\153}%\* U+266B  
 19309 % U+266C BEAMED SIXTEENTH NOTES; beamedsixteenthnotes; \sixteenth-  
     note (arev)  
 19310 \DeclareTextCommand{\textsixteenthnote}{PU}{\9046\154}%\* U+266C  
 19311 % U+266D MUSIC FLAT SIGN; musicflatsign; \flat (LaTeX)  
 19312 \DeclareTextCommand{\textflat}{PU}{\9046\155}%\* U+266D  
 19313 % U+266E MUSIC NATURAL SIGN; \natural (LaTeX)  
 19314 \DeclareTextCommand{\textnatural}{PU}{\9046\156}%\* U+266E  
 19315 % U+266F MUSIC SHARP SIGN; musicsharpsign; \sharp (LaTeX)  
 19316 \DeclareTextCommand{\textsharp}{PU}{\9046\157}%\* U+266F  
 19317 % U+2672 UNIVERSAL RECYCLING SYMBOL; \recycle (recycle)  
 19318 \DeclareTextCommand{\textrecycle}{PU}{\9046\162}%\* U+2672  
 19319 %\* \textrecycle -> \Recycling (marvosym)  
 19320 % U+267F WHEELCHAIR SYMBOL; \Wheelchair (marvosym)  
 19321 \DeclareTextCommand{\textWheelchair}{PU}{\9046\177}%\* U+267F  
 19322 % U+2691 BLACK FLAG; \Flag (ifsym)  
 19323 \DeclareTextCommand{\textFlag}{PU}{\9046\221}%\* U+2691  
 19324 %\* \textFlag -> \VarFlag (ifsym)  
 19325 % U+2692 HAMMER AND PICK; \MineSign (marvosym)  
 19326 \DeclareTextCommand{\textMineSign}{PU}{\9046\222}%\* U+2692  
 19327 % U+2694 CROSSED SWORDS; \dsmilitary (dictsym)  
 19328 \DeclareTextCommand{\textdsmilitary}{PU}{\9046\224}%\* U+2694  
 19329 %\* \textdsmilitary -> \textxswup (fourier)  
 19330 % U+2695 STAFF OF AESCULAPIUS; \dsmedical (dictsym)  
 19331 \DeclareTextCommand{\textdsmedical}{PU}{\9046\225}%\* U+2695  
 19332 % U+2696 SCALES; \dsjuridical (dictsym)  
 19333 \DeclareTextCommand{\textdsjuridical}{PU}{\9046\226}%\* U+2696  
 19334 % U+2697 ALEMBIC; \dschemical (dictsym)  
 19335 \DeclareTextCommand{\textdschemical}{PU}{\9046\227}%\* U+2697  
 19336 % U+2698 FLOWER; \dsbiological (dictsym)  
 19337 \DeclareTextCommand{\textdsbiological}{PU}{\9046\230}%\* U+2698  
 19338 % U+269A STAFF OF HERMES; \dscommercial (dictsym)  
 19339 \DeclareTextCommand{\textdscommercial}{PU}{\9046\232}%\* U+269A  
 19340 % U+269D OUTLINED WHITE STAR; \manstar (manfnt)  
 19341 \DeclareTextCommand{\textmanstar}{PU}{\9046\235}%\* U+269D  
 19342 % U+26A0 WARNING SIGN; \danger (fourier)  
 19343 \DeclareTextCommand{\textdanger}{PU}{\9046\240}%\* U+26A0  
 19344 % U+26A2 DOUBLED FEMALE SIGN; \FemaleFemale (marvosym)  
 19345 \DeclareTextCommand{\textFemaleFemale}{PU}{\9046\242}%\* U+26A2  
 19346 % U+26A3 DOUBLED MALE SIGN; \MaleMale (marvosym)  
 19347 \DeclareTextCommand{\textMaleMale}{PU}{\9046\243}%\* U+26A3  
 19348 % U+26A4 INTERLOCKED FEMALE AND MALE SIGN; \FemaleMale (mar-  
     vosym)  
 19349 \DeclareTextCommand{\textFemaleMale}{PU}{\9046\244}%\* U+26A4  
 19350 % U+26A5 MALE AND FEMALE SIGN; \Hermaphrodite (marvosym)  
 19351 \DeclareTextCommand{\textHermaphrodite}{PU}{\9046\245}%\* U+26A5  
 19352 % U+26AA MEDIUM WHITE CIRCLE; \Neural (marvosym)  
 19353 \DeclareTextCommand{\textNeutral}{PU}{\9046\252}%\* U+26AA  
 19354 % U+26AD MARRIAGE SYMBOL  
 19355 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD  
 19356 % U+26AE DIVORCE SYMBOL

19357 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE  
 19358 % U+26B2 NEUTER; \textuncrfemale (tipx)  
 19359 \DeclareTextCommand{\textPUuncrfemale}{PU}{\9046\262}% U+26B2  
 19360 %\* \textPUuncrfemale -> \textuncrfemale (tipx)  
 19361 % U+26B9 TEXTILE; \hexstar (wasysym)  
 19362 \DeclareTextCommand{\texthexstar}{PU}{\9046\271}%\* U+26B9  
 19363 % U+26BD SOCCER BALL; \Football (marvosym)  
 19364 \DeclareTextCommand{\textSoccerBall}{PU}{\9046\275}% U+26BD  
 19365 %\* \textSoccerBall -> \Football (marvosym)  
 19366 % U+26C5 SUN BEHIND CLOUD; \SunCloud (ifsym)  
 19367 \DeclareTextCommand{\textSunCloud}{PU}{\9046\305}%\* U+26C5  
 19368 % U+26C6 RAIN; \Rain (ifsym)  
 19369 \DeclareTextCommand{\textRain}{PU}{\9046\306}%\* U+26C6  
 19370 % U+26D4 NO ENTRY; \noway (fourier)  
 19371 \DeclareTextCommand{\textnoway}{PU}{\9046\324}%\* U+26D4  
 19372 % U+26F0 MOUNTAIN; \Mountain (ifsym)  
 19373 \DeclareTextCommand{\textMountain}{PU}{\9046\360}%\* U+26F0  
 19374 % U+26FA TENT; \Tent (ifsym)  
 19375 \DeclareTextCommand{\textTent}{PU}{\9046\372}%\* U+26FA

### 51.2.30 Dingbats: U+2700 to U+27BF

19376 % U+2701 UPPER BLADE SCISSORS; \ScissorRightBrokenBottom (bding)  
 19377 \DeclareTextCommand{\textScissorRightBrokenBottom}{PU}{\9047\001}% U+2701  
 19378 %\* \textScissorRightBrokenBottom -> \CutLeft (marvosym)  
 19379 %\* \textScissorRightBrokenBottom -> \Cutright (marvosym)  
 19380 % U+2702 BLACK SCISSORS; \ScissorRight (bding)  
 19381 \DeclareTextCommand{\textScissorRight}{PU}{\9047\002}%\* U+2702  
 19382 %\* \textScissorRight -> \RightScissors (marvosym)  
 19383 %\* \textScissorRight -> \Leftscissors (marvosym)  
 19384 % U+2703 LOWER BLADE SCISSORS; \ScissorRightBrokenTop (bding)  
 19385 \DeclareTextCommand{\textScissorRightBrokenTop}{PU}{\9047\003}%\* U+2703  
 19386 % U+2704 WHITE SCISSORS; \ScissorHollowRight (bding)  
 19387 \DeclareTextCommand{\textScissorHollowRight}{PU}{\9047\004}%\* U+2704  
 19388 % U+2706 TELEPHONE LOCATION SIGN; \PhoneHandset (bding)  
 19389 \DeclareTextCommand{\textPhoneHandset}{PU}{\9047\006}%\* U+2706  
 19390 % U+2707 TAPE DRIVE; \Tape (bding)  
 19391 \DeclareTextCommand{\textTape}{PU}{\9047\007}%\* U+2707  
 19392 % U+2708 AIRPLANE; \Plane (bding)  
 19393 \DeclareTextCommand{\textPlane}{PU}{\9047\010}%\* U+2708  
 19394 % U+2709 ENVELOPE; \Envelope (bding),  
 19395 \DeclareTextCommand{\textEnvelope}{PU}{\9047\011}%\* U+2709  
 19396 %\* \textEnvelope -> \Letter (marvosym)  
 19397 % U+270C VICTORY HAND; \Peace (bding)  
 19398 \DeclareTextCommand{\textPeace}{PU}{\9047\014}%\* U+270C  
 19399 % U+270D WRITING HAND; \WritingHand (marvosym)  
 19400 \DeclareTextCommand{\textWritingHand}{PU}{\9047\015}%\* U+270D  
 19401 %\* \textWritingHand -> \Writinghand (marvosym)  
 19402 % U+270E LOWER RIGHT PENCIL; \PencilRightDown (bding)  
 19403 \DeclareTextCommand{\textPencilRightDown}{PU}{\9047\016}%\* U+270E  
 19404 % U+270F PENCIL; \PencilRight (bding)  
 19405 \DeclareTextCommand{\textPencilRight}{PU}{\9047\017}%\* U+270F  
 19406 % U+2710 UPPER RIGHT PENCIL; \PencilRightUp (bding)  
 19407 \DeclareTextCommand{\textPencilRightUp}{PU}{\9047\020}%\* U+2710  
 19408 % U+2711 WHITE NIB; \NibRight (bding)  
 19409 \DeclareTextCommand{\textNibRight}{PU}{\9047\021}%\* U+2711  
 19410 % U+2712 BLACK NIB; \NibSolidRight (bding)  
 19411 \DeclareTextCommand{\textNibSolidRight}{PU}{\9047\022}%\* U+2712

19412 % U+2713 CHECK MARK; checkmark; \Checkmark (bding)  
 19413 \DeclareTextCommand{\textCheckmark}{PU}{\9047\023}%\* U+2713  
 19414 %\* \textCheckmark -> \checkmark (MnSymbol)  
 19415 % U+2714 HEAVY CHECK MARK; \CheckmarkBold (bding)  
 19416 \DeclareTextCommand{\textCheckmarkBold}{PU}{\9047\024}%\* U+2714  
 19417 % U+2715 MULTIPLICATION X; \XSolid (bding)  
 19418 \DeclareTextCommand{\textXSolid}{PU}{\9047\025}%\* U+2715  
 19419 % U+2716 HEAVY MULTIPLICATION X; \XSolidBold (bding)  
 19420 \DeclareTextCommand{\textXSolidBold}{PU}{\9047\026}%\* U+2716  
 19421 % U+2717 BALLOT X; \XSolidBrush (bding)  
 19422 \DeclareTextCommand{\textXSolidBrush}{PU}{\9047\027}%\* U+2717  
 19423 % U+2719 OUTLINED GREEK CROSS; \PlusOutline (bding)  
 19424 \DeclareTextCommand{\textPlusOutline}{PU}{\9047\031}%\* U+2719  
 19425 % U+271A HEAVY GREEK CROSS; \Plus (bding)  
 19426 \DeclareTextCommand{\textPlus}{PU}{\9047\032}%\* U+271A  
 19427 % U+271B OPEN CENTRE CROSS; \PlusThinCenterOpen (bding)  
 19428 \DeclareTextCommand{\textPlusThinCenterOpen}{PU}{\9047\033}%\* U+271B  
 19429 % U+271C HEAVY OPEN CENTRE CROSS; \PlusCenterOpen (bding)  
 19430 \DeclareTextCommand{\textPlusCenterOpen}{PU}{\9047\034}%\* U+271C  
 19431 % U+271D LATIN CROSS; \Cross (bding)  
 19432 \DeclareTextCommand{\textCross}{PU}{\9047\035}%\* U+271D  
 19433 % U+271E SHADOWED WHITE LATIN CROSS; \CrossOpenShadow (bding)  
 19434 \DeclareTextCommand{\textCrossOpenShadow}{PU}{\9047\036}%\* U+271E  
 19435 % U+271F OUTLINED LATIN CROSS; \CrossOutline (bding)  
 19436 \DeclareTextCommand{\textCrossOutline}{PU}{\9047\037}%\* U+271F  
 19437 % U+2720 MALTESE CROSS; \CrossMaltese (bding)  
 19438 \DeclareTextCommand{\textCrossMaltese}{PU}{\9047\040}%\* U+2720  
 19439 % U+2721 STAR OF DAVID; \DavidStar (bding)  
 19440 \DeclareTextCommand{\textDavidStar}{PU}{\9047\041}%\* U+2721  
 19441 %\* \textDavidStar -> \davidstar (wasysym)  
 19442 % U+2722 FOUR TEARDROP-SPOKED ASTERISK; \FourAsterisk (bding)  
 19443 \DeclareTextCommand{\textFourAsterisk}{PU}{\9047\042}%\* U+2722  
 19444 % U+2723 FOUR BALLOON-SPOKED ASTERISK; \JackStar (bding)  
 19445 \DeclareTextCommand{\textJackStar}{PU}{\9047\043}%\* U+2723  
 19446 % U+2724 HEAVY FOUR BALLOON-SPOKED ASTERISK; \JackStarBold (bding)  
 19447 \DeclareTextCommand{\textJackStarBold}{PU}{\9047\044}%\* U+2724  
 19448 % U+2725 FOUR CLUB-SPOKED ASTERISK; \CrossClowerTips (bding)  
 19449 \DeclareTextCommand{\textClowerTips}{PU}{\9047\045}%\* U+2725  
 19450 % U+2726 BLACK FOUR POINTED STAR; \FourStar (bding)  
 19451 \DeclareTextCommand{\textFourStar}{PU}{\9047\046}%\* U+2726  
 19452 % U+2727 WHITE FOUR POINTED STAR; \FourStarOpen (bding)  
 19453 \DeclareTextCommand{\textFourStarOpen}{PU}{\9047\047}%\* U+2727  
 19454 % U+272A CIRCLED WHITE STAR; \FiveStarOpenCircled (bding)  
 19455 \DeclareTextCommand{\textFiveStarOpenCircled}{PU}{\9047\052}%\* U+272A  
 19456 % U+272B OPEN CENTRE BLACK STAR; \FiveStarCenterOpen (bding)  
 19457 \DeclareTextCommand{\textFiveStarCenterOpen}{PU}{\9047\053}%\* U+272B  
 19458 % U+272C BLACK CENTRE WHITE STAR; \FiveStarOpenDotted (bding)  
 19459 \DeclareTextCommand{\textFiveStarOpenDotted}{PU}{\9047\054}%\* U+272C  
 19460 % U+272D OUTLINED BLACK STAR; \FiveStarOutline (bding)  
 19461 \DeclareTextCommand{\textFiveStarOutline}{PU}{\9047\055}%\* U+272D  
 19462 % U+272E HEAVY OUTLINED BLACK STAR; \FiveStarOutlineHeavy (bding)  
 19463 \DeclareTextCommand{\textFiveStarOutlineHeavy}{PU}{\9047\056}%\* U+272E  
 19464 % U+272F PINWHEEL STAR; \FiveStarConvex (bding)  
 19465 \DeclareTextCommand{\textFiveStarConvex}{PU}{\9047\057}%\* U+272F  
 19466 % U+2730 SHADOWED WHITE STAR; \FiveStarShadow (bding)  
 19467 \DeclareTextCommand{\textFiveStarShadow}{PU}{\9047\060}%\* U+2730

