

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

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2012/07/30 v6.82w

## 1 Documentation overview for hyperref

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

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

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


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

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

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

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

Source code documentation:

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

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

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

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### 3 File hycheck.tex

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

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

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

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

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

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

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

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

`\HyC@checkPackage`

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

```

40 }%
41 }

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

`\HyC@noValue`

```

85 \def\HyC@noValue{NoValue}

```



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

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

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

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

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

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

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

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

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

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

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

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

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

`\HyC@edef`

```

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

```

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

```

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

```

`\HyC@checkItem` A single check.

```

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

```

`\HyC@string` Some shorthands.

`\HyC@meaning`

```

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

```

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

```

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

```

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

```

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

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

```

## 4 Package options and setup

### 4.1 Save catcodes

There are many packages that change the standard catcodes.

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

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

\Hy@SetCatcodes

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

\Hy@RestoreCatcodes

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

```

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

```

```

231 \Hy@SetCatcodes

```

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

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

```

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

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

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

```

```

261 \RequirePackage{hycolor}
262 \RequirePackage{letltxmacro}[2008/06/13]
263 \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 }%
```

## 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@stoppedearly
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@implicittrue
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  $\TeX$ 's argument parsing. With this method we must take the following item into account, that makes things a little more complicate:

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

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

```

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.ldb` 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 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with  $\text{\LaTeX}$  2 $\epsilon$ 's NFSS. Because the informational strings are not set by  $\text{\TeX}$ 's typesetting mechanism but for interpreting by the PDF reader, the glyphs of the PD1 encoding are implemented to be safely written to a file (PDF output file, .out file).

The PD1 encoding can be specified as an option of the 'fontenc' package or loaded here. It does not matter what font family is selected, as  $\text{\TeX}$  does not process it anyway. So use CM.

```

918 \@ifundefined{T@PD1}{%
919 \input{pd1enc.def}%
920 \HyLinguex@Restore
921 }{}
922 \DeclareFontFamily{PD1}{pdf}{}
923 \DeclareFontShape{PD1}{pdf}{m}{n}{<-> cmr10 }{}
924 \DeclareFontSubstitution{PD1}{pdf}{m}{n}

```

### 6.3.4 PU encoding

The PU encoding implements the Unicode encoding for use with  $\text{\LaTeX}$ 's NFSS. Because of large memory requirements the encoding file for Unicode support is only loaded, if option `unicode` is specified as package option.

`\HyPsd@LoadUnicode` Because the file `puenc.def` takes a lot of memory, the loading is defined in the macro `\HyPsd@LoadUnicode` called by the package option `unicode`.

```

925 \def\HyPsd@LoadUnicode{%
926 \@ifundefined{T@PU}{%
927 \input{puenc.def}%
928 \HyLinguex@Restore
929 }{}%
930 \DeclareFontFamily{PU}{pdf}{}%
931 \DeclareFontShape{PU}{pdf}{m}{n}{<-> cmr10 }{}%
932 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
933 \input{psdextra.def}%
934 \let\HyPsd@LoadUnicode\relax
935 }

```

## 6.4 Additional user commands

### 6.4.1 `\texorpdfstring`

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

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

```

936 \def\texorpdfstring{%
937   \ifHy@pdfstring
938     \expandafter\@secondoftwo
939   \else
940     \expandafter\@firstoftwo
941   \fi
942 }
```

#### 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`.

```

943 \@ifundefined{pdfstringdefPreHook}{%
944   \let\pdfstringdefPreHook\@empty
945 }{}
946 \@ifundefined{pdfstringdefPostHook}{%
947   \let\pdfstringdefPostHook\@gobble
948 }{}
```

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

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

```

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

In the argument of `\pdfstringdefDisableCommands` the character `@` can be used in command names. So it is easy to use useful L<sup>A</sup>T<sub>E</sub>X commands like `\@gobble` or `\@firstofone`.

```

949 \def\pdfstringdefDisableCommands{%
950   \begingroup
951     \makeatletter
952     \HyPsd@DisableCommands
953 }
```

`\HyPsd@DisableCommands`

```

954 \long\def\HyPsd@DisableCommands#1{%
955   \ltx@GlobalAppendToMacro\pdfstringdefPreHook{#1}%
956   \endgroup
957 }
```

`\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`.

```

958 \def\pdfstringdefWarn#1{%
959   \expandafter\noexpand\csname<>-string#1\endcsname
960 }

```

## 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.

```

961 \begingroup
962   \catcode0=12 %
963   \def\x{\endgroup
964     \def\HyPsd@ignorespaces{%
965       \romannumeral\expandafter'\expandafter^^@%
966       \romannumeral'^^@%
967     }%
968   }%
969 \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`.

```

970 \def\HyPsd@BabelPatch{%
971   \let\HyOrg@languageshorthands\languageshorthands
972   \let\languageshorthands\HyPsd@LanguageShorthands
973 }
974 \begingroup\expandafter\expandafter\expandafter\endgroup
975 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
976   \let\HyPsd@langshort@system\@empty
977   \def\HyPsd@LanguageShorthands#1{%
978     \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
979       \HyPsd@langshort@system
980     \expandafter\@gobble
981   \else
982     \expandafter\@firstofone
983   \fi
984   {%
985     \HyOrg@languageshorthands{#1}%
986   }%
987 }%
988 \else

```

```

989 \def\HyPsd@LanguageShorthands#1{%
990   \ifnum\pdf@strcmp{#1}{system}=\z@
991     \expandafter\@gobble
992   \else
993     \expandafter\@firstofone
994   \fi
995   {%
996     \HyOrg@languageshorthands{#1}%
997   }%
998 }%
999 \fi
1000 \def\Hy@temp{%
1001   \ifpackageloaded{babel}{%
1002     \@ifpackagelater{babel}{2008/03/16}{%
1003       \let\Hy@temp\@empty
1004     }{%
1005       \def\HyPsd@BabelPatch{%
1006         \let\HyOrg@languageshorthands\languageshorthands
1007       }%
1008     }%
1009   }{%
1010   }
1011   \Hy@temp
1012   \expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}
1013   \newif\ifHy@next

  Nothing to do for english.
1014 \ltx@ifundefined{danish@sh@'sel}{-}{%
1015   \def\HyPsd@babel@danish{%
1016     \declare@shorthand{danish}{-}{-}%
1017     \declare@shorthand{danish}{-}{-}%
1018   }%
1019 }
1020 \ltx@ifundefined{dutch@sh@'sel}{-}{%
1021   \def\HyPsd@babel@dutch{%
1022     \declare@shorthand{dutch}{-}{-}%
1023     \declare@shorthand{dutch}{-}{-}%
1024   }%
1025 }
1026 \ltx@ifundefined{finnish@sh@'sel}{-}{%
1027   \def\HyPsd@babel@finnish{%
1028     \declare@shorthand{finnish}{-}{-}%
1029   }%
1030 }
1031 \ltx@ifundefined{french@sh@:sel}{-}{%
1032   \def\HyPsd@babel@frenchb{%
1033     \def\guill@spacing{ }%
1034   }%
1035 }
1036 \ltx@ifundefined{german@sh@'sel}{-}{%
1037   \def\HyPsd@babel@german{%
1038     \declare@shorthand{german}{f}{f}%
1039     \declare@shorthand{german}{-}{-}%
1040     \declare@shorthand{german}{-}{-}%
1041   }%
1042 }
1043 \ltx@ifundefined{macedonian@sh@'sel}{-}{%

```

```

1044 \def\HyPsd@babel@macedonian{%
1045   \declare@shorthand{macedonian}{"}|{}%
1046   \declare@shorthand{macedonian}{"}~{}-%
1047 }%
1048 }
1049 \ltx@ifundefined{ngerman@sh@"@sel}{%}{%
1050 \def\HyPsd@babel@ngerman{%
1051   \declare@shorthand{ngerman}{"}|{}%
1052   \declare@shorthand{ngerman}{"}~{}-%
1053 }%
1054 }
1055 \ltx@ifundefined{portuges@sh@"@sel}{%}{%
1056 \def\HyPsd@babel@portuges{%
1057   \declare@shorthand{portuges}{"}|{}%
1058 }%
1059 }
1060 \ltx@ifundefined{russian@sh@"@sel}{%}{%
1061 \def\HyPsd@babel@russian{%
1062   \declare@shorthand{russian}{"}|{}%
1063   \declare@shorthand{russian}{"}~{}-%
1064 }%
1065 }
1066 \ltx@ifundefined{slovene@sh@"@sel}{%}{%
1067 \def\HyPsd@babel@slovene{%
1068   \declare@shorthand{slovene}{"}|{}%
1069 }%
1070 }