19468 % U+2731 HEAVY ASTERISK; \AsteriskBold (bding)  
 19469 \DeclareTextCommand{\textAsteriskBold}{PU}{\9047\061}%\* U+2731  
 19470 % U+2732 OPEN CENTRE ASTERISK; \AsteriskCenterOpen (bding)  
 19471 \DeclareTextCommand{\textAsteriskCenterOpen}{PU}{\9047\062}%\* U+2732  
 19472 % U+2734 EIGHT POINTED BLACK STAR; \EightStarTaper (bding)  
 19473 \DeclareTextCommand{\textEightStarTaper}{PU}{\9047\064}%\* U+2734  
 19474 % U+2735 EIGHT POINTED PINWHEEL STAR; \EightStarConvex (bding)  
 19475 \DeclareTextCommand{\textEightStarConvex}{PU}{\9047\065}%\* U+2735  
 19476 % U+2736 SIX POINTED BLACK STAR; \SixStar (bding)  
 19477 \DeclareTextCommand{\textSixStar}{PU}{\9047\066}%\* U+2736  
 19478 % U+2737 EIGHT POINTED RECTILINEAR BLACK STAR; \EightStar (bding)  
 19479 \DeclareTextCommand{\textEightStar}{PU}{\9047\067}%\* U+2737  
 19480 % U+2738 HEAVY EIGHT POINTED RECTILINEAR BLACK STAR; \EightStarBold (bding)  
 19481 \DeclareTextCommand{\textEightStarBold}{PU}{\9047\070}%\* U+2738  
 19482 % U+2739 TWELVE POINTED BLACK STAR; \TwelveStar (bding)  
 19483 \DeclareTextCommand{\textTwelveStar}{PU}{\9047\071}%\* U+2739  
 19484 % U+273A SIXTEEN POINTED ASTERISK; \SixteenStarLight (bding)  
 19485 \DeclareTextCommand{\textSixteenStarLight}{PU}{\9047\072}%\* U+273A  
 19486 % U+273B TEARDROP-SPOKED ASTERISK; \SixFlowerPetalRemoved (bding)  
 19487 \DeclareTextCommand{\textSixFlowerPetalRemoved}{PU}{\9047\073}%\* U+273B  
 19488 % U+273C OPEN CENTRE TEARDROP-SPOKED ASTERISK;  
 19489 % \SixFlowerOpenCenter (bding)  
 19490 \DeclareTextCommand{\textSixFlowerOpenCenter}{PU}{\9047\074}%\* U+273C  
 19491 % U+273D HEAVY TEARDROP-SPOKED ASTERISK; \Asterisk (bding)  
 19492 \DeclareTextCommand{\textAsterisk}{PU}{\9047\075}%\* U+273D  
 19493 % U+273E SIX PETALLED BLACK AND WHITE FLORETTE; \SixFlowerAlternate (bding)  
 19494 \DeclareTextCommand{\textSixFlowerAlternate}{PU}{\9047\076}%\* U+273E  
 19495 % U+273F BLACK FLORETTE; \FiveFlowerPetal (bding)  
 19496 \DeclareTextCommand{\textFiveFlowerPetal}{PU}{\9047\077}%\* U+273F  
 19497 % U+2740 WHITE FLORETTE; \FiveFlowerOpen (bding)  
 19498 \DeclareTextCommand{\textFiveFlowerOpen}{PU}{\9047\100}%\* U+2740  
 19499 % U+2741 EIGHT PETALLED OUTLINED BLACK FLORETTE; \EightFlowerPetal (bding)  
 19500 \DeclareTextCommand{\textEightFlowerPetal}{PU}{\9047\101}%\* U+2741  
 19501 % U+2742 CIRCLED OPEN CENTRE EIGHT POINTED STAR; \SunshineOpenCircled (bding)  
 19502 \DeclareTextCommand{\textSunshineOpenCircled}{PU}{\9047\102}%\* U+2742  
 19503 % U+2743 HEAVY TEARDROP-SPOKED PINWHEEL ASTERISK; \SixFlowerAltPetal (bding)  
 19504 \DeclareTextCommand{\textSixFlowerAltPetal}{PU}{\9047\103}%\* U+2743  
 19505 % U+2744 SNOWFLAKE; \SnowflakeChevron (bding)  
 19506 \DeclareTextCommand{\textSnowflakeChevron}{PU}{\9047\104}%\* U+2744  
 19507 % U+2745 TIGHT TRIFOLIATE SNOWFLAKE; \Snowflake (bding)  
 19508 \DeclareTextCommand{\textSnowflake}{PU}{\9047\105}%\* U+2745  
 19509 % U+2746 HEAVY CHEVRON SNOWFLAKE; \SnowflakeChevronBold (bding)  
 19510 \DeclareTextCommand{\textSnowflakeChevronBold}{PU}{\9047\106}%\* U+2746  
 19511 % U+2747 SPARKLE; \Sparkle (bding)  
 19512 \DeclareTextCommand{\textSparkle}{PU}{\9047\107}%\* U+2747  
 19513 % U+2748 HEAVY SPARKLE; \SparkleBold (bding)  
 19514 \DeclareTextCommand{\textSparkleBold}{PU}{\9047\110}%\* U+2748  
 19515 % U+2749 BALLOON-SPOKED ASTERISK; \AsteriskRoundedEnds (bding)  
 19516 \DeclareTextCommand{\textAsteriskRoundedEnds}{PU}{\9047\111}%\* U+2749  
 19517 % U+274A EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;

19518 % \EightFlowerPetalRemoved (bding)  
 19519 \DeclareTextCommand{\textEightFlowerPetalRemoved}{PU}{\9047\112}%\* U+274A  
 19520 % U+274B HEAVY EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
 19521 % \EightAsterisk (bding)  
 19522 \DeclareTextCommand{\textEightAsterisk}{PU}{\9047\113}%\* U+274B  
 19523 % U+274D SHADOWED WHITE CIRCLE; \CircleShadow (bding)  
 19524 \DeclareTextCommand{\textCircleShadow}{PU}{\9047\115}%\* U+274D  
 19525 % U+274F LOWER RIGHT DROP-SHADOWED WHITE SQUARE;  
 19526 % \SquareShadowBottomRight (bding)  
 19527 \DeclareTextCommand{\textSquareShadowBottomRight}{PU}{\9047\117}%\* U+274F  
 19528 % U+2750 UPPER RIGHT DROP-SHADOWED WHITE SQUARE;  
 19529 % \SquareShadowTopRight (bding)  
 19530 \DeclareTextCommand{\textSquareTopRight}{PU}{\9047\120}%\* U+2750  
 19531 % U+2751 LOWER RIGHT SHADOWED WHITE SQUARE;  
 19532 % \SquareCastShadowBottomRight (bding)  
 19533 \DeclareTextCommand{\textSquareCastShadowBottomRight}{PU}{\9047\121}%\* U+2751  
 19534 % U+2752 UPPER RIGHT SHADOWED WHITE SQUARE;  
 19535 % \SquareCastShadowTopRight (bding)  
 19536 \DeclareTextCommand{\textSquareCastShadowTopRight}{PU}{\9047\122}%\* U+2752  
 19537 % U+2756 BLACK DIAMOND MINUS WHITE X; \OrnamentDiamandSolid (bding)  
 19538 \DeclareTextCommand{\textDiamandSolid}{PU}{\9047\126}%\* U+2756  
 19539 % U+2758 LIGHT VERTICAL BAR; \RectangleThin (bding)  
 19540 \DeclareTextCommand{\textRectangleThin}{PU}{\9047\130}%\* U+2758  
 19541 % U+2759 MEDIUM VERTICAL BAR; \Rectangle (bding)  
 19542 \DeclareTextCommand{\textRectangle}{PU}{\9047\131}%\* U+2759  
 19543 % U+275A HEAVY VERTICAL BAR; \RectangleBold (bding)  
 19544 \DeclareTextCommand{\textRectangleBold}{PU}{\9047\132}%\* U+275A

### 51.2.31 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

19545 % U+27C2 PERPENDICULAR; perpendicular; \perp (LaTeX)  
 19546 \DeclareTextCommand{\textperp}{PU}{\9047\302}%\* U+27C2  
 19547 % \notperp (mathabx)  
 19548 \DeclareTextCommand{\textnotperp}{PU}{\9047\302\83\070}%\* U+27C2 U+0338  
 19549 % U+27C7 OR WITH DOT INSIDE; \veedot (MnSymbol)  
 19550 \DeclareTextCommand{\textveedot}{PU}{\9047\307}%\* U+27C7  
 19551 % U+27D1 AND WITH DOT; \wedgedot (MnSymbol)  
 19552 \DeclareTextCommand{\textwedgedot}{PU}{\9047\321}%\* U+27D1  
 19553 % U+27DC LEFT MULTIMAP; \leftspoon (MnSymbol)  
 19554 \DeclareTextCommand{\textleftspoon}{PU}{\9047\334}%\* U+27DC  
 19555 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 19556 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}%\* U+27E6  
 19557 %\* \textlbrackdbl -> \lbracket (stmaryrd)  
 19558 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
 19559 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}%\* U+27E7  
 19560 %\* \textrbrackdbl -> \rrbracket (stmaryrd)

### 51.2.32 Supplemental Arrows-A: U+27F0 to U+27FF

19561 % U+27F2 ANTICLOCKWISE GAPPED CIRCLE ARROW;  
 19562 % \circlearrowleft (AmS)  
 19563 \DeclareTextCommand{\textcirclearrowleft}{PU}{\9047\362}%\* U+27F2  
 19564 % U+27F3 CLOCKWISE GAPPED CIRCLE ARROW; \circlearrowright (AmS)  
 19565 \DeclareTextCommand{\textcirclearrowright}{PU}{\9047\363}%\* U+27F3  
 19566 % U+27F5 LONG LEFTWARDS ARROW; \longleftarrow (AmS)  
 19567 \DeclareTextCommand{\textlongleftarrow}{PU}{\9047\365}%\* U+27F5  
 19568 % U+27F6 LONG RIGHTWARDS ARROW; \longrightarrow (AmS)  
 19569 \DeclareTextCommand{\textlongrightarrow}{PU}{\9047\366}%\* U+27F6

19570 % U+27F7 LONG LEFT RIGHT ARROW; \longlefttrightarrow (AmS)  
 19571 \DeclareTextCommand{\textlonglefttrightarrow}{PU}{\9047\367}%\* U+27F7  
 19572 % U+27F8 LONG LEFTWARDS DOUBLE ARROW; \Longleftarrow (AmS)  
 19573 \DeclareTextCommand{\textLongleftarrow}{PU}{\9047\370}%\* U+27F8  
 19574 % U+27F9 LONG RIGHTWARDS DOUBLE ARROW; \Longrightarrow (AmS)  
 19575 \DeclareTextCommand{\textLongrightarrow}{PU}{\9047\371}%\* U+27F9  
 19576 % U+27FA LONG LEFT RIGHT DOUBLE ARROW; \Longlefttrightarrow (AmS)  
 19577 \DeclareTextCommand{\textLonglefttrightarrow}{PU}{\9047\372}%\* U+27FA  
 19578 % U+27FC LONG RIGHTWARDS ARROW FROM BAR; \longmapsto (AmS)  
 19579 \DeclareTextCommand{\textlongmapsto}{PU}{\9047\374}%\* U+27FC  
 19580 % U+27FD LONG LEFTWARDS DOUBLE ARROW FROM BAR; \Longmapsfrom (stmaryrd)  
 19581 \DeclareTextCommand{\textLongmapsfrom}{PU}{\9047\375}%\* U+27FD  
 19582 % U+27FE LONG RIGHTWARDS DOUBLE ARROW FROM BAR; \Longmapsto (stmaryrd)  
 19583 \DeclareTextCommand{\textLongmapsto}{PU}{\9047\376}%\* U+27FE

### 51.2.33 Supplemental Arrows-B: U+2900 to U+297F

19584 % U+2921 NORTH WEST AND SOUTH EAST ARROW; \nwsearrow (MnSymbol)  
 19585 \DeclareTextCommand{\textnwsearrow}{PU}{\9051\041}%\* U+2921  
 19586 % U+2922 NORTH EAST AND SOUTH WEST ARROW; \neswarrow (MnSymbol)  
 19587 \DeclareTextCommand{\textneswarrow}{PU}{\9051\042}%\* U+2922  
 19588 % U+2923 NORTH WEST ARROW WITH HOOK; \lhooknwarrow (MnSymbol)  
 19589 \DeclareTextCommand{\textlhooknwarrow}{PU}{\9051\043}%\* U+2923  
 19590 % U+2924 NORTH EAST ARROW WITH HOOK; \rhooknarrow (MnSymbol)  
 19591 \DeclareTextCommand{\textrhooknarrow}{PU}{\9051\044}%\* U+2924  
 19592 % U+2925 SOUTH EAST ARROW WITH HOOK; \lhooksearrow (MnSymbol)  
 19593 \DeclareTextCommand{\textlhooksearrow}{PU}{\9051\045}%\* U+2925  
 19594 % U+2926 SOUTH WEST ARROW WITH HOOK; \rhookswarrow (MnSymbol)  
 19595 \DeclareTextCommand{\textrhookswarrow}{PU}{\9051\046}%\* U+2926  
 19596 % U+2933 WAVE ARROW POINTING DIRECTLY RIGHT; \leadsto (wasysym)  
 19597 \DeclareTextCommand{\textleadsto}{PU}{\9051\063}%\* U+2933  
 19598 % U+2934 ARROW POINTING RIGHTWARDS THEN CURVING UPWARDS;  
 19599 % \rcurvearrowne (MnSymbol)  
 19600 \DeclareTextCommand{\textrcurvearrowne}{PU}{\9051\064}%\* U+2934  
 19601 % U+2935 ARROW POINTING RIGHTWARDS THEN CURVING DOWNWARDS;  
 19602 % \lcurvearrowse (MnSymbol)  
 19603 \DeclareTextCommand{\textlcurvearrowse}{PU}{\9051\065}%\* U+2935  
 19604 % U+2936 ARROW POINTING DOWNWARDS THEN CURVING LEFTWARDS;  
 19605 % \lcurvearrowsw (MnSymbol)  
 19606 \DeclareTextCommand{\textlcurvearrowsw}{PU}{\9051\066}%\* U+2936  
 19607 % U+2937 ARROW POINTING DOWNWARDS THEN CURVING RIGHTWARDS;  
 19608 % \rcurvearrowse (MnSymbol)  
 19609 \DeclareTextCommand{\textrcurvearrowse}{PU}{\9051\067}%\* U+2937  
 19610 % U+2938 RIGHT-SIDE ARC CLOCKWISE ARROW; \lcurvearrowdown (MnSymbol)  
 19611 \DeclareTextCommand{\textlcurvearrowdown}{PU}{\9051\070}%\* U+2938  
 19612 %\* \textlcurvearrowdown -> \RightTorque (marvosym)  
 19613 %\* \textlcurvearrowdown -> \Righttorque (marvosym)  
 19614 % U+2939 LEFT-SIDE ARC ANTICLOCKWISE ARROW;  
 19615 % \rcurvearrowdown (MnSymbol)  
 19616 \DeclareTextCommand{\textrcurvearrowdown}{PU}{\9051\071}%\* U+2939

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19617 %* \texttrcurvearrowdown -> \LeftTorque (marvosym)
19618 %* \texttrcurvearrowdown -> \Lefttorque (marvosym)
19619 % U+293A TOP ARC ANTICLOCKWISE ARROW; \rcurvearrowleft (MnSymbol)
19620 \DeclareTextCommand{\texttrcurvearrowleft}{PU}{\9051\072}%* U+293A
19621 % U+293B BOTTOM ARC ANTICLOCKWISE ARROW;
19622 % \rcurvearrowright (MnSymbol)
19623 \DeclareTextCommand{\texttrcurvearrowright}{PU}{\9051\073}%* U+293B
19624 % U+294A LEFT BARB UP RIGHT BARB DOWN HARPOON; \leftrightharpoon (mathabx)
19625 \DeclareTextCommand{\textleftrightharpoon}{PU}{\9051\112}%* U+294A
19626 % U+294B LEFT BARB DOWN RIGHT BARB UP HARPOON; \rightleftharpoon (mathabx)
19627 \DeclareTextCommand{\textrightleftharpoon}{PU}{\9051\113}%* U+294B
19628 % U+294C UP BARB RIGHT DOWN BARB LEFT HARPOON;
19629 % \updownharpoonrightleft (MnSymbol)
19630 \DeclareTextCommand{\textupdownharpoonrightleft}{PU}{\9051\114}%* U+294C
19631 % U+294D UP BARB LEFT DOWN BARB RIGHT HARPOON;
19632 % \updownharpoonleftright (MnSymbol)
19633 \DeclareTextCommand{\textupdownharpoonleftright}{PU}{\9051\115}%* U+294D
19634 % U+2962 LEFTWARDS HARPOON WITH BARB UP ABOVE LEFTWARDS
19635 % HARPOON WITH BARB DOWN; \leftleftharpoons (mathabx)
19636 \DeclareTextCommand{\textleftleftharpoons}{PU}{\9051\142}%* U+2962
19637 % U+2963 UPWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS
19638 % HARPOON WITH BARB RIGHT; \upupharpoons (mathabx)
19639 \DeclareTextCommand{\textupupharpoons}{PU}{\9051\143}%* U+2963
19640 % U+2964 RIGHTWARDS HARPOON WITH BARB UP ABOVE RIGHT-
19641 % WARDS HARPOON
19642 % WITH BARB DOWN; \rightrightarpoons (mathabx)
19643 \DeclareTextCommand{\textrightarpoons}{PU}{\9051\144}%* U+2964
19644 % U+2965 DOWNWARDS HARPOON WITH BARB LEFT BESIDE DOWN-
19645 % WARDS HARPOON
19646 % WITH BARB RIGHT; \downdownharpoons (mathabx)
19647 \DeclareTextCommand{\textdowndownharpoons}{PU}{\9051\145}%* U+2965
19648 % U+296A LEFTWARDS HARPOON WITH BARB UP ABOVE LONG DASH;
19649 % \leftbarharpoon (mathabx)
19650 \DeclareTextCommand{\textleftbarharpoon}{PU}{\9051\152}%* U+296A
19651 % U+296B LEFTWARDS HARPOON WITH BARB DOWN BELOW
19652 % LONG DASH; \barleftharpoon (mathabx)
19653 \DeclareTextCommand{\textbarleftharpoon}{PU}{\9051\153}%* U+296B
19654 % U+296C RIGHTWARDS HARPOON WITH BARB UP ABOVE
19655 % LONG DASH; \rightbarharpoon (mathabx)
19656 \DeclareTextCommand{\textrightbarharpoon}{PU}{\9051\154}%* U+296C
19657 % U+296D RIGHTWARDS HARPOON WITH BARB DOWN BELOW
19658 % LONG DASH; \barrightharpoon (mathabx)
19659 \DeclareTextCommand{\textbarrightharpoon}{PU}{\9051\155}%* U+296D
19660 % U+296E UPWARDS HARPOON WITH BARB LEFT BESIDE DOWN-
19661 % WARDS HARPOON
19662 % WITH BARB RIGHT; \updownharpoons (mathabx)
19663 \DeclareTextCommand{\textupdownharpoons}{PU}{\9051\156}%* U+296E
19664 % U+296F DOWNWARDS HARPOON WITH BARB LEFT BESIDE UP-
19665 % WARDS HARPOON
19666 % WITH BARB RIGHT; \downupharpoons (mathabx)
19667 \DeclareTextCommand{\textdownupharpoons}{PU}{\9051\157}%* U+296F
19668 % U+297F DOWN FISH TAIL
19669 \DeclareTextCommand{\textmoo}{PU}{\9051\177\83\066}%* U+297F U+0336