```

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

```

1071 \ltx@ifundefined{spanish@sh>@sel}{%}{%
1072 \def\HyPsd@babel@spanish{%
1073   \declare@shorthand{spanish}{<<}{\guillemotleft}%
1074   \declare@shorthand{spanish}{>>}{\guillemotright}%
1075   \declare@shorthand{spanish}{"}=}{-}%
1076   \declare@shorthand{spanish}{"}~}{-}%
1077   \declare@shorthand{spanish}{"}!}{\textexclamdown}%
1078   \declare@shorthand{spanish}{"}?}{\textquestiondown}%
1079 }%
1080 }
1081 \ltx@ifundefined{swedish@sh@"@sel}{%}{%
1082 \def\HyPsd@babel@swedish{%
1083   \declare@shorthand{swedish}{"}|{}%
1084   \declare@shorthand{swedish}{"}~{}-%
1085 }%
1086 }
1087 \ltx@ifundefined{ukrainian@sh@"@sel}{%}{%
1088 \def\HyPsd@babel@ukrainian{%
1089   \declare@shorthand{ukrainian}{"}|{}%
1090   \declare@shorthand{ukrainian}{"}~{}-%
1091 }%
1092 }
1093 \ltx@ifundefined{usorbian@sh@"@sel}{%}{%
1094 \def\HyPsd@babel@usorbian{%
1095   \declare@shorthand{usorbian}{"}f}{f}%
1096   \declare@shorthand{usorbian}{"}|{}%
1097 }%
1098 }
1099 \ltx@ifundefined{greek@sh@\string~@sel}{%}{%

```

```

1100 \let\HyPsd@GreekPatch\@empty
1101 }{%
1102 \def\HyPsd@GreekPatch{%
1103   \let\greeknumeral\HyPsd@greeknumeral
1104   \let\Greeknnumeral\HyPsd@Greeknnumeral
1105 }%
1106 }
1107 \def\HyPsd@greeknumeral#1{%
1108   \HyPsd@GreekNum\@firsttwo{#1}%
1109 }
1110 \def\HyPsd@Greeknnumeral#1{%
1111   \HyPsd@GreekNum\@secondtwo{#1}%
1112 }
1113 \def\HyPsd@GreekNum#1#2{%
1114   \ifHy@unicode
1115     \ifnum#2<\@ne
1116       \@arabic{#2}%
1117     \else
1118       \ifnum#2<1000000 %
1119         \HyPsd@@GreekNum#1{#2}%
1120       \else
1121         \@arabic{#2}%
1122       \fi
1123     \fi
1124   \else
1125     \@arabic{#2}%
1126   \fi
1127 }
1128 \def\HyPsd@@GreekNum#1#2{%
1129   \ifnum#2<\@m
1130     \ifnum#2<10 %
1131       \expandafter\HyPsd@GreekNumI
1132       \expandafter\@gobble\expandafter#1\number#2%
1133     \else
1134       \ifnum#2<100 %
1135         \expandafter\HyPsd@GreekNumII
1136         \expandafter\@gobble\expandafter#1\number#2%
1137       \else
1138         \expandafter\HyPsd@GreekNumIII
1139         \expandafter\@gobble\expandafter#1\number#2%
1140       \fi
1141     \fi
1142   \ifnum#2>\z@
1143     \textnumeralsigngreek
1144   \fi
1145   \else
1146     \ifnum#2<\@M
1147       \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
1148     \else
1149       \ifnum#2<100000 %
1150         \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
1151       \else
1152         \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
1153       \fi
1154     \fi
1155   \fi
1156 }

```

```

1157 \def\HyPsd@GreekNumI#1#2#3{%
1158   #1{%
1159     \ifnum#3>\z@
1160       \textnumeralsignlowergreek
1161       \fi
1162   }%
1163   \expandafter#2%
1164   \ifcase#3 %
1165     {}{}%
1166     \or\textalpha\textAlpha
1167     \or\textbeta\textBeta
1168     \or\textgamma\textGamma
1169     \or\textdelta\textDelta
1170     \or\textepsilon\textEpsilon
1171     \or\textstigmagreek\textStigmagreek
1172     \or\textzeta\textZeta
1173     \or\texteta\textEta
1174     \or\texttheta\textTheta
1175   \else
1176     {}{}%
1177   \fi
1178 }
1179 \def\HyPsd@GreekNumII#1#2#3#4{%
1180   #1{%
1181     \ifnum#3>\z@
1182       \textnumeralsignlowergreek
1183       \fi
1184   }%
1185   \expandafter#2%
1186   \ifcase#3 %
1187     {}{}%
1188     \or\textiota\textIota
1189     \or\textkappa\textKappa
1190     \or\textlambda\textLambda
1191     \or\textmu\textMu
1192     \or\textnu\textNu
1193     \or\textxi\textXi
1194     \or\textomicron\textOmicron
1195     \or\textpi\textPi
1196     \or\textkoppagreek\textKoppagreek
1197   \else
1198     {}{}%
1199   \fi
1200   \HyPsd@GreekNumI#1#2#4%
1201 }
1202 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1203   #1{%
1204     \ifnum#3>\z@
1205       \textnumeralsignlowergreek
1206       \fi
1207   }%
1208   \expandafter#2%
1209   \ifcase#3 %
1210     {}{}%
1211     \or\textrho\textRho
1212     \or\textsigma\textSigma
1213     \or\texttau\textTau