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### 51.2.34 Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF

```

19666 % U+2987 Z NOTATION LEFT IMAGE BRACKET; \llparenthesis (stmaryrd)
19667 \DeclareTextCommand{\textllparenthesis}{PU}{\9051\207}%* U+2987
19668 % U+2988 Z NOTATION RIGHT IMAGE BRACKET; \rrparenthesis (stmaryrd)
19669 \DeclareTextCommand{\textrrparenthesis}{PU}{\9051\210}%* U+2988
19670 % U+29B0 REVERSED EMPTY SET; \invdiameter (wasysym)
19671 \DeclareTextCommand{\textinvdiameter}{PU}{\9051\260}%* U+29B0
19672 % U+29B6 CIRCLED VERTICAL BAR; \obar (stmaryrd)
19673 \DeclareTextCommand{\textobar}{PU}{\9051\266}%* U+29B6
19674 %* \textobar -> \textvarobar (stmaryrd)
19675 % U+29B8 CIRCLED REVERSE SOLIDUS; \obslash (stmaryrd)
19676 \DeclareTextCommand{\textobslash}{PU}{\9051\270}%* U+29B8
19677 %* \textobslash -> \circledbslash (txfonts/pxfonts)
19678 %* \textobslash -> \obackslash (mathabx)
19679 %* \textobslash -> \varobslash (stmaryrd)
19680 % U+29BA CIRCLE DIVIDED BY HORIZONTAL BAR AND TOP HALF
19681 % DIVIDED BY VERTICAL BAR; \obot (mathabx)
19682 \DeclareTextCommand{\textobot}{PU}{\9051\272}%* U+29BA
19683 %* \textobot -> \odplus (ulsy)
19684 % U+29BB CIRCLE WITH SUPERIMPOSED X; \NoChemicalCleaning (mar-
      vosym)
19685 \DeclareTextCommand{\textNoChemicalCleaning}{PU}{\9051\273}%* U+29BB
19686 % U+29C0 CIRCLED LESS-THAN; \olessthan (stmaryrd)
19687 \DeclareTextCommand{\textolessthan}{PU}{\9051\300}%* U+29C0
19688 %* \textolessthan -> \varolessthan (stmaryrd)
19689 % U+29C1 CIRCLED GREATER-THAN; \ogreaterthan (stmaryrd)
19690 \DeclareTextCommand{\textogreaterthan}{PU}{\9051\301}%* U+29C1
19691 %* \textogreaterthan -> \varogreaterthan (stmaryrd)
19692 % U+29C4 SQUARED RISING DIAGONAL SLASH; \boxslash (mathabx, stmaryrd)
19693 \DeclareTextCommand{\textboxslash}{PU}{\9051\304}%* U+29C4
19694 % U+29C5 SQUARED FALLING DIAGONAL SLASH; \boxbslash (stmaryrd)
19695 \DeclareTextCommand{\textboxbslash}{PU}{\9051\305}%* U+29C5
19696 % U+29C6 SQUARED ASTERISK; \boxast (stmaryrd)
19697 \DeclareTextCommand{\textboxast}{PU}{\9051\306}%* U+29C6
19698 % U+29C7 SQUARED SMALL CIRCLE; \boxcircle (stmaryrd)
19699 \DeclareTextCommand{\textboxcircle}{PU}{\9051\307}%* U+29C7
19700 % U+29C8 SQUARED SQUARE; \boxbox (stmaryrd)
19701 \DeclareTextCommand{\textboxbox}{PU}{\9051\310}%* U+29C8
19702 % U+29D3 BLACK BOWTIE; \Valve (marvosym)
19703 \DeclareTextCommand{\textValve}{PU}{\9051\323}%* U+29D3
19704 % U+29DF DOUBLE-ENDED MULTIMAP; \multimapboth (txfonts/pxfonts)
19705 \DeclareTextCommand{\textmultimapboth}{PU}{\9051\337}%* U+29DF
19706 % U+29E2 SHUFFLE PRODUCT; \shuffle (shuffle)
19707 \DeclareTextCommand{\textshuffle}{PU}{\9051\342}%* U+29E2

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### 51.2.35 Supplemental Mathematical Operators: U+2A00 to U+2AFF

```

19708 % U+2A04 N-ARY UNION OPERATOR WITH PLUS; \uplus (LaTeX)
19709 \DeclareTextCommand{\textuplus}{PU}{\9052\004}%* U+2A04
19710 % U+2A07 TWO LOGICAL AND OPERATOR; \bigdoublewedge (MnSymbol)
19711 \DeclareTextCommand{\textbigdoublewedge}{PU}{\9052\007}%* U+2A07
19712 % U+2A08 TWO LOGICAL OR OPERATOR; \bigdoublevee (MnSymbol)
19713 \DeclareTextCommand{\textbigdoublevee}{PU}{\9052\010}%* U+2A08
19714 % U+2A1D JOIN; \Join (latexsym, amsfonts, amssymb, mathabx, txfonts,
19715 % pxfonts, wasysym)
19716 \DeclareTextCommand{\textJoin}{PU}{\9052\035}%* U+2A1D
19717 % U+2A1F Z NOTATION SCHEMA COMPOSITION; \fatsemi (stmaryrd)
19718 \DeclareTextCommand{\textfatsemi}{PU}{\9052\037}%* U+2A1F

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19719 % U+2A22 PLUS SIGN WITH SMALL CIRCLE ABOVE; \circplus (mathabx)
19720 \DeclareTextCommand{\textcircplus}{PU}{\9052\042}%* U+2A22
19721 % U+2A2A MINUS SIGN WITH DOT BELOW; \minusdot (MnSymbol)
19722 \DeclareTextCommand{\textminusdot}{PU}{\9052\052}%* U+2A2A
19723 %* \textminusdot -> \divdot (mathabx)
19724 % U+2A30 MULTIPLICATION SIGN WITH DOT ABOVE; \dottimes (math-
abx)
19725 \DeclareTextCommand{\textdottimes}{PU}{\9052\060}%* U+2A30
19726 % U+2A32 SEMIDIRECT PRODUCT WITH BOTTOM CLOSED;
19727 % \dtimes (mathdesign)
19728 \DeclareTextCommand{\textdtimes}{PU}{\9052\062}%* U+2A32
19729 % U+2A38 CIRCLED DIVISION SIGN; \odiv (mathabx)
19730 \DeclareTextCommand{\textodiv}{PU}{\9052\070}%* U+2A38
19731 % U+2A3C INTERIOR PRODUCT; \invneg (MnSymbol)
19732 \DeclareTextCommand{\textinvneg}{PU}{\9052\074}%* U+2A3C
19733 % U+2A4E DOUBLE SQUARE INTERSECTION; \sqdoublecap (mathabx)
19734 \DeclareTextCommand{\textsqdoublecap}{PU}{\9052\116}%* U+2A4E
19735 %* \textsqdoublecap -> \doublesqcap (MnSymbol)
19736 % U+2A40 INTERSECTION WITH DOT; \capdot (MnSymbol)
19737 \DeclareTextCommand{\textcapdot}{PU}{\9052\100}%* U+2A40
19738 % U+2A4F DOUBLE SQUARE UNION; \sqdoublecup (mathabx)
19739 \DeclareTextCommand{\textsqdoublecup}{PU}{\9052\117}%* U+2A4F
19740 %* \textsqdoublecup -> \doublesqcup (MnSymbol)
19741 % U+2A55 TWO INTERSECTING LOGICAL AND; \doublewedge (MnSymbol)
19742 \DeclareTextCommand{\textdoublewedge}{PU}{\9052\125}%* U+2A55
19743 % U+2A56 TWO INTERSECTING LOGICAL OR; \doublevee (MnSymbol)
19744 \DeclareTextCommand{\textdoublevee}{PU}{\9052\126}%* U+2A56
19745 %* \textdoublevee -> \merge (stmaryrd)
19746 % U+2A5E LOGICAL AND WITH DOUBLE OVERBAR;
19747 % \doublebarwedge (AmS)
19748 \DeclareTextCommand{\textdoublebarwedge}{PU}{\9052\136}%* U+2A5E
19749 % U+2A63 LOGICAL OR WITH DOUBLE UNDERBAR;
19750 % \veedoublebar (mahtabx)
19751 \DeclareTextCommand{\textveedoublebar}{PU}{\9052\143}%* U+2A63
19752 % U+2A66 EQUALS SIGN WITH DOT BELOW; \eqdot (MnSymbol)
19753 \DeclareTextCommand{\texteqdot}{PU}{\9052\146}%* U+2A66
19754 % \neqdot (MnSymbol)
19755 \DeclareTextCommand{\textneqdot}{PU}{\9052\146\83\070}%* U+2A66 U+0338
19756 % U+2A74 DOUBLE COLON EQUAL; \coloncolonequals (colonequals)
19757 \DeclareTextCommand{\textcoloncolonequals}{PU}{\9052\164}%* U+2A74
19758 % U+2A7D LESS-THAN OR SLANTED EQUAL TO; \leqslant (AmS)
19759 \DeclareTextCommand{\textleqslant}{PU}{\9052\175}%* U+2A7D
19760 % \nleqslant (txfonts/pxfonts)
19761 \DeclareTextCommand{\textnleqslant}{PU}{\9052\175\83\070}%* U+2A7D U+0338
19762 % U+2A7E GREATER-THAN OR SLANTED EQUAL TO; \geqslant (AmS)
19763 \DeclareTextCommand{\textgeqslant}{PU}{\9052\176}%* U+2A7E
19764 % \ngeqslant (txfonts/pxfonts)
19765 \DeclareTextCommand{\textngeqslant}{PU}{\9052\176\83\070}%* U+2A7E U+0338
19766 % U+2A85 LESS-THAN OR APPROXIMATE; \lessapprox (AmS)
19767 \DeclareTextCommand{\textlessapprox}{PU}{\9052\205}%* U+2A85
19768 % \nlessapprox (txfonts/pxfonts)
19769 \DeclareTextCommand{\textnlessapprox}{PU}{\9052\205\83\070}%* U+2A85 U+0338
19770 % U+2A86 GREATER-THAN OR APPROXIMATE; \gtrapprox (AmS)
19771 \DeclareTextCommand{\textgtrapprox}{PU}{\9052\206}%* U+2A86
19772 % \ngtrapprox (txfonts/pxfonts)
19773 \DeclareTextCommand{\textngtrapprox}{PU}{\9052\206\83\070}%* U+2A86 U+0338
19774 % U+2A87 LESS-THAN AND SINGLE-LINE NOT EQUAL TO; \lneq (AmS)

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19775 \DeclareTextCommand{\textlneq}{PU}{\9052\207}%* U+2A87
19776 % U+2A88 GREATER-THAN AND SINGLE-LINE NOT EQUAL TO;
19777 % \gneq (AmS)
19778 \DeclareTextCommand{\textgtneq}{PU}{\9052\210}%* U+2A88
19779 % U+2A89 LESS-THAN AND NOT APPROXIMATE; \lnapprox (AmS)
19780 \DeclareTextCommand{\textlnapprox}{PU}{\9052\211}%* U+2A89
19781 % U+2A8A GREATER-THAN AND NOT APPROXIMATE; \gnapprox (AmS)
19782 \DeclareTextCommand{\textgnapprox}{PU}{\9052\212}%* U+2A8A
19783 % U+2A8B LESS-THAN ABOVE DOUBLE-LINE EQUAL ABOVE GREATER-THAN;
19784 % \lesseqqgtr (AmS)
19785 \DeclareTextCommand{\textlesseqqgtr}{PU}{\9052\213}%* U+2A8B
19786 % U+2A8C GREATER-THAN ABOVE DOUBLE-LINE EQUAL ABOVE LESS-THAN;
19787 % \gtreqqless (AmS)
19788 \DeclareTextCommand{\textgtreqqless}{PU}{\9052\214}%* U+2A8C
19789 % U+2A95 SLANTED EQUAL TO OR LESS-THAN; \eqslantless (AmS)
19790 \DeclareTextCommand{\texteqslantless}{PU}{\9052\225}%* U+2A95
19791 % U+2A96 SLANTED EQUAL TO OR GREATER-THAN; \eqslantgtr (AmS)
19792 \DeclareTextCommand{\texteqslantgtr}{PU}{\9052\226}%* U+2A96
19793 % U+2AA6 LESS-THAN CLOSED BY CURVE; \leftslice (stmaryrd)
19794 \DeclareTextCommand{\textleftslice}{PU}{\9052\246}%* U+2AA6
19795 % U+2AA7 GREATER-THAN CLOSED BY CURVE; \rightslice (stmaryrd)
19796 \DeclareTextCommand{\textrightangle}{PU}{\9052\247}%* U+2AA7
19797 % U+2AAF PRECEDES ABOVE SINGLE-LINE EQUALS SIGN; \preceq (Mn-
    Symbol)
19798 \DeclareTextCommand{\textpreceq}{PU}{\9052\257}%* U+2AAF
19799 % \npreceq (txfonts/pxfonts)
19800 \DeclareTextCommand{\textnpreceq}{PU}{\9052\257\83\070}%* U+2AAF U+0338
19801 % U+2AB0 SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN; \succeq (Mn-
    Symbol)
19802 \DeclareTextCommand{\textsucceq}{PU}{\9052\260}%* U+2AB0
19803 % \nsucceq (txfonts/pxfonts)
19804 \DeclareTextCommand{\textnsucceq}{PU}{\9052\260\83\070}%* U+2AB0 U+0338
19805 % U+2AB1 PRECEDES ABOVE SINGLE-LINE NOT EQUAL TO; \prec-
    neq (mathabx)
19806 \DeclareTextCommand{\textprecneq}{PU}{\9052\261}%* U+2AB1
19807 % U+2AB2 SUCCEEDS ABOVE SINGLE-LINE NOT EQUAL TO; \succ-
    neq (mathabx)
19808 \DeclareTextCommand{\textsuccneq}{PU}{\9052\262}%* U+2AB2
19809 % U+2AB3 PRECEDES ABOVE EQUALS SIGN; \preceqq (txfonts/pxfonts)
19810 \DeclareTextCommand{\textpreceqq}{PU}{\9052\263}%* U+2AB3
19811 % \npreceqq (txfonts/pxfonts)
19812 \DeclareTextCommand{\textnpreceqq}{PU}{\9052\263\83\070}%* U+2AB3 U+0338
19813 % U+2AB4 SUCCEEDS ABOVE EQUALS SIGN; \succeqq (txfonts/pxfonts)
19814 \DeclareTextCommand{\textsucceqq}{PU}{\9052\264}%* U+2AB4
19815 % \nsucceqq (txfonts/pxfonts)
19816 \DeclareTextCommand{\textnsucceqq}{PU}{\9052\264\83\070}%* U+2AB4 U+0338
19817 % U+2AB5 PRECEDES ABOVE NOT EQUAL TO; \precneqq (txfonts/pxfonts)
19818 \DeclareTextCommand{\textprecneqq}{PU}{\9052\265}%* U+2AB5
19819 % U+2AB6 SUCCEEDS ABOVE NOT EQUAL TO; \succneqq (txfonts/pxfonts)
19820 \DeclareTextCommand{\textsuccneqq}{PU}{\9052\266}%* U+2AB6
19821 % U+2AB7 PRECEDES ABOVE ALMOST EQUAL TO; \precapprox (AmS)
19822 \DeclareTextCommand{\textprecapprox}{PU}{\9052\267}%* U+2AB7
19823 % \nprecapprox (txfonts/pxfonts)
19824 \DeclareTextCommand{\textnprecapprox}{PU}{\9052\267\83\070}%* U+2AB7 U+0338
19825 % U+2AB8 SUCCEEDS ABOVE ALMOST EQUAL TO; \succapprox (AmS)
19826 \DeclareTextCommand{\textsuccapprox}{PU}{\9052\270}%* U+2AB8
19827 % \nsuccapprox (txfonts/pxfonts)

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19828 \DeclareTextCommand{\textnsuccapprox}{PU}{\9052\270\83\070}%* U+2AB8 U+0338
19829 % U+2AB9 PRECEDES ABOVE NOT ALMOST EQUAL TO; \precnap-
      prox (AmS)
19830 \DeclareTextCommand{\textprecnapprox}{PU}{\9052\271}%* U+2AB9
19831 % U+2ABA SUCCEEDS ABOVE NOT ALMOST EQUAL TO; \succnap-
      prox (AmS)
19832 \DeclareTextCommand{\textsuccapprox}{PU}{\9052\272}%* U+2ABA
19833 % U+2AC5 SUBSET OF ABOVE EQUALS SIGN; \subseteqq (AmS)
19834 \DeclareTextCommand{\textsubseteqq}{PU}{\9052\305}%* U+2AC5
19835 % \nsubseteqq (txfonts/pxfonts, mathabx)
19836 \DeclareTextCommand{\textnsubseteqq}{PU}{\9052\305\83\070}%* U+2AC5 U+0338
19837 % U+2AC6 SUPERSET OF ABOVE EQUALS SIGN; \supseteqq (AmS)
19838 \DeclareTextCommand{\textsupseteqq}{PU}{\9052\306}%* U+2AC6
19839 % \nsupseteqq (mathabx)
19840 \DeclareTextCommand{\textnsupseteqq}{PU}{\9052\306\83\070}%* U+2AC6 U+0338
19841 % U+2AE3 DOUBLE VERTICAL BAR LEFT TURNSTILE
19842 \DeclareTextCommand{\textdashV}{PU}{\9052\343}%* U+2AE3
19843 %* \textdashV -> \leftVdash (MnSymbol)
19844 % \ndashV (mathabx)
19845 \DeclareTextCommand{\textndashV}{PU}{\9052\343\83\070}%* U+2AE3 U+0338
19846 %* \textndashV -> \nleftVdash (MnSymbol)
19847 % U+2AE4 VERTICAL BAR DOUBLE LEFT TURNSTILE; \Dashv (mathabx)
19848 \DeclareTextCommand{\textDashv}{PU}{\9052\344}%* U+2AE4
19849 %* \textDashv -> \leftmodels (MnSymbol)
19850 % \nDashv (mathabx)
19851 \DeclareTextCommand{\textnDashv}{PU}{\9052\344\83\070}%* U+2AE4 U+0338
19852 %* \textnDashv -> \nleftmodels (MnSymbol)
19853 % U+2AE5 DOUBLE VERTICAL BAR DOUBLE LEFT TURNSTILE;
19854 % \DashV (mathabx)
19855 \DeclareTextCommand{\textDashV}{PU}{\9052\345}%* U+2AE5
19856 %* \textDashV -> \leftModels (MnSymbol)
19857 % \nDashV (mathabx)
19858 \DeclareTextCommand{\textnDashV}{PU}{\9052\345\83\070}%* U+2AE5 U+0338
19859 %* \textnDashV -> \nleftModels (MnSymbol)
19860 % U+2AEA DOUBLE DOWN TACK; \downmodels (MnSymbol)
19861 \DeclareTextCommand{\textdownmodels}{PU}{\9052\352}%* U+2AEA
19862 % \downmodels (MnSymbol)
19863 \DeclareTextCommand{\textndownmodels}{PU}{\9052\352\83\070}%* U+2AEA U+0338
19864 % U+2AEB DOUBLE UP TACK; \upmodels (MnSymbol)
19865 \DeclareTextCommand{\textupmodels}{PU}{\9052\353}%* U+2AEB
19866 % \nupmodels (MnSymbol)
19867 \DeclareTextCommand{\textnupmodels}{PU}{\9052\353\83\070}%* U+2AEB U+0338
19868 % U+2AEF VERTICAL LINE WITH CIRCLE ABOVE; \upspoon (MnSymbol)
19869 \DeclareTextCommand{\textupspoon}{PU}{\9052\357}%* U+2AEF
19870 % U+2AF4 TRIPLE VERTICAL BAR BINARY RELATION;
19871 % \interleave (stmaryrd)
19872 \DeclareTextCommand{\textinterleave}{PU}{\9052\364}%* U+2AF4
19873 % U+2AFD DOUBLE SOLIDUS OPERATOR; \sslash (stmaryrd)
19874 \DeclareTextCommand{\textsslash}{PU}{\9052\375}%* U+2AFD
19875 %* \textsslash -> \varparallel (txfonts/pxfonts)

```

### 51.2.36 Miscellaneous Symbols and Arrows: U+2B00 to U+2BFF

```

19876 % U+2B20 WHITE PENTAGON; \pentagon (wasysym)
19877 \DeclareTextCommand{\textpentagon}{PU}{\9053\040}%* U+2B20
19878 % U+2B21 WHITE HEXAGON; \varhexagon (wasysym)
19879 \DeclareTextCommand{\textvarhexagon}{PU}{\9053\041}%* U+2B21

```

### 51.2.37 Latin Extended-C: U+2C60 to U+2C7F

19880 % U+2C7C LATIN SUBSCRIPT SMALL LETTER J  
19881 \DeclareTextCommand{\textjinferior}{PU}{\9054\174}%\* U+2C7C

### 51.2.38 Supplemental Punctuation: U+2E00 to U+2E7F

19882 % U+2E13 DOTTED OBELOS; \slashdiv (MnSymbol)  
19883 \DeclareTextCommand{\textslashdiv}{PU}{\9056\023}%\* U+2E13  
19884 % U+2E18 INVERTED INTERROBANG; \textinterrobangdown (textcomp)  
19885 \DeclareTextCommand{\textinterrobangdown}{PU}{\9056\030}% U+2E18  
19886 % U+2E2D FIVE DOT MARK; \fivedots (MnSymbol)  
19887 \DeclareTextCommand{\textfivedots}{PU}{\9056\055}%\* U+2E2D

### 51.2.39 Modifier Tone Letters: U+A700 to U+A71F

19888 % U+A71B MODIFIER LETTER RAISED UP ARROW; \textupstep (tipa)  
19889 \DeclareTextCommand{\textupstep}{PU}{\9247\033}% U+A71B  
19890 % U+A71C MODIFIER LETTER RAISED DOWN ARROW;  
19891 % \textdownstep (tipa)  
19892 \DeclareTextCommand{\textdownstep}{PU}{\9247\034}% U+A71C

### 51.2.40 Latin Extended-D: U+A720 to U+A7FF

19893 % U+A727 LATIN SMALL LETTER HENG; \textheng (tipx)  
19894 \DeclareTextCommand{\textPUheng}{PU}{\9247\047}% U+A727  
19895 %\* \textPUheng -> \textheng (tipx)  
19896 % U+A72C LATIN CAPITAL LETTER CUATRILLO; \textlhookfour (tipx)  
19897 \DeclareTextCommand{\textPULhookfour}{PU}{\9247\054}% U+A72C  
19898 %\* \textPULhookfour -> \textlhookfour (tipx)  
19899 % U+A730 LATIN LETTER SMALL CAPITAL F; \textscf (tipx)  
19900 \DeclareTextCommand{\textPUscf}{PU}{\9247\060}% U+A730  
19901 %\* \textPUscf -> \textscf (tipx)  
19902 % U+A735 LATIN SMALL LETTER AO; \textao lig (tipx)  
19903 \DeclareTextCommand{\textPUaolig}{PU}{\9247\065}% U+A735  
19904 %\* \textPUaolig -> \textao lig (tipx)  
19905 % U+A74F LATIN SMALL LETTER OO; \oo (wsuipa)  
19906 \DeclareTextCommand{\textoo}{PU}{\9247\117}%\* U+A74F  
19907 % U+A788 MODIFIER LETTER LOW CIRCUMFLEX ACCENT  
19908 \DeclareTextCommand{\textcircumlow}{PU}{\9247\210}% U+A788

### 51.2.41 Alphabetic Presentation Forms: U+FB00 to U+FB4F

19909 % U+FB01 LATIN SMALL LIGATURE FI; fi  
19910 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
19911 % U+FB02 LATIN SMALL LIGATURE FL; fl  
19912 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

### 51.2.42 Musical Symbols: U+1D100 to U+1D1FF

19913 % U+1D13B MUSICAL SYMBOL WHOLE REST; \GaPa (harmony)  
19914 \DeclareTextCommand{\textGaPa}{PU}{\9330\064\9335\073}%\* U+1D13B  
19915 % U+1D13C MUSICAL SYMBOL HALF REST; \HaPa (harmony)  
19916 \DeclareTextCommand{\textHaPa}{PU}{\9330\064\9335\074}%\* U+1D13C  
19917 % U+1D13D MUSICAL SYMBOL QUARTER REST; \ViPa (harmony)  
19918 \DeclareTextCommand{\textViPa}{PU}{\9330\064\9335\075}%\* U+1D13D  
19919 % U+1D13E MUSICAL SYMBOL EIGHTH REST; \AcPa (harmony)  
19920 \DeclareTextCommand{\textAcPa}{PU}{\9330\064\9335\076}%\* U+1D13E  
19921 % U+1D13F MUSICAL SYMBOL SIXTEENTH REST; \SePa (harmony)  
19922 \DeclareTextCommand{\textSePa}{PU}{\9330\064\9335\077}%\* U+1D13F  
19923 % U+1D140 MUSICAL SYMBOL THIRTY-SECOND REST; \ZwPa (harmony)  
19924 \DeclareTextCommand{\textZwPa}{PU}{\9330\064\9335\100}%\* U+1D140

19925 % U+1D15D MUSICAL SYMBOL WHOLE NOTE; \fullnote (wasysym)  
 19926 \DeclareTextCommand{\textfullnote}{PU}{\9330\064\9335\135}%\* U+1D15D  
 19927 %\* \textfullnote -> \Ganz (harmony)  
 19928 % U+1D15E MUSICAL SYMBOL HALF NOTE; \halfnote (wasysym)  
 19929 \DeclareTextCommand{\texthalfnote}{PU}{\9330\064\9335\136}%\* U+1D15E  
 19930 %\* \texthalfnote -> \Halb (harmony)  
 19931 % U+1D15F MUSICAL SYMBOL QUARTER NOTE; \Vier (harmony)  
 19932 \DeclareTextCommand{\textVier}{PU}{\9330\064\9335\137}%\* U+1D15F  
 19933 % U+1D160 MUSICAL SYMBOL EIGHTH NOTE; \Acht (harmony)  
 19934 \DeclareTextCommand{\textAcht}{PU}{\9330\064\9335\140}%\* U+1D160  
 19935 % U+1D161 MUSICAL SYMBOL SIXTEENTH NOTE; \Sech (harmony)  
 19936 \DeclareTextCommand{\textSech}{PU}{\9330\064\9335\141}%\* U+1D161  
 19937 % U+1D162 MUSICAL SYMBOL THIRTY-SECOND NOTE; \Zwdr (harmony)  
 19938 \DeclareTextCommand{\textZwdr}{PU}{\9330\064\9335\142}%\* U+1D162

#### 51.2.43 Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF

19939 % U+1F30D EARTH GLOBE EUROPE-AFRICA; \Mundus (marvosym)  
 19940 \DeclareTextCommand{\textMundus}{PU}{\9330\074\9337\015}%\* U+1F30D  
 19941 % U+1F319 CRESCENT MOON; \Moon (marvosym)  
 19942 \DeclareTextCommand{\textMoon}{PU}{\9330\074\9337\031}%\* U+1F319  
 19943 % U+1F468 MAN; \ManFace (marvosym)  
 19944 \DeclareTextCommand{\textManFace}{PU}{\9330\075\9334\150}%\* U+1F468  
 19945 % U+1F469 WOMAN; \WomanFace (marvosym)  
 19946 \DeclareTextCommand{\textWomanFace}{PU}{\9330\075\9334\151}%\* U+1F469  
 19947 %\* \textWomanFace -> \Womanface (marvosym)  
 19948 % U+1F4E0 FAX MACHINE; \Fax (marvosym)  
 19949 \DeclareTextCommand{\textFax}{PU}{\9330\075\9334\340}%\* U+1F4E0  
 19950 %\* \textFax -> \Faxmachine (marvosym)  
 19951 % U+1F525 FIRE; \Fire (ifsym)  
 19952 \DeclareTextCommand{\textFire}{PU}{\9330\075\9335\045}%\* U+1F525

#### 51.2.44 Transport and Map Symbols: U+1F680 to U+1F6FF

19953 % U+1F6B2 BICYCLE; \Bicycle (marvosym)  
 19954 \DeclareTextCommand{\textBicycle}{PU}{\9330\075\9336\262}%\* U+1F6B2  
 19955 % U+1F6B9 MENS SYMBOL; \Gentsroom (marvosym)  
 19956 \DeclareTextCommand{\textGentsroom}{PU}{\9330\075\9336\271}%\* U+1F6B9  
 19957 % U+1F6BA WOMENS SYMBOL; \Ladiesroom (marvosym)  
 19958 \DeclareTextCommand{\textLadiesroom}{PU}{\9330\075\9336\272}%\* U+1F6BA

#### 51.2.45 Miscellaneous

19959 \DeclareTextCommand{\SS}{PU}{SS}%  
 19960 % \textcopyleft (textcomp)  
 19961 \DeclareTextCommand{\textcopyleft}{PU}{\9041\204\9040\335}% U+2184 U+20DD  
 19962 % \ccnc (ccllicenses)  
 19963 \DeclareTextCommand{\textccnc}{PU}{\80\044\9040\340}%\* U+0024 U+20E0  
 19964 % \ccnd (ccllicenses)  
 19965 \DeclareTextCommand{\textccnd}{PU}{=\9040\335}%\* U+003D U+20DD  
 19966 % \ccsa (ccllicenses)  
 19967 \DeclareTextCommand{\textccsa}{PU}{\9047\362\9040\335}%\* U+27F2 U+20DD  
 19968 % \Info (marvosym, china2e)  
 19969 \DeclareTextCommand{\textInfo}{PU}{\9330\065\9334\042\9040\336}%\* U+1D422 U+20DE  
 19970 % \CESign (marvosym)  
 19971 \DeclareTextCommand{\textCESign}{PU}{\80\103\80\105}%\* U+0043 U+0045  
 19972 %\* \textCESign -> \CESign (marvosym)

#### 51.2.46 Aliases

Aliases (german.sty)

```

19973 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}%
19974 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}%
19975 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}%
19976 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}%
19977 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}%
19978 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}%
19979 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}%
19980 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}%
Aliases (math names)
19981 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}%*
19982 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}%*
19983 \DeclareTextCommand{\textdiv}{PU}{\textdivide}%*
19984 \DeclareTextCommand{\textpm}{PU}{\textplusminus}%*
19985 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}%*
19986 </puenc>

```

### 51.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

19987 <*puvnenc>
19988 \DeclareTextCommand{\abreve}{PU}{\81\003}% U+0103
19989 \DeclareTextCommand{\acircumflex}{PU}{\80\342}% U+00E2
19990 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}% U+00EA
19991 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}% U+00F4
19992 \DeclareTextCommand{\ohorn}{PU}{\81\241}% U+01A1
19993 \DeclareTextCommand{\uhorn}{PU}{\81\260}% U+01B0
19994 \DeclareTextCommand{\ABREVE}{PU}{\81\002}% U+0102
19995 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}% U+00C2
19996 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}% U+00CA
19997 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}% U+00D4
19998 \DeclareTextCommand{\OHORN}{PU}{\81\240}% U+01A0
19999 \DeclareTextCommand{\UHORN}{PU}{\81\257}% U+01AF
20000 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
20001 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1
20002 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0
20003 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}% U+1EA3
20004 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
20005 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}% U+1EAF
20006 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}% U+1EB7
20007 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}% U+1EB1
20008 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}% U+1EB3
20009 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}% U+1EB5
20010 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}% U+1EA5
20011 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}% U+1EAD
20012 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}% U+1EA7
20013 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}% U+1EA9
20014 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}% U+1EAB
20015 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
20016 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9
20017 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8
20018 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}% U+1EBB
20019 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
20020 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}% U+1EBF
20021 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}% U+1EC7
20022 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}% U+1EC1

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20023 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}% U+1EC3  
 20024 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}% U+1EC5  
 20025 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
 20026 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
 20027 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
 20028 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}% U+1EC9  
 20029 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
 20030 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
 20031 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
 20032 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2  
 20033 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}% U+1ECF  
 20034 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
 20035 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}% U+1ED1  
 20036 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}% U+1ED9  
 20037 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}% U+1ED3  
 20038 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}% U+1ED5  
 20039 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}% U+1ED7  
 20040 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}% U+1EDB  
 20041 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}% U+1EE3  
 20042 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}% U+1EDD  
 20043 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}% U+1EDF  
 20044 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}% U+1EE1  
 20045 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
 20046 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
 20047 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
 20048 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}% U+1EE7  
 20049 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
 20050 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}% U+1EE9  
 20051 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}% U+1EF1  
 20052 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}% U+1EEB  
 20053 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}% U+1EED  
 20054 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}% U+1EEF  
 20055 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 20056 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
 20057 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3  
 20058 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}% U+1EF7  
 20059 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9  
 20060 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
 20061 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
 20062 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}% U+00C0  
 20063 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}% U+1EA2  
 20064 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
 20065 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}% U+1EAE  
 20066 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}% U+1EB6  
 20067 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}% U+1EB0  
 20068 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}% U+1EB2  
 20069 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}% U+1EB4  
 20070 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}% U+1EA4  
 20071 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}% U+1EAC  
 20072 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}% U+1EA6  
 20073 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}% U+1EA8  
 20074 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}% U+1EAA  
 20075 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
 20076 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
 20077 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}% U+00C8  
 20078 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}% U+1EBA  
 20079 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC

```

20080 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}% U+1EBE
20081 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}% U+1EC6
20082 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}% U+1EC0
20083 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}% U+1EC2
20084 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}% U+1EC4
20085 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
20086 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA
20087 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}% U+00CC
20088 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}% U+1EC8
20089 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
20090 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
20091 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC
20092 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}% U+00D2
20093 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}% U+1ECE
20094 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
20095 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}% U+1ED0
20096 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}% U+1ED8
20097 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}% U+1ED2
20098 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}% U+1ED4
20099 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}% U+1ED6
20100 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}% U+1EDA
20101 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}% U+1EE2
20102 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}% U+1EDC
20103 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}% U+1EDE
20104 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}% U+1EE0
20105 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
20106 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4
20107 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}% U+00D9
20108 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}% U+1EE6
20109 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
20110 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}% U+1EE8
20111 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}% U+1EF0
20112 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}% U+1EEA
20113 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}% U+1EEC
20114 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}% U+1EEE
20115 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
20116 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4
20117 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}% U+1EF2
20118 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}% U+1EF6
20119 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
20120 </puvnenc>

```

## 51.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

20121 <*puarenc>
20122 % U+0621;afii57409;ARABIC LETTER HAMZA
20123 \DeclareTextCommand{\hamza}{PU}{\86\041}% U+0621
20124 % U+0622;afii57410;ARABIC LETTER ALEF WITH MADDA ABOVE
20125 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% U+0622
20126 % U+0623;afii57411;ARABIC LETTER ALEF WITH HAMZA ABOVE
20127 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% U+0623
20128 % U+0624;afii57412;ARABIC LETTER WAW WITH HAMZA ABOVE
20129 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% U+0624
20130 % U+0625;afii57413;ARABIC LETTER ALEF WITH HAMZA BELOW
20131 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% U+0625

```



20132 % U+0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE  
 20133 \DeclareTextCommand{\yahamza}{PU}{\86\046}% U+0626  
 20134 % U+0627;afii57415;ARABIC LETTER ALEF  
 20135 \DeclareTextCommand{\alef}{PU}{\86\047}% U+0627  
 20136 % U+0628;afii57416;ARABIC LETTER BEH  
 20137 \DeclareTextCommand{\baa}{PU}{\86\050}% U+0628  
 20138 % U+0629;afii57417;ARABIC LETTER TEH MARBUTA  
 20139 \DeclareTextCommand{\T}{PU}{\86\051}% U+0629  
 20140 % U+062A;afii57418;ARABIC LETTER TEH  
 20141 \DeclareTextCommand{\taa}{PU}{\86\052}% U+062A  
 20142 % U+062B;afii57419;ARABIC LETTER THEH  
 20143 \DeclareTextCommand{\thaa}{PU}{\86\053}% U+062B  
 20144 % U+062C;afii57420;ARABIC LETTER JEEM  
 20145 \DeclareTextCommand{\jeem}{PU}{\86\054}% U+062C  
 20146 % U+062D;afii57421;ARABIC LETTER HAH  
 20147 \DeclareTextCommand{\Haa}{PU}{\86\055}% U+062D  
 20148 % U+062E;afii57422;ARABIC LETTER KHAH  
 20149 \DeclareTextCommand{\kha}{PU}{\86\056}% U+062E  
 20150 % U+062F;afii57423;ARABIC LETTER DAL  
 20151 \DeclareTextCommand{\dal}{PU}{\86\057}% U+062F  
 20152 % U+0630;afii57424;ARABIC LETTER THAL  
 20153 \DeclareTextCommand{\dhal}{PU}{\86\060}% U+0630  
 20154 % U+0631;afii57425;ARABIC LETTER REH  
 20155 \DeclareTextCommand{\ra}{PU}{\86\061}% U+0631  
 20156 % U+0632;afii57426;ARABIC LETTER ZAIN  
 20157 \DeclareTextCommand{\zay}{PU}{\86\062}% U+0632  
 20158 % U+0633;afii57427;ARABIC LETTER SEEN  
 20159 \DeclareTextCommand{\seen}{PU}{\86\063}% U+0633  
 20160 % U+0634;afii57428;ARABIC LETTER SHEEN  
 20161 \DeclareTextCommand{\sheen}{PU}{\86\064}% U+0634  
 20162 % U+0635;afii57429;ARABIC LETTER SAD  
 20163 \DeclareTextCommand{\sad}{PU}{\86\065}% U+0635  
 20164 % U+0636;afii57430;ARABIC LETTER DAD  
 20165 \DeclareTextCommand{\dad}{PU}{\86\066}% U+0636  
 20166 % U+0637;afii57431;ARABIC LETTER TAH  
 20167 \DeclareTextCommand{\Ta}{PU}{\86\067}% U+0637  
 20168 % U+0638;afii57432;ARABIC LETTER ZAH  
 20169 \DeclareTextCommand{\za}{PU}{\86\070}% U+0638  
 20170 % U+0639;afii57433;ARABIC LETTER AIN  
 20171 \DeclareTextCommand{\ayn}{PU}{\86\071}% U+0639  
 20172 % U+063A;afii57434;ARABIC LETTER GHAIN  
 20173 \DeclareTextCommand{\ghayn}{PU}{\86\072}% U+063A  
 20174 % U+0640;afii57440;ARABIC TATWEEL  
 20175 \DeclareTextCommand{\tatweel}{PU}{\86\100}% U+0640  
 20176 % U+0641;afii57441;ARABIC LETTER FEH  
 20177 \DeclareTextCommand{\fa}{PU}{\86\101}% U+0641  
 20178 % U+0642;afii57442;ARABIC LETTER QAF  
 20179 \DeclareTextCommand{\qaf}{PU}{\86\102}% U+0642  
 20180 % U+0643;afii57443;ARABIC LETTER KAF  
 20181 \DeclareTextCommand{\kaf}{PU}{\86\103}% U+0643  
 20182 % U+0644;afii57444;ARABIC LETTER LAM  
 20183 \DeclareTextCommand{\lam}{PU}{\86\104}% U+0644  
 20184 % U+0645;afii57445;ARABIC LETTER MEEM  
 20185 \DeclareTextCommand{\meem}{PU}{\86\105}% U+0645  
 20186 % U+0646;afii57446;ARABIC LETTER NOON  
 20187 \DeclareTextCommand{\nun}{PU}{\86\106}% U+0646  
 20188 % U+0647;afii57470;ARABIC LETTER HEH

20189 \DeclareTextCommand{\ha}{PU}{\86\107}% U+0647  
 20190 % U+0648;afii57448;ARABIC LETTER WAW  
 20191 \DeclareTextCommand{\waw}{PU}{\86\110}% U+0648  
 20192 % U+0649;afii57449;ARABIC LETTER ALEF MAKSURA  
 20193 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% U+0649  
 20194 % U+064A;afii57450;ARABIC LETTER YEH  
 20195 \DeclareTextCommand{\ya}{PU}{\86\112}% U+064A  
  
 20196 % U+064B;afii57451;ARABIC FATHATAN  
 20197 \DeclareTextCommand{\nasb}{PU}{\86\113}% U+064B  
 20198 % U+064C;afii57452;ARABIC DAMMATAN  
 20199 \DeclareTextCommand{\raff}{PU}{\86\114}% U+064C  
 20200 % U+064D;afii57453;ARABIC KASRATAN  
 20201 \DeclareTextCommand{\jarr}{PU}{\86\115}% U+064D  
 20202 % U+064E;afii57454;ARABIC FATHA  
 20203 \DeclareTextCommand{\fatha}{PU}{\86\116}% U+064E  
 20204 % U+064F;afii57455;ARABIC DAMMA  
 20205 \DeclareTextCommand{\damma}{PU}{\86\117}% U+064F  
 20206 % U+0650;afii57456;ARABIC KASRA  
 20207 \DeclareTextCommand{\kasra}{PU}{\86\120}% U+0650  
 20208 % U+0651;afii57457;ARABIC SHADDA  
 20209 \DeclareTextCommand{\shadda}{PU}{\86\121}% U+0651  
 20210 % U+0652;afii57458;ARABIC SUKUN  
 20211 \DeclareTextCommand{\sukun}{PU}{\86\122}% U+0652  
  
 Farsi  
 20212 % U+067E ARABIC LETTER PEH; afii57506  
 20213 \DeclareTextCommand{\peh}{PU}{\86\176}% U+067E  
 20214 % U+0686 ARABIC LETTER TCHEH; afii57507  
 20215 \DeclareTextCommand{\tcheh}{PU}{\86\206}% U+0686  
 20216 % U+0698 ARABIC LETTER JEH; afii57508  
 20217 \DeclareTextCommand{\jeh}{PU}{\86\230}% U+0698  
 20218 % U+06A9 ARABIC LETTER KEHEH  
 20219 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% U+06A9  
 20220 % U+06AF ARABIC LETTER GAF; afii57509  
 20221 \DeclareTextCommand{\gaf}{PU}{\86\257}% U+06AF  
 20222 % U+06CC ARABIC LETTER FARSI YEH  
 20223 \DeclareTextCommand{\farsiya}{PU}{\86\314}% U+06CC  
  
 20224 % U+200C ZERO WIDTH NON-JOINER; afii61664  
 20225 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% U+200C  
 20226 % U+200D ZERO WIDTH JOINER; afii301  
 20227 \DeclareTextCommand{\noboundary}{PU}{\9040\015}% U+200D  
 20228 (/puarenc)  
 20229 (\*psdextra)  
 20230 \Hy@VersionCheck{psdextra.def}  
 20231 \newcommand\*{\psdmapshortnames}{%  
 20232 \let\MVPlus\textMVPlus  
 20233 \let\MVComma\textMVComma  
 20234 \let\MVMinus\textMVMinus  
 20235 \let\MVPeriod\textMVPeriod  
 20236 \let\MVDivision\textMVDivision  
 20237 \let\MVZero\textMVZero  
 20238 \let\MVOne\textMVOne  
 20239 \let\MVTwo\textMVTwo  
 20240 \let\MVThree\textMVThree  
 20241 \let\MVFour\textMVFour  
 20242 \let\MVFive\textMVFive

20243 \let\MVSix\textMVSix  
 20244 \let\MVSeven\textMVSeven  
 20245 \let\MVEight\textMVEight  
 20246 \let\MVNine\textMVNine  
 20247 \let\MVAt\textMVAt  
 20248 \let\copyright\textcopyright  
 20249 \let\twosuperior\texttwosuperior  
 20250 \let\threesuperior\textthreesuperior  
 20251 \let\onesuperior\textonesuperior  
 20252 \let\Thorn\textThorn  
 20253 \let\thorn\textthorn  
 20254 \let\hbar\texthbar  
 20255 \let\hausaB\texthausaB  
 20256 \let\hausaD\texthausaD  
 20257 \let\hausaK\texthausaK  
 20258 \let\barl\textbarl  
 20259 \let\inve\textinve  
 20260 \let\slashc\textslashc  
 20261 \let\scripta\textscripta  
 20262 \let\openo\textopeno  
 20263 \let\rtaild\textrtaild  
 20264 \let\reve\textreve  
 20265 \let\schwa\textschwa  
 20266 \let\niepsilon\textniepsilon  
 20267 \let\repsilon\textrepsilon  
 20268 \let\rhookrepsilon\text\rhookrepsilon  
 20269 \let\scriptg\textscriptg  
 20270 \let\scg\textscg  
 20271 \let\ipagamma\textipagamma  
 20272 \let\babygamma\textbabygamma  
 20273 \let\bari\textbari  
 20274 \let\niiota\textniiota  
 20275 \let\sci\textsci  
 20276 \let\scn\textscn  
 20277 \let\niphi\textniphi  
 20278 \let\longleg\textlongleg  
 20279 \let\scr\textscr  
 20280 \let\invscr\textinvscr  
 20281 \let\esh\textesh  
 20282 \let\baru\textbaru  
 20283 \let\niupsilon\textniupsilon  
 20284 \let\scriptv\textscriptv  
 20285 \let\turnv\textturnv  
 20286 \let\turnw\textturnw  
 20287 \let\turny\textturny  
 20288 \let\scy\textscy  
 20289 \let\yogh\textyogh  
 20290 \let\glotstop\textglotstop  
 20291 \let\revglotstop\textrevglotstop  
 20292 \let\invglotstop\textinvglotstop  
 20293 \let\Gamma\textGamma  
 20294 \let\Delta\textDelta  
 20295 \let\Theta\textTheta  
 20296 \let\Lambda\textLambda  
 20297 \let\Xi\textXi  
 20298 \let\Pi\textPi  
 20299 \let\Sigma\textSigma

20300 \let\Upsilon\textUpsilon  
 20301 \let\Phi\textPhi  
 20302 \let\Psi\textPsi  
 20303 \let\Omega\textOmega  
 20304 \let\alpha\textalpha  
 20305 \let\beta\textbeta  
 20306 \let\gamma\textgamma  
 20307 \let\delta\textdelta  
 20308 \let\epsilon\textepsilon  
 20309 \let\zeta\textzeta  
 20310 \let\eta\texteta  
 20311 \let\theta\texttheta  
 20312 \let\iota\textiota  
 20313 \let\kappa\textkappa  
 20314 \let\lambda\textlambda  
 20315 \let\mugreek\textmugreek  
 20316 \let\nu\textnu  
 20317 \let\xi\textxi  
 20318 \let\pi\textpi  
 20319 \let\rho\rho  
 20320 \let\varsigma\textvarsigma  
 20321 \let\sigma\textsigma  
 20322 \let\tau\texttau  
 20323 \let\upsilon\textupsilon  
 20324 \let\phi\textphi  
 20325 \let\chi\textchi  
 20326 \let\psi\textpsi  
 20327 \let\omega\textomega  
 20328 \let\scd\textscd  
 20329 \let\scu\textscu  
 20330 \let\iinferior\textiinferior  
 20331 \let\rinferior\extrinferior  
 20332 \let\uiinferior\textuiinferior  
 20333 \let\vinferior\textvinferior  
 20334 \let\betainferior\textbetainferior  
 20335 \let\gammainferior\textgammainferior  
 20336 \let\rhoinferior\textrhoinferior  
 20337 \let\phiinferior\textphiinferior  
 20338 \let\chiinferior\textchiinferior  
 20339 \let\barsci\textbarsci  
 20340 \let\barp\textbarp  
 20341 \let\barscu\textbarscu  
 20342 \let\htrtaild\texthtrtaild  
 20343 \let\dagger\textdagger  
 20344 \let\bullet\textbullet  
 20345 \let\hdotfor\texthdotfor  
 20346 \let\prime\textprime  
 20347 \let\second\textsecond  
 20348 \let\third\textthird  
 20349 \let\backprime\textbackprime  
 20350 \let\lefttherefore\textlefttherefore  
 20351 \let\fourth\textfourth  
 20352 \let\diamonddots\textdiamonddots  
 20353 \let\zerosuperior\textzerosuperior  
 20354 \let\isuperior\textisuperior  
 20355 \let\foursuperior\textfoursuperior  
 20356 \let\fivesuperior\textfivesuperior

20357 \let\sixsuperior\textsixsuperior  
 20358 \let\sevensuperior\textsevensuperior  
 20359 \let\eightsuperior\texteightsuperior  
 20360 \let\ninesuperior\textninesuperior  
 20361 \let\plussuperior\textplussuperior  
 20362 \let\minussuperior\textminussuperior  
 20363 \let\equalsuperior\textequalsuperior  
 20364 \let\parenleftsuperior\textparenleftsuperior  
 20365 \let\parenrightsuperior\textparenrightsuperior  
 20366 \let\nsuperior\textnsuperior  
 20367 \let\zeroinferior\textzeroinferior  
 20368 \let\oneinferior\textoneinferior  
 20369 \let\twoinferior\texttwoinferior  
 20370 \let\threeinferior\textthreeinferior  
 20371 \let\fourinferior\textfourinferior  
 20372 \let\fiveinferior\textfiveinferior  
 20373 \let\sixinferior\textsixinferior  
 20374 \let\seveninferior\textseveninferior  
 20375 \let\eightinferior\texteightinferior  
 20376 \let\nineinferior\textnineinferior  
 20377 \let\plusinferior\textplusinferior  
 20378 \let\minusinferior\textminusinferior  
 20379 \let\equalsinferior\textequalsinferior  
 20380 \let\parenleftinferior\textparenleftinferior  
 20381 \let\parenrightinferior\textparenrightinferior  
 20382 \let\ainferior\textainferior  
 20383 \let\einferior\texteinferior  
 20384 \let\oinferior\textoinferior  
 20385 \let\xinferior\textxinferior  
 20386 \let\schwainferior\textschwainferior  
 20387 \let\hinferior\texthinferior  
 20388 \let\kinferior\textkinferior  
 20389 \let\linferior\textlinferior  
 20390 \let\mininferior\textmininferior  
 20391 \let\ninferior\textninferior  
 20392 \let\pinferior\textpinferior  
 20393 \let\sinferior\textsinferior  
 20394 \let\tinferior\texttinferior  
 20395 \let\Deleatur\textDeleatur  
 20396 \let\hslash\texthslash  
 20397 \let\Im\textIm  
 20398 \let\ell\textell  
 20399 \let\wp\textwp  
 20400 \let\Re\textRe  
 20401 \let\mho\textmho  
 20402 \let\riota\textriota  
 20403 \let\Finv\textFinv  
 20404 \let\aleph\textaleph  
 20405 \let\beth\textbeth  
 20406 \let\gimel\textgimel  
 20407 \let\daleth\textdaleth  
 20408 \let\xfax\textfax  
 20409 \let\Game\textGame  
 20410 \let\leftarrow\textleftarrow  
 20411 \let\uparrow\textuparrow  
 20412 \let\rightarrow\textrightarrow  
 20413 \let\downarrow\textdownarrow

20414 `\let\leftrightarrow\textleftrightarrow`  
 20415 `\let\updownarrow\textupdownarrow`  
 20416 `\let\nwarrow\textnwarrow`  
 20417 `\let\nearrow\textnearrow`  
 20418 `\let\searrow\textsearrow`  
 20419 `\let\swarrow\textswarrow`  
 20420 `\let\nleftarrow\textnleftarrow`  
 20421 `\let\nrightarrow\textnrightarrow`  
 20422 `\let\twoheadleftarrow\texttwoheadleftarrow`  
 20423 `\let\ntwoheadleftarrow\textntwoheadleftarrow`  
 20424 `\let\twoheaduparrow\texttwoheaduparrow`  
 20425 `\let\twoheadrightarrow\texttwoheadrightarrow`  
 20426 `\let\ntwoheadrightarrow\textntwoheadrightarrow`  
 20427 `\let\twoheaddownarrow\texttwoheaddownarrow`  
 20428 `\let\leftarrowtail\textleftarrowtail`  
 20429 `\let\rightarrowtail\textrightarrowtail`  
 20430 `\let\mapsto\textmapsto`  
 20431 `\let\hookleftarrow\texthookleftarrow`  
 20432 `\let\hookrightarrow\texthookrightarrow`  
 20433 `\let\looparrowleft\textlooparrowleft`  
 20434 `\let\looparrowright\textlooparrowright`  
 20435 `\let\leftrightharrow\textleftrightharrow`  
 20436 `\let\lightning\textlightning`  
 20437 `\let\dlsh\textdlsh`  
 20438 `\let\curvearrowleft\textcurvearrowleft`  
 20439 `\let\curvearrowright\textcurvearrowright`  
 20440 `\let\leftharpoonup\textleftharpoonup`  
 20441 `\let\leftharpoondown\textleftharpoondown`  
 20442 `\let\upharpoonright\textupharpoonright`  
 20443 `\let\upharpoonleft\textupharpoonleft`  
 20444 `\let\rightharpoonup\textrightharpoonup`  
 20445 `\let\rightharpoondown\textrightharpoondown`  
 20446 `\let\downharpoonright\textdownharpoonright`  
 20447 `\let\downharpoonleft\textdownharpoonleft`  
 20448 `\let\rightleftarrows\textrightleftarrows`  
 20449 `\let\updownarrows\textupdownarrows`  
 20450 `\let\leftrightarrows\textleftrightarrows`  
 20451 `\let\leftleftarrows\textleftleftarrows`  
 20452 `\let\upuparrows\textupuparrows`  
 20453 `\let\righttrightarrows\textrighttrightarrows`  
 20454 `\let\downdownarrows\textdowndownarrows`  
 20455 `\let\leftrightharpoons\textleftrightharpoons`  
 20456 `\let\rightleftharpoons\textrightleftharpoons`  
 20457 `\let\nLeftarrow\textnLeftarrow`  
 20458 `\let\nLeftrightarrow\textnLeftrightarrow`  
 20459 `\let\nRightarrow\textnRightarrow`  
 20460 `\let\Leftarrow\textLeftarrow`  
 20461 `\let\Uparrow\textUparrow`  
 20462 `\let\Rightarrow\textRightarrow`  
 20463 `\let\Downarrow\textDownarrow`  
 20464 `\let\Leftrightarrow\textLeftrightarrow`  
 20465 `\let\Updownarrow\textUpdownarrow`  
 20466 `\let\Nwarrow\textNwarrow`  
 20467 `\let\Nearrow\textNearrow`  
 20468 `\let\Searrow\textSearrow`  
 20469 `\let\Swarrow\textSwarrow`  
 20470 `\let\Lleftarrow\textLleftarrow`

20471  $\text{\let\Rightarrow\textRightarrow}$   
 20472  $\text{\let\leftsquigarrow\textleftsquigarrow}$   
 20473  $\text{\let\rightsquigarrow\textrightsquigarrow}$   
 20474  $\text{\let\dashleftarrow\textdashleftarrow}$   
 20475  $\text{\let\dasheduparrow\textdasheduparrow}$   
 20476  $\text{\let\dashrightarrow\textdashrightarrow}$   
 20477  $\text{\let\dasheddownarrow\textdasheddownarrow}$   
 20478  $\text{\let\pointer\textpointer}$   
 20479  $\text{\let\downuparrows\textdownuparrows}$   
 20480  $\text{\let\leftarrowtriangle\textleftarrowtriangle}$   
 20481  $\text{\let\rightarrowtriangle\textrightarrowtriangle}$   
 20482  $\text{\let\leftrightarrowtriangle\textleftrightarrowtriangle}$   
 20483  $\text{\let\forall\textforall}$   
 20484  $\text{\let\complement\textcomplement}$   
 20485  $\text{\let\partial\textpartial}$   
 20486  $\text{\let\exists\textexists}$   
 20487  $\text{\let\nexists\textnexists}$   
 20488  $\text{\let\emptyset\textemptyset}$   
 20489  $\text{\let\triangle\texttriangle}$   
 20490  $\text{\let\nabla\textnabla}$   
 20491  $\text{\let\in\textin}$   
 20492  $\text{\let\notin\textnotin}$   
 20493  $\text{\let\smallin\textsmallin}$   
 20494  $\text{\let\ni\textni}$   
 20495  $\text{\let\notowner\textnotowner}$   
 20496  $\text{\let\smallowns\textsmallowns}$   
 20497  $\text{\let\prod\textprod}$   
 20498  $\text{\let\amalg\textamalg}$   
 20499  $\text{\let\sum\textsum}$   
 20500  $\text{\let\mp\textmp}$   
 20501  $\text{\let\dotplus\textdotplus}$   
 20502  $\text{\let\Divides\textDivides}$   
 20503  $\text{\let\DividesNot\textDividesNot}$   
 20504  $\text{\let\setminus\textsetminus}$   
 20505  $\text{\let\ast\textast}$   
 20506  $\text{\let\circ\textcirc}$   
 20507  $\text{\let\surd\textsurd}$   
 20508  $\text{\let\propto\textpropto}$   
 20509  $\text{\let\infty\textinfty}$   
 20510  $\text{\let\angle\textangle}$   
 20511  $\text{\let\measuredangle\textmeasuredangle}$   
 20512  $\text{\let\sphericalangle\textsphericalangle}$   
 20513  $\text{\let\mid\textmid}$   
 20514  $\text{\let\nmid\textnmid}$   
 20515  $\text{\let\parallel\textparallel}$   
 20516  $\text{\let\nparallel\textnparallel}$   
 20517  $\text{\let\wedge\textwedge}$   
 20518  $\text{\let\owedge\textowedge}$   
 20519  $\text{\let\vee\textvee}$   
 20520  $\text{\let\ovee\textovee}$   
 20521  $\text{\let\cap\textcap}$   
 20522  $\text{\let\cup\textcup}$   
 20523  $\text{\let\int\textint}$   
 20524  $\text{\let\iint\textiint}$   
 20525  $\text{\let\iiint\textiiint}$   
 20526  $\text{\let\oint\textoint}$   
 20527  $\text{\let\oiint\textoiint}$

20528 `\let\ointclockwise\textointclockwise`  
 20529 `\let\ointctrckwise\textointctrckwise`  
 20530 `\let\therefore\texttherefore`  
 20531 `\let\because\textbecause`  
 20532 `\let\vdotted\textvdotted`  
 20533 `\let\squaredots\textsquaredots`  
 20534 `\let\dotminus\textdotminus`  
 20535 `\let\eqcolon\texteqcolon`  
 20536 `\let\sim\textsim`  
 20537 `\let\backsim\textbacksim`  
 20538 `\let\nbacksim\textnbacksim`  
 20539 `\let\wr\textwr`  
 20540 `\let\nsim\textnsim`  
 20541 `\let\eqsim\texteqsim`  
 20542 `\let\neqsim\textneqsim`  
 20543 `\let\simeq\textsimeq`  
 20544 `\let\nsimeq\textnsimeq`  
 20545 `\let\cong\textcong`  
 20546 `\let\ncong\textncong`  
 20547 `\let\approx\textapprox`  
 20548 `\let\napprox\textnapprox`  
 20549 `\let\approxeq\textapproxeq`  
 20550 `\let\napproxeq\textnapproxeq`  
 20551 `\let\triplesim\texttriplesim`  
 20552 `\let\ntriplesim\textntriplesim`  
 20553 `\let\backcong\textbackcong`  
 20554 `\let\nbackcong\textnbackcong`  
 20555 `\let\asymp\textasymp`  
 20556 `\let\nasymp\textnasymp`  
 20557 `\let\Bumpeq\textBumpeq`  
 20558 `\let\nBumpeq\textnBumpeq`  
 20559 `\let\bumpeq\textbumpeq`  
 20560 `\let\nbumpeq\textnbumpeq`  
 20561 `\let\doteq\textdoteq`  
 20562 `\let\ndoteq\textndoteq`  
 20563 `\let\doteqdot\textdoteqdot`  
 20564 `\let\ndoteq\textndoteq`  
 20565 `\let\fallingdoteq\textfallingdoteq`  
 20566 `\let\nfallingdoteq\textnfallingdoteq`  
 20567 `\let\risingdoteq\textrisingdoteq`  
 20568 `\let\nrisingdoteq\textnrisingdoteq`  
 20569 `\let\colonequals\textcolonequals`  
 20570 `\let\equalscolon\textequalscolon`  
 20571 `\let\eqcirc\texteqcirc`  
 20572 `\let\neqcirc\textneqcirc`  
 20573 `\let\circeq\textcirceq`  
 20574 `\let\ncirceq\textncirceq`  
 20575 `\let\hateq\texthateq`  
 20576 `\let\nhateq\textnhateq`  
 20577 `\let\triangleeq\texttriangleeq`  
 20578 `\let\neq\textneq`  
 20579 `\let\ne\textne`  
 20580 `\let\equiv\textequiv`  
 20581 `\let\nequiv\textnequiv`  
 20582 `\let\leq\textleq`  
 20583 `\let\le\textle`  
 20584 `\let\geq\textgeq`



20585 \let\ge\textge  
 20586 \let\leqq\textleqq  
 20587 \let\lneqq\textlneqq  
 20588 \let\geqq\textgeqq  
 20589 \let\ngeqq\textngeqq  
 20590 \let\lneqq\textlneqq  
 20591 \let\gneqq\textgneqq  
 20592 \let\ll\textll  
 20593 \let\nll\textnll  
 20594 \let\gg\textgg  
 20595 \let\ngg\textngg  
 20596 \let\between\textbetween  
 20597 \let\nless\textnless  
 20598 \let\ngtr\textngtr  
 20599 \let\lneq\textlneq  
 20600 \let\ngeq\textngeq  
 20601 \let\lesssim\textlessim  
 20602 \let\gtrsim\textgtrsim  
 20603 \let\nlessim\textnlessim  
 20604 \let\ngtrsim\textngtrsim  
 20605 \let\lessgtr\textlessgtr  
 20606 \let\gtrless\textgtrless  
 20607 \let\ngtrless\textngtrless  
 20608 \let\nlessgtr\textnlessgtr  
 20609 \let\prec\textprec  
 20610 \let\succ\textsucc  
 20611 \let\preccurlyeq\textpreccurlyeq  
 20612 \let\succcurlyeq\textsucccurlyeq  
 20613 \let\precsim\textprecsim  
 20614 \let\precnprec\textnprec  
 20615 \let\succsim\textsuccsim  
 20616 \let\nsuccsim\textnsuccsim  
 20617 \let\prec\textprec  
 20618 \let\succ\textsucc  
 20619 \let\subset\textsubset  
 20620 \let\supset\textsupset  
 20621 \let\nsubset\textnsubset  
 20622 \let\nsupset\textnsupset  
 20623 \let\subseteq\textsubseteq  
 20624 \let\supseteq\textsupseteq  
 20625 \let\nsubsubeq\textnsubsubeq  
 20626 \let\nsupsubeq\textnsupsubeq  
 20627 \let\subsetneq\textsubsetneq  
 20628 \let\supsetneq\textsupsetneq  
 20629 \let\cupdot\textcupdot  
 20630 \let\cupplus\textcupplus  
 20631 \let\sqsubset\textsqsubset  
 20632 \let\nsqsubset\textnsqsubset  
 20633 \let\sqsupset\textsqsupset  
 20634 \let\nsqsupset\textnsqsupset  
 20635 \let\sqsubsubeq\textsqsubsubeq  
 20636 \let\nsqsubsubeq\textnsqsubsubeq  
 20637 \let\sqsupsubeq\textsqsupsubeq  
 20638 \let\nsqsupsubeq\textnsqsupsubeq  
 20639 \let\sqcap\textsqcap  
 20640 \let\sqcup\textsqcup  
 20641 \let\oplus\textoplus

20642  $\backslash\text{let}\backslash\text{ominus}\backslash\text{textominus}$   
 20643  $\backslash\text{let}\backslash\text{otimes}\backslash\text{textotimes}$   
 20644  $\backslash\text{let}\backslash\text{oslash}\backslash\text{textoslash}$   
 20645  $\backslash\text{let}\backslash\text{odot}\backslash\text{textodot}$   
 20646  $\backslash\text{let}\backslash\text{circledcirc}\backslash\text{textcircledcirc}$   
 20647  $\backslash\text{let}\backslash\text{circledast}\backslash\text{textcircledast}$   
 20648  $\backslash\text{let}\backslash\text{circleddash}\backslash\text{textcircleddash}$   
 20649  $\backslash\text{let}\backslash\text{boxplus}\backslash\text{textboxplus}$   
 20650  $\backslash\text{let}\backslash\text{boxminus}\backslash\text{textboxminus}$   
 20651  $\backslash\text{let}\backslash\text{boxtimes}\backslash\text{textboxtimes}$   
 20652  $\backslash\text{let}\backslash\text{boxdot}\backslash\text{textboxdot}$   
 20653  $\backslash\text{let}\backslash\text{vdash}\backslash\text{textvdash}$   
 20654  $\backslash\text{let}\backslash\text{dashv}\backslash\text{texdashv}$   
 20655  $\backslash\text{let}\backslash\text{ndashv}\backslash\text{texndashv}$   
 20656  $\backslash\text{let}\backslash\text{top}\backslash\text{texttop}$   
 20657  $\backslash\text{let}\backslash\text{ndownvdash}\backslash\text{texndownvdash}$   
 20658  $\backslash\text{let}\backslash\text{bot}\backslash\text{textbot}$   
 20659  $\backslash\text{let}\backslash\text{nupvdash}\backslash\text{texnupvdash}$   
 20660  $\backslash\text{let}\backslash\text{vDash}\backslash\text{textvDash}$   
 20661  $\backslash\text{let}\backslash\text{VDash}\backslash\text{textVDash}$   
 20662  $\backslash\text{let}\backslash\text{Vdash}\backslash\text{textVdash}$   
 20663  $\backslash\text{let}\backslash\text{nVdash}\backslash\text{texnVdash}$   
 20664  $\backslash\text{let}\backslash\text{VDash}\backslash\text{textVDash}$   
 20665  $\backslash\text{let}\backslash\text{nvDash}\backslash\text{texnvDash}$   
 20666  $\backslash\text{let}\backslash\text{nvDash}\backslash\text{texnvDash}$   
 20667  $\backslash\text{let}\backslash\text{nVdash}\backslash\text{texnVdash}$   
 20668  $\backslash\text{let}\backslash\text{nVDash}\backslash\text{texnVDash}$   
 20669  $\backslash\text{let}\backslash\text{lhs}\backslash\text{texlhs}$   
 20670  $\backslash\text{let}\backslash\text{rhs}\backslash\text{texrhs}$   
 20671  $\backslash\text{let}\backslash\text{unlhs}\backslash\text{texunlhs}$   
 20672  $\backslash\text{let}\backslash\text{unrhs}\backslash\text{texunrhs}$   
 20673  $\backslash\text{let}\backslash\text{multimapdotbothA}\backslash\text{textmultimapdotbothA}$   
 20674  $\backslash\text{let}\backslash\text{multimapdotbothB}\backslash\text{textmultimapdotbothB}$   
 20675  $\backslash\text{let}\backslash\text{multimap}\backslash\text{textmultimap}$   
 20676  $\backslash\text{let}\backslash\text{veebar}\backslash\text{textveebar}$   
 20677  $\backslash\text{let}\backslash\text{barwedge}\backslash\text{textbarwedge}$   
 20678  $\backslash\text{let}\backslash\text{star}\backslash\text{textstar}$   
 20679  $\backslash\text{let}\backslash\text{divideontimes}\backslash\text{textdivideontimes}$   
 20680  $\backslash\text{let}\backslash\text{bowtie}\backslash\text{textbowtie}$   
 20681  $\backslash\text{let}\backslash\text{ltimes}\backslash\text{textltimes}$   
 20682  $\backslash\text{let}\backslash\text{rtimes}\backslash\text{textrtimes}$   
 20683  $\backslash\text{let}\backslash\text{leftthreetimes}\backslash\text{textleftthreetimes}$   
 20684  $\backslash\text{let}\backslash\text{rightthreetimes}\backslash\text{textrightthreetimes}$   
 20685  $\backslash\text{let}\backslash\text{backsimeq}\backslash\text{textbacksimeq}$   
 20686  $\backslash\text{let}\backslash\text{nbacksimeq}\backslash\text{texnbacksimeq}$   
 20687  $\backslash\text{let}\backslash\text{curlyvee}\backslash\text{textcurlyvee}$   
 20688  $\backslash\text{let}\backslash\text{curlywedge}\backslash\text{textcurlywedge}$   
 20689  $\backslash\text{let}\backslash\text{Subset}\backslash\text{textSubset}$   
 20690  $\backslash\text{let}\backslash\text{nSubset}\backslash\text{texnSubset}$   
 20691  $\backslash\text{let}\backslash\text{Supset}\backslash\text{textSupset}$   
 20692  $\backslash\text{let}\backslash\text{nSupset}\backslash\text{texnSupset}$   
 20693  $\backslash\text{let}\backslash\text{Cap}\backslash\text{textCap}$   
 20694  $\backslash\text{let}\backslash\text{Cup}\backslash\text{textCup}$   
 20695  $\backslash\text{let}\backslash\text{pitchfork}\backslash\text{textpitchfork}$   
 20696  $\backslash\text{let}\backslash\text{lessdot}\backslash\text{textlessdot}$   
 20697  $\backslash\text{let}\backslash\text{gtrdot}\backslash\text{textgtrdot}$   
 20698  $\backslash\text{let}\backslash\text{lll}\backslash\text{textlll}$

20699 \let\ggg\textggg  
 20700 \let\lesseqgtr\textlesseqgtr  
 20701 \let\gtreqless\textgtreqless  
 20702 \let\curlyeqprec\textcurlyeqprec  
 20703 \let\ncurlyeqprec\textncurlyeqprec  
 20704 \let\curlyeqsucc\textcurlyeqsucc  
 20705 \let\ncurlyeqsucc\textncurlyeqsucc  
 20706 \let\mpreccurlyeq\textmpreccurlyeq  
 20707 \let\msucccurlyeq\textmsucccurlyeq  
 20708 \let\mqsubseteq\textmqsubseteq  
 20709 \let\mqsupseteq\textmqsupseteq  
 20710 \let\sqsubsetneq\textsqsubsetneq  
 20711 \let\sqsupsetneq\textsqsupsetneq  
 20712 \let\lnsim\textlnsim  
 20713 \let\gnsim\textgnsim  
 20714 \let\precnsim\textprecnsim  
 20715 \let\succnsim\textsuccnsim  
 20716 \let\ntriangleright\textntriangleright  
 20717 \let\ntriangleright\textntriangleright  
 20718 \let\ntrianglerighteq\textntrianglerighteq  
 20719 \let\ntrianglerighteq\textntrianglerighteq  
 20720 \let\vdots\textvdots  
 20721 \let\cdots\textcdots  
 20722 \let\udots\textudots  
 20723 \let\ddots\textddots  
 20724 \let\barin\textbarin  
 20725 \let\diameter\textdiameter  
 20726 \let\backneg\textbackneg  
 20727 \let\wasylozenge\textwasylozenge  
 20728 \let\invbackneg\textinvbackneg  
 20729 \let\clock\textclock  
 20730 \let\ulcorner\textulcorner  
 20731 \let\urcorner\texturcorner  
 20732 \let\llcorner\textllcorner  
 20733 \let\lrcorner\textlrcorner  
 20734 \let\frown\textfrown  
 20735 \let\smile\textsmile  
 20736 \let\Keyboard\textKeyboard  
 20737 \let\langle\textlangle  
 20738 \let\rangle\textrangle  
 20739 \let\APLinv\textAPLinv  
 20740 \let\Tumbler\textTumbler  
 20741 \let\notslash\textnotslash  
 20742 \let\notbackslash\textnotbackslash  
 20743 \let\boxbackslash\textboxbackslash  
 20744 \let\APLleftarrowbox\textAPLleftarrowbox  
 20745 \let\APLrightarrowbox\textAPLrightarrowbox  
 20746 \let\APLuparrowbox\textAPLuparrowbox  
 20747 \let\APLdownarrowbox\textAPLdownarrowbox  
 20748 \let\APLinput\textAPLinput  
 20749 \let\Request\textRequest  
 20750 \let\Beam\textBeam  
 20751 \let\hexagon\texthexagon  
 20752 \let\APLbox\textAPLbox  
 20753 \let\ForwardToIndex\textForwardToIndex  
 20754 \let\RewindToIndex\textRewindToIndex  
 20755 \let\bbslash\textbbslash

20756 \let\CircledA\textCircledA  
 20757 \let\CleaningF\textCleaningF  
 20758 \let\CleaningFF\textCleaningFF  
 20759 \let\CleaningP\textCleaningP  
 20760 \let\CleaningPP\textCleaningPP  
 20761 \let\CuttingLine\textCuttingLine  
 20762 \let\UParrow\textUParrow  
 20763 \let\bigtriangleup\textbigtriangleup  
 20764 \let\Forward\textForward  
 20765 \let\triangleright\texttriangleright  
 20766 \let\RHD\textRHD  
 20767 \let\DOWNarrow\textDOWNarrow  
 20768 \let\bigtriangledown\textbigtriangledown  
 20769 \let\Rewind\textRewind  
 20770 \let\triangleleft\texttriangleleft  
 20771 \let\LHD\textLHD  
 20772 \let\diamond\textdiamond  
 20773 \let\lozenge\textlozenge  
 20774 \let\LEFTCIRCLE\textLEFTCIRCLE  
 20775 \let\RIGHTCIRCLE\textRIGHTCIRCLE  
 20776 \let\openbullet\textopenbullet  
 20777 \let\boxbar\textboxbar  
 20778 \let\bigcircle\textbigcircle  
 20779 \let\Cloud\textCloud  
 20780 \let\FiveStar\textFiveStar  
 20781 \let\FiveStarOpen\textFiveStarOpen  
 20782 \let\Phone\textPhone  
 20783 \let\boxempty\textboxempty  
 20784 \let\Checkedbox\textCheckedbox  
 20785 \let\Crossedbox\textCrossedbox  
 20786 \let\Coffeecup\textCoffeecup  
 20787 \let\HandCuffLeft\textHandCuffLeft  
 20788 \let\HandCuffRight\textHandCuffRight  
 20789 \let\HandLeft\textHandLeft  
 20790 \let\HandRight\textHandRight  
 20791 \let\Radioactivity\textRadioactivity  
 20792 \let\Biohazard\textBiohazard  
 20793 \let\Ankh\textAnkh  
 20794 \let\YinYang\textYinYang  
 20795 \let\frownie\textfrownie  
 20796 \let\smiley\textsmiley  
 20797 \let\blacksmiley\textblacksmiley  
 20798 \let\sun\textsun  
 20799 \let\leftmoon\textleftmoon  
 20800 \let\rightmoon\textrightmoon  
 20801 \let\mercury\textmercury  
 20802 \let\earth\textearth  
 20803 \let\male\textmale  
 20804 \let\jupiter\textjupiter  
 20805 \let\saturn\textsaturn  
 20806 \let\uranus\texturanus  
 20807 \let\neptune\textneptune  
 20808 \let\pluto\textpluto  
 20809 \let\aries\textaries  
 20810 \let\taurus\texttaurus  
 20811 \let\gemini\textgemini  
 20812 \let\cancer\textcancer

20813 \let\leo\textleo  
 20814 \let\virgo\textvirgo  
 20815 \let\libra\textlibra  
 20816 \let\scorpio\textscorpio  
 20817 \let\sagittarius\textsagittarius  
 20818 \let\capricorn\textcapricorn  
 20819 \let\aquarius\textaquarius  
 20820 \let\pisces\textpisces  
 20821 \let\quarternote\textquarternote  
 20822 \let\twonotes\texttwonotes  
 20823 \let\sixteenthnote\textsixteenthnote  
 20824 \let\flat\textflat  
 20825 \let\natural\textnatural  
 20826 \let\sharp\textsharp  
 20827 \let\recycle\textrecycle  
 20828 \let\Wheelchair\textWheelchair  
 20829 \let\Flag\textFlag  
 20830 \let\MineSign\textMineSign  
 20831 \let\ds\textds  
 20832 \let\dsmedical\textdsmedical  
 20833 \let\dsjuridical\textdsjuridical  
 20834 \let\dschemical\textdschemical  
 20835 \let\dsbiological\textdsbiological  
 20836 \let\dscommercial\textdscommercial  
 20837 \let\manstar\textmanstar  
 20838 \let\danger\textdanger  
 20839 \let\FemaleFemale\textFemaleFemale  
 20840 \let\MaleMale\textMaleMale  
 20841 \let\FemaleMale\textFemaleMale  
 20842 \let\Hermaphrodite\textHermaphrodite  
 20843 \let\Neutral\textNeutral  
 20844 \let\hexstar\texthexstar  
 20845 \let\SunCload\textSunCload  
 20846 \let\Rain\textRain  
 20847 \let\noway\textnoway  
 20848 \let\Mountain\textMountain  
 20849 \let\Tent\textTent  
 20850 \let\ScissorRight\textScissorRight  
 20851 \let\ScissorRightBrokenTop\textScissorRightBrokenTop  
 20852 \let\ScissorHollowRight\textScissorHollowRight  
 20853 \let\PhoneHandset\textPhoneHandset  
 20854 \let\Tape\textTape  
 20855 \let\Plane\textPlane  
 20856 \let\Envelope\textEnvelope  
 20857 \let\Peace\textPeace  
 20858 \let\WritingHand\textWritingHand  
 20859 \let\PencilRightDown\textPencilRightDown  
 20860 \let\PencilRight\textPencilRight  
 20861 \let\PencilRightUp\textPencilRightUp  
 20862 \let\NibRight\textNibRight  
 20863 \let\NibSolidRight\textNibSolidRight  
 20864 \let\Checkmark\textCheckmark  
 20865 \let\CheckmarkBold\textCheckmarkBold  
 20866 \let\XSolid\textXSolid  
 20867 \let\XSolidBold\textXSolidBold  
 20868 \let\XSolidBrush\textXSolidBrush  
 20869 \let\PlusOutline\textPlusOutline

20870 \let\Plus\textPlus  
 20871 \let\PlusThinCenterOpen\textPlusThinCenterOpen  
 20872 \let\PlusCenterOpen\textPlusCenterOpen  
 20873 \let\Cross\textCross  
 20874 \let\CrossOpenShadow\textCrossOpenShadow  
 20875 \let\CrossOutline\textCrossOutline  
 20876 \let\CrossMaltese\textCrossMaltese  
 20877 \let\DavidStar\textDavidStar  
 20878 \let\FourAsterisk\textFourAsterisk  
 20879 \let\JackStar\textJackStar  
 20880 \let\JackStarBold\textJackStarBold  
 20881 \let\ClowerTips\textClowerTips  
 20882 \let\FourStar\textFourStar  
 20883 \let\FourStarOpen\textFourStarOpen  
 20884 \let\FiveStarOpenCircled\textFiveStarOpenCircled  
 20885 \let\FiveStarCenterOpen\textFiveStarCenterOpen  
 20886 \let\FiveStarOpenDotted\textFiveStarOpenDotted  
 20887 \let\FiveStarOutline\textFiveStarOutline  
 20888 \let\FiveStarOutlineHeavy\textFiveStarOutlineHeavy  
 20889 \let\FiveStarConvex\textFiveStarConvex  
 20890 \let\FiveStarShadow\textFiveStarShadow  
 20891 \let\AsteriskBold\textAsteriskBold  
 20892 \let\AsteriskCenterOpen\textAsteriskCenterOpen  
 20893 \let\EightStarTaper\textEightStarTaper  
 20894 \let\EightStarConvex\textEightStarConvex  
 20895 \let\SixStar\textSixStar  
 20896 \let\EightStar\textEightStar  
 20897 \let\EightStarBold\textEightStarBold  
 20898 \let\TwelveStar\textTwelveStar  
 20899 \let\SixteenStarLight\textSixteenStarLight  
 20900 \let\SixFlowerPetalRemoved\textSixFlowerPetalRemoved  
 20901 \let\SixFlowerOpenCenter\textSixFlowerOpenCenter  
 20902 \let\Asterisk\textAsterisk  
 20903 \let\SixFlowerAlternate\textSixFlowerAlternate  
 20904 \let\FiveFlowerPetal\textFiveFlowerPetal  
 20905 \let\FiveFlowerOpen\textFiveFlowerOpen  
 20906 \let\EightFlowerPetal\textEightFlowerPetal  
 20907 \let\SunshineOpenCircled\textSunshineOpenCircled  
 20908 \let\SixFlowerAltPetal\textSixFlowerAltPetal  
 20909 \let\SnowflakeChevron\textSnowflakeChevron  
 20910 \let\Snowflake\textSnowflake  
 20911 \let\SnowflakeChevronBold\textSnowflakeChevronBold  
 20912 \let\Sparkle\textSparkle  
 20913 \let\SparkleBold\textSparkleBold  
 20914 \let\AsteriskRoundedEnds\textAsteriskRoundedEnds  
 20915 \let\EightFlowerPetalRemoved\textEightFlowerPetalRemoved  
 20916 \let\EightAsterisk\textEightAsterisk  
 20917 \let\CircleShadow\textCircleShadow  
 20918 \let\SquareShadowBottomRight\textSquareShadowBottomRight  
 20919 \let\SquareTopRight\textSquareTopRight  
 20920 \let\SquareCastShadowBottomRight\textSquareCastShadowBottomRight  
 20921 \let\SquareCastShadowTopRight\textSquareCastShadowTopRight  
 20922 \let\DiamandSolid\textDiamandSolid  
 20923 \let\RectangleThin\textRectangleThin  
 20924 \let\Rectangle\textRectangle  
 20925 \let\RectangleBold\textRectangleBold  
 20926 \let\perp\textperp

20927 `\let\notperp\textnotperp`  
 20928 `\let\veedot\textveedot`  
 20929 `\let\wedgedot\textwedgedot`  
 20930 `\let\leftspoon\textleftspoon`  
 20931 `\let\lbrackdbl\textlbrackdbl`  
 20932 `\let\rbrackdbl\textrbrackdbl`  
 20933 `\let\circlearrowleft\textcirclearrowleft`  
 20934 `\let\circlearrowright\textcirclearrowright`  
 20935 `\let\longleftarrow\textlongleftarrow`  
 20936 `\let\longrightarrow\textlongrightarrow`  
 20937 `\let\longlefttrightarrow\textlonglefttrightarrow`  
 20938 `\let\Longleftarrow\textLongleftarrow`  
 20939 `\let\Longrightarrow\textLongrightarrow`  
 20940 `\let\Longlefttrightarrow\textLonglefttrightarrow`  
 20941 `\let\longmapsto\textlongmapsto`  
 20942 `\let\Longmapsfrom\textLongmapsfrom`  
 20943 `\let\Longmapsto\textLongmapsto`  
 20944 `\let\nwsearrow\textnwsearrow`  
 20945 `\let\neswarrow\textneswarrow`  
 20946 `\let\lhooknarrow\textlhooknarrow`  
 20947 `\let\rhooknarrow\texthooknarrow`  
 20948 `\let\lhooksearrow\textlhooksearrow`  
 20949 `\let\rhooksearrow\texthooksearrow`  
 20950 `\let\leadsto\textleadsto`  
 20951 `\let\rcurvearrowne\textrcurvearrowne`  
 20952 `\let\lcurvearrowse\textlcurvearrowse`  
 20953 `\let\lcurvearrowsw\textlcurvearrowsw`  
 20954 `\let\rcurvearrowse\textrcurvearrowse`  
 20955 `\let\lcurvearrowdown\textlcurvearrowdown`  
 20956 `\let\rcurvearrowdown\textrcurvearrowdown`  
 20957 `\let\rcurvearrowleft\textrcurvearrowleft`  
 20958 `\let\rcurvearrowright\textrcurvearrowright`  
 20959 `\let\leftrightharpoon\textleftrightharpoon`  
 20960 `\let\rightleftharpoon\textrightleftharpoon`  
 20961 `\let\updownharpoonrightleft\textupdownharpoonrightleft`  
 20962 `\let\updownharpoonleftright\textupdownharpoonleftright`  
 20963 `\let\leftleftharpoons\textleftleftharpoons`  
 20964 `\let\upupharpoons\textupupharpoons`  
 20965 `\let\righttrightharpoons\textrighttrightharpoons`  
 20966 `\let\downdownharpoons\textdowndownharpoons`  
 20967 `\let\leftbarharpoon\textleftbarharpoon`  
 20968 `\let\barleftharpoon\textbarleftharpoon`  
 20969 `\let\rightbarharpoon\textrightbarharpoon`  
 20970 `\let\barriightharpoon\textbarriightharpoon`  
 20971 `\let\updownharpoons\textupdownharpoons`  
 20972 `\let\downupharpoons\textdownupharpoons`  
 20973 `\let\moo\textmoo`  
 20974 `\let\llparenthesis\textllparenthesis`  
 20975 `\let\rrparenthesis\textrrparenthesis`  
 20976 `\let\invdiameter\textinvdiameter`  
 20977 `\let\obar\textobar`  
 20978 `\let\obslash\textobslash`  
 20979 `\let\obot\textobot`  
 20980 `\let\NoChemicalCleaning\textNoChemicalCleaning`  
 20981 `\let\olessthan\textolessthan`  
 20982 `\let\ogreaterthan\textogreaterthan`  
 20983 `\let\boxslash\textboxslash`

20984  $\backslash\text{boxslash}\text{boxslash}$   
 20985  $\backslash\text{boxast}\text{boxast}$   
 20986  $\backslash\text{boxcircle}\text{boxcircle}$   
 20987  $\backslash\text{boxbox}\text{boxbox}$   
 20988  $\backslash\text{Valve}\text{Valve}$   
 20989  $\backslash\text{multimapboth}\text{multimapboth}$   
 20990  $\backslash\text{shuffle}\text{shuffle}$   
 20991  $\backslash\text{uplus}\text{uplus}$   
 20992  $\backslash\text{bigdoublewedge}\text{bigdoublewedge}$   
 20993  $\backslash\text{bigdoublevee}\text{bigdoublevee}$   
 20994  $\backslash\text{Join}\text{Join}$   
 20995  $\backslash\text{fatsemi}\text{fatsemi}$   
 20996  $\backslash\text{circplus}\text{circplus}$   
 20997  $\backslash\text{minusdot}\text{minusdot}$   
 20998  $\backslash\text{dotimes}\text{dotimes}$   
 20999  $\backslash\text{dtimes}\text{dtimes}$   
 21000  $\backslash\text{odiv}\text{odiv}$   
 21001  $\backslash\text{invneg}\text{invneg}$   
 21002  $\backslash\text{sqdoublecap}\text{sqdoublecap}$   
 21003  $\backslash\text{capdot}\text{capdot}$   
 21004  $\backslash\text{sqdoublecup}\text{sqdoublecup}$   
 21005  $\backslash\text{doublewedge}\text{doublewedge}$   
 21006  $\backslash\text{doublevee}\text{doublevee}$   
 21007  $\backslash\text{doublebarwedge}\text{doublebarwedge}$   
 21008  $\backslash\text{veedoublebar}\text{veedoublebar}$   
 21009  $\backslash\text{eqdot}\text{eqdot}$   
 21010  $\backslash\text{neqdot}\text{neqdot}$   
 21011  $\backslash\text{coloncolonequals}\text{coloncolonequals}$   
 21012  $\backslash\text{leqslant}\text{leqslant}$   
 21013  $\backslash\text{nleqslant}\text{nleqslant}$   
 21014  $\backslash\text{geqslant}\text{geqslant}$   
 21015  $\backslash\text{ngeqslant}\text{ngeqslant}$   
 21016  $\backslash\text{lessapprox}\text{lessapprox}$   
 21017  $\backslash\text{nlessapprox}\text{nlessapprox}$   
 21018  $\backslash\text{gtrapprox}\text{gtrapprox}$   
 21019  $\backslash\text{ngtrapprox}\text{ngtrapprox}$   
 21020  $\backslash\text{lneq}\text{lneq}$   
 21021  $\backslash\text{gneq}\text{gneq}$   
 21022  $\backslash\text{lnapprox}\text{lnapprox}$   
 21023  $\backslash\text{gnapprox}\text{gnapprox}$   
 21024  $\backslash\text{lesseqgtr}\text{lesseqgtr}$   
 21025  $\backslash\text{gtreqqlless}\text{gtreqqlless}$   
 21026  $\backslash\text{eqslantless}\text{eqslantless}$   
 21027  $\backslash\text{eqslantgtr}\text{eqslantgtr}$   
 21028  $\backslash\text{leftslice}\text{leftslice}$   
 21029  $\backslash\text{rightslice}\text{rightslice}$   
 21030  $\backslash\text{preceq}\text{preceq}$   
 21031  $\backslash\text{npreceq}\text{npreceq}$   
 21032  $\backslash\text{succeq}\text{succeq}$   
 21033  $\backslash\text{nsucceq}\text{nsucceq}$   
 21034  $\backslash\text{precneq}\text{precneq}$   
 21035  $\backslash\text{succneq}\text{succneq}$   
 21036  $\backslash\text{preceqq}\text{preceqq}$   
 21037  $\backslash\text{npreceqq}\text{npreceqq}$   
 21038  $\backslash\text{succeqq}\text{succeqq}$   
 21039  $\backslash\text{nsucceqq}\text{nsucceqq}$   
 21040  $\backslash\text{precneqq}\text{precneqq}$



21041 \let\succneqq\textsuccneqq  
 21042 \let\precapprox\textprecapprox  
 21043 \let\nprecapprox\textnprecapprox  
 21044 \let\succapprox\textsuccapprox  
 21045 \let\nsuccapprox\textnsuccapprox  
 21046 \let\precnapprox\textprecnapprox  
 21047 \let\succnapprox\textsuccnapprox  
 21048 \let\subseteqq\textsubseteqq  
 21049 \let\nsubseteqq\textnsubseteqq  
 21050 \let\supseteqq\textsupseteqq  
 21051 \let\nsupseteqq\textnsupseteqq  
 21052 \let\dashV\textdashV  
 21053 \let\ndashV\textndashV  
 21054 \let\Dashv\textDashv  
 21055 \let\ndashv\textndashv  
 21056 \let\DashV\textDashV  
 21057 \let\ndashV\textndashV  
 21058 \let\downmodels\textdownmodels  
 21059 \let\ndownmodels\textndownmodels  
 21060 \let\upmodels\textupmodels  
 21061 \let\nupmodels\textnupmodels  
 21062 \let\upspoon\textupspoon  
 21063 \let\interleave\textinterleave  
 21064 \let\sslash\textsslash  
 21065 \let\pentagon\textpentagon  
 21066 \let\varhexagon\textvarhexagon  
 21067 \let\jinferior\textjinferior  
 21068 \let\slashdiv\textslashdiv  
 21069 \let\fivedots\textfivedots  
 21070 \let\oo\textoo  
 21071 \let\GaPa\textGaPa  
 21072 \let\HaPa\textHaPa  
 21073 \let\ViPa\textViPa  
 21074 \let\AcPa\textAcPa  
 21075 \let\SePa\textSePa  
 21076 \let\ZwPa\textZwPa  
 21077 \let\fullnote\textfullnote  
 21078 \let\halfnote\texthalfnote  
 21079 \let\Vier\textVier  
 21080 \let\Acht\textAcht  
 21081 \let\Sech\textSech  
 21082 \let\Zwdr\textZwdr  
 21083 \let\Mundus\textMundus  
 21084 \let\Moon\textMoon  
 21085 \let\ManFace\textManFace  
 21086 \let\WomanFace\textWomanFace  
 21087 \let\Fax\textFax  
 21088 \let\Fire\textFire  
 21089 \let\Bicycle\textBicycle  
 21090 \let\Gentsroom\textGentsroom  
 21091 \let\Ladiesroom\textLadiesroom  
 21092 \let\ccnc\textccnc  
 21093 \let\ccsa\textccsa  
 21094 \let\Info\textInfo  
 21095 \let\CESign\textCESign  
 21096 \let\neg\textneg  
 21097 \let\times\texttimes

```

21098 \let\div\textdiv
21099 \let\pm\textpm
21100 \let\cdot\textcdot
21101 }% \psdmapshortnames
21102 \newcommand*{\psdaliasnames}{%
21103 \let\epsdice\HyPsd@DieFace
21104 \let\fcdice\HyPsd@DieFace
21105 \let\MoonPha\HyPsd@MoonPha
21106 \let\mathdollar\textdollar
21107 \let\EyesDollar\textdollar
21108 \let\binampersand\textampersand
21109 \let\with\textampersand
21110 \let\mathunderscore\textunderscore
21111 \let\textvertline\textbar
21112 \let\mathsterling\textsterling
21113 \let\pounds\textsterling
21114 \let\brokenvert\textbrokenbar
21115 \let\mathsection\textsection
21116 \let\S\textsection
21117 \let\mathparagraph\textparagraph
21118 \let\MultiplicationDot\textperiodcentered
21119 \let\Squaredot\textperiodcentered
21120 \let\vartimes\textmultiply
21121 \let\MVMultiplication\textmultiply
21122 \let\eth\dh
21123 \let\crossd\textcrd
21124 \let\textbard\textcrd
21125 \let\bard\textcrd
21126 \let\textcrh\texthbar
21127 \let\crossh\texthbar
21128 \let\planck\texthbar
21129 \let\eng\ng
21130 \let\engma\ng
21131 \let\crossb\textcrb
21132 \let\textbarb\textcrb
21133 \let\barb\textcrb
21134 \let\Florin\textflorin
21135 \let\hv\texthvlig
21136 \let\hausak\texthtk
21137 \let\crossnilambda\textcrlambda
21138 \let\barlambda\textcrlambda
21139 \let\lambdabar\textcrlambda
21140 \let\lambdaslash\textcrlambda
21141 \let\textnrleg\textPUnrleg
21142 \let\textpipevar\textpipe
21143 \let\textdoublepipevar\textdoublepipe
21144 \let\textdoublebarpipevar\textdoublebarpipe
21145 \let\textcrg\textgslash
21146 \let\textdblig\textPUdblig
21147 \let\textqplig\textPUqplig
21148 \let\textcentoldstyle\textslashc
21149 \let\textbarc\textslashc
21150 \let\inva\textturna
21151 \let\vara\textscripta
21152 \let\invscripta\textturnscripta
21153 \let\rotvara\textturnscripta
21154 \let\hookb\texthtb

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21155 \let\hausab\texthtb  
 21156 \let\varopeno\textopeno  
 21157 \let\curlyc\textctc  
 21158 \let\taild\textrtaild  
 21159 \let\hookd\texthtd  
 21160 \let\hausad\texthtd  
 21161 \let\er\textrhooschwa  
 21162 \let\epsi\textniepsilon  
 21163 \let\hookrepsilon\texthookrepsilon  
 21164 \let\closedrepsilon\textcloserepsilon  
 21165 \let\barj\textbardotlessj  
 21166 \let\hookg\texthtg  
 21167 \let\varg\textscriptg  
 21168 \let\vod\textipagamma  
 21169 \let\invh\textturnh  
 21170 \let\udesc\textturnh  
 21171 \let\hookh\texthth  
 21172 \let\voicedh\texthth  
 21173 \let\hookheng\texththeng  
 21174 \let\ibar\textbari  
 21175 \let\vari\textniiota  
 21176 \let\tildel\textltilde  
 21177 \let\latfric\textbeltl  
 21178 \let\tail\textrtail  
 21179 \let\lz\textlyoghlig  
 21180 \let\invm\textturnm  
 21181 \let\rotr\textturnm  
 21182 \let\legm\textturnmrleg  
 21183 \let\labdentalnas\textltailm  
 21184 \let\emgma\textltailm  
 21185 \let\nj\textltailn  
 21186 \let\enya\textltailn  
 21187 \let\tailn\textrtailn  
 21188 \let\closedniomega\textcloseomega  
 21189 \let\varomega\textcloseomega  
 21190 \let\invr\textturnr  
 21191 \let\rotr\textturnr  
 21192 \let\invlegr\textturnlonglegr  
 21193 \let\tailinvr\textturnrrtail  
 21194 \let\legr\textlonglegr  
 21195 \let\tailr\textrtailr  
 21196 \let\flapr\textfishhookr  
 21197 \let\flap\textfishhookr  
 21198 \let\tails\textrtails  
 21199 \let\curlyesh\textctesh  
 21200 \let\clickt\textturnt  
 21201 \let\tailt\textrtailt  
 21202 \let\ubar\textbaru  
 21203 \let\rotOmega\textniupsilon  
 21204 \let\invv\textturnv  
 21205 \let\pwedge\textturnv  
 21206 \let\invw\textturnw  
 21207 \let\rotrw\textturnw  
 21208 \let\invy\textturny  
 21209 \let\roty\textturny  
 21210 \let\tailz\textrtailz  
 21211 \let\curlyz\textctz

21212 \let\curlyyogh\textctyogh  
 21213 \let\ejective\textglotstop  
 21214 \let\glottal\textglotstop  
 21215 \let\reveject\textrevglotstop  
 21216 \let\clickc\textstretchc  
 21217 \let\textstretchcvar\textstretchc  
 21218 \let\clickb\textbullseye  
 21219 \let\textObullseye\textbullseye  
 21220 \let\textctjvar\textctj  
 21221 \let\textturnsck\textturnk  
 21222 \let\dz\textdzlig  
 21223 \let\tesh\textteshlig  
 21224 \let\digamma\textdigammagreek  
 21225 \let\hardsign\cyrhrdsn  
 21226 \let\softsign\cyrsoftsn  
 21227 \let\hebsin\hebshin  
 21228 \let\textsck\textPUsc  
 21229 \let\textscm\textPUscm  
 21230 \let\textscp\textPUscp  
 21231 \let\textrevscr\textPUrevscr  
 21232 \let\textrhooca\textPURhooka  
 21233 \let\textrhooke\textPURhooka  
 21234 \let\textrhookepsilon\textPURhookepsilon  
 21235 \let\textrhookepsilon\textPURhookepsilon  
 21236 \let\textdoublevertline\textbardbl  
 21237 \let\dag\textdagger  
 21238 \let\ddagger\textdaggerdbl  
 21239 \let\ddag\textdaggerdbl  
 21240 \let\mathellipsis\textellipsis  
 21241 \let\EurDig\texteuro  
 21242 \let\EURdig\texteuro  
 21243 \let\EurHv\texteuro  
 21244 \let\EURhv\texteuro  
 21245 \let\EurCr\texteuro  
 21246 \let\EURcr\texteuro  
 21247 \let\EurTm\texteuro  
 21248 \let\EURtm\texteuro  
 21249 \let\Eur\texteuro  
 21250 \let\Denarius\textDeleatur  
 21251 \let\agemO\textmho  
 21252 \let\EstimatedSign\textestimated  
 21253 \let\Ecommerce\textestimated  
 21254 \let\bindnasrepma\textinvamp  
 21255 \let\parr\textinvamp  
 21256 \let\MVRightArrow\textrightarrow  
 21257 \let\MVRightarrow\textrightarrow  
 21258 \let\MVArrowDown\textdownarrow  
 21259 \let\Force\textdownarrow  
 21260 \let\textglobrise\textnearrow  
 21261 \let\textglobfall\textsearrow  
 21262 \let\Lightning\textlightning  
 21263 \let\Conclusion\textrightarrow  
 21264 \let\dashedleftarrow\textdashleftarrow  
 21265 \let\dashedrightarrow\textdashrightarrow  
 21266 \let\varnothing\textemptyset  
 21267 \let\owns\textni  
 21268 \let\notni\textnotowner

21269 \let\varprop\textpropto  
 21270 \let\varangle\textsphericalangle  
 21271 \let\AngleSign\textsphericalangle  
 21272 \let\AngleSign\textsphericalangle  
 21273 \let\notdivides\textnmid  
 21274 \let\varowedge\textowedge  
 21275 \let\varovee\textovee  
 21276 \let\varint\textint  
 21277 \let\varoint\textoint  
 21278 \let\downtherefore\textbecause  
 21279 \let\textdotdiv\textdotminus  
 21280 \let\AC\textsim  
 21281 \let\wreath\textwr  
 21282 \let\nthickapprox\textnapprox  
 21283 \let\VHF\texttriplesim  
 21284 \let\notasymp\textnasymp  
 21285 \let\Doteq\textdoteqdot  
 21286 \let\corresponds\texthateq  
 21287 \let\Corresponds\texthateq  
 21288 \let\nequal\textneq  
 21289 \let\Congruent\textequiv  
 21290 \let\NotCongruent\textnequiv  
 21291 \let\notequiv\textnequiv  
 21292 \let\LessOrEqual\textleq  
 21293 \let\LargerOrEqual\textgeq  
 21294 \let\apprle\textless sim  
 21295 \let\apprge\textgtr sim  
 21296 \let\varoplus\textoplus  
 21297 \let\varominus\textominus  
 21298 \let\varotimes\textotimes  
 21299 \let\varoslash\textoslash  
 21300 \let\varodot\textodot  
 21301 \let\ocirc\textcircledcirc  
 21302 \let\varocircle\textcircledcirc  
 21303 \let\varoast\textcircledast  
 21304 \let\oasterisk\textcircledast  
 21305 \let\rightvdash\textvdash  
 21306 \let\leftvdash\textdashv  
 21307 \let\nleftvdash\textndashv  
 21308 \let\downvdash\texttop  
 21309 \let\upvdash\textbot  
 21310 \let\nperp\textnupvdash  
 21311 \let\models\textvDash  
 21312 \let\rightmodels\textvDash  
 21313 \let\rightVdash\textVdash  
 21314 \let\rightModels\textVDash  
 21315 \let\nrightvdash\textnvdash  
 21316 \let\nrightmodels\textnvDash  
 21317 \let\nmodels\textnvDash  
 21318 \let\nrightVdash\textnVdash  
 21319 \let\nrightModels\textnVDash  
 21320 \let\lessclosed\textlhd  
 21321 \let\gtrclosed\textrhd  
 21322 \let\leqclosed\textunlhd  
 21323 \let\trianglelefteq\textunlhd  
 21324 \let\geqclosed\textunrhd  
 21325 \let\trianglerighteq\textunrhd

21326 \let\Bowtie\textbowtie  
 21327 \let\varcurlyvee\textcurlyvee  
 21328 \let\varcurlywedge\textcurlywedge  
 21329 \let\doublecap\textCap  
 21330 \let\doublecup\textCup  
 21331 \let\varsubsetneq\textsubsetneq  
 21332 \let\varsupsetneq\textsupsetneq  
 21333 \let\nlessclosed\textntriangleleft  
 21334 \let\ngtrclosed\textntriangleright  
 21335 \let\Clocklogo\textclock  
 21336 \let\ClockLogo\textclock  
 21337 \let\baro\textstmaryrdbaro  
 21338 \let\varparallelinv\textbbslash  
 21339 \let\CleaningA\textCircledA  
 21340 \let\Kutline\textCuttingLine  
 21341 \let\CutLine\textCuttingLine  
 21342 \let\Cutline\textCuttingLine  
 21343 \let\MoveUp\textUParrow  
 21344 \let\APLup\textbigtriangleup  
 21345 \let\Bleech\textbigtriangleup  
 21346 \let\MoveDown\textDOWNarrow  
 21347 \let\APLdown\textbigtriangledown  
 21348 \let\Diamond\textdiamond  
 21349 \let\varbigcirc\textbigcircle  
 21350 \let\Telefon\textPhone  
 21351 \let\Box\textboxempty  
 21352 \let\CheckedBox\textCheckedbox  
 21353 \let\XBox\textCrossedbox  
 21354 \let\CrossedBox\textCrossedbox  
 21355 \let\rightpointleft\textHandLeft  
 21356 \let\leftpointright\textHandRight  
 21357 \let\PointingHand\textHandRight  
 21358 \let\Pointinghand\textHandRight  
 21359 \let\Radiation\textRadioactivity  
 21360 \let\Yinyang\textYinYang  
 21361 \let\YingYang\textYinYang  
 21362 \let\Yingyang\textYinYang  
 21363 \let\Frowny\textfrownie  
 21364 \let\Smiley\textsmiley  
 21365 \let\Sun\textsun  
 21366 \let\Mercury\textmercury  
 21367 \let\textfemale\textPUfemale  
 21368 \let\female\textPUfemale  
 21369 \let\venus\textPUfemale  
 21370 \let\Venus\textPUfemale  
 21371 \let\Female\textPUfemale  
 21372 \let\Earth\textearth  
 21373 \let\mars\textmale  
 21374 \let\Mars\textmale  
 21375 \let\Male\textmale  
 21376 \let\Jupiter\textjupiter  
 21377 \let\Saturn\textsaturn  
 21378 \let\Uranus\texturanus  
 21379 \let\Neptune\textneptune  
 21380 \let\Pluto\textpluto  
 21381 \let\Aries\textaries  
 21382 \let\Taurus\texttaurus

21383 \let\Gemini\textgemini  
 21384 \let\Cancer\textcancer  
 21385 \let\Leo\textleo  
 21386 \let\Virgo\textvirgo  
 21387 \let\Libra\textlibra  
 21388 \let\Scorpio\textscorpio  
 21389 \let\Sagittarius\textsagittarius  
 21390 \let\Capricorn\textcapricorn  
 21391 \let\Aquarius\textaquarius  
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 21399 \let\Recycling\textrecycle  
 21400 \let\VarFlag\textFlag  
 21401 \let\textxswup\textdsmilitary  
 21402 \let\textuncrfemale\textPUuncrfemale  
 21403 \let\Football\textSoccerBall  
 21404 \let\CutLeft\textScissorRightBrokenBottom  
 21405 \let\Cutright\textScissorRightBrokenBottom  
 21406 \let\RightScissors\textScissorRight  
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 21408 \let\Letter\textEnvelope  
 21409 \let\Writinghand\textWritingHand  
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 21411 \let\davidstar\textDavidStar  
 21412 \let\llbracket\textlbrackdbl  
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 21414 \let\RightTorque\textlcurvearrowdown  
 21415 \let\Righttorque\textlcurvearrowdown  
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 21431 \let\leftmodels\textDashv  
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 21434 \let\leftModels\textnDashV  
 21435 \let\varparallel\textsslash  
 21436 \let\textheng\textPUheng  
 21437 \let\textlhookfour\textPUlhookfour  
 21438 \let\textscf\textPUscf  
 21439 \let\textao lig\textPUaolig

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21440 \let\Ganz\textfullnote
21441 \let\Halb\texthalfnote
21442 \let\Womanface\textWomanFace
21443 \let\Faxmachine\textFax
21444 \let\CEsign\textCESign
21445 }% \psdaliasnames
21446 \psdextra

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## 52 End of file hycheck.tex

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21448 \typeout{}
21449 \begin{document}
21450 \end{document}
21451 \check

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