```

```

1214 \or\textuppsilon\textUpsilon
1215 \or\textphi\textPhi
1216 \or\textchi\textChi
1217 \or\textpsi\textPsi
1218 \or\textomega\textOmega
1219 \or\textsamplegreek\textSampigreek
1220 \else
1221   {}{}%
1222 \fi
1223 \HyPsd@GreekNumII#1#2#4#5%
1224 }
1225 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1226   \HyPsd@GreekNumI\@firstofone#1#2%
1227   \HyPsd@@@GreekNum#1{#3#4#5}%
1228 }
1229 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1230   \HyPsd@GreekNumII\@firstofone#1#2#3%
1231   \HyPsd@@@GreekNum#1{#4#5#6}%
1232 }
1233 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1234   \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1235   \HyPsd@@@GreekNum#1{#5#6#7}%
1236 }

1237 \def\HyPsd@SpanishPatch{%
1238   \ltx@ifundefined{es@save@dot}{}%
1239   }{}%
1240   \let\.\es@save@dot
1241   }%
1242 }

```

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

```

1243 \def\HyPsd@RussianPatch{%
1244   \ltx@ifundefined{russian@sh@"@-@}{}%
1245   }{}%
1246   \@namedef{russian@sh@"@-@}{-}%
1247   }%
1248 }

```

### 6.5.3 CJK patch

```

1249 \RequirePackage{intcalc}[2007/09/27]

\HyPsd@CJKhook

1250 \def\HyPsd@CJKhook{%
1251   \ltx@ifpackageloaded{CJK}{}%
1252   \let\CJK@kern\relax
1253   \let\CJKkern\relax
1254   \let\CJK@CJK\relax
1255   \ifHy@CJKbookmarks
1256     \HyPsd@CJKhook@bookmarks
1257   \fi
1258   \HyPsd@CJKhook@unicode
1259   }{}%
1260 }

```



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

```

1261 \begingroup
1262 \catcode"7F=\active
1263 \toks@{%
1264 \let\CJK@ignorespaces\empty
1265 \def\CJK@char#1{\@gobbletwo}%
1266 \let\CJK@charx\@gobblefour
1267 \let\CJK@punctchar\@gobblefour
1268 \def\CJK@punctcharx#1{\@gobblefour}%
1269 \catcode"7F=\active
1270 \def^^7f#1^^7f#2^^7f{%
1271 \string #1\HyPsd@DecimalToOctal{#2}%
1272 }%
1273 % ... ?
1274 \ifHy@unicode
1275 \def\Hy@cjkpu{\80}%
1276 \else
1277 \let\Hy@cjkpu\@empty
1278 \fi
1279 \HyPsd@CJKActiveChars
1280 }%
1281 \count@=127 %
1282 \@whilenum\count@<255 \do{%
1283 \advance\count@ by 1 %
1284 \lccode'\~=\count@
1285 \lowercase{%
1286 \toks@\expandafter{\the\toks@ ~}%
1287 }%
1288 }%
1289 \toks@\expandafter{\the\toks@ !}%
1290 \xdef\HyPsd@CJKhook@bookmarks{%
1291 \the\toks@
1292 }%
1293 \endgroup

```

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

```

1294 \def\HyPsd@CJKActiveChars#1{%
1295 \ifx#1!%
1296 \let\HyPsd@CJKActiveChars\relax
1297 \else
1298 \edef#1{\noexpand\Hy@cjkpu\string#1}%
1299 \fi
1300 \HyPsd@CJKActiveChars
1301 }

```

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

```

1302 \def\HyPsd@DecimalToOctal#1{%
1303   \ifcase #1 %
1304     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1305     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1306     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1307     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1308     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1309     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1310     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1311     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1312     \or @\or A\or B\or C\or D\or E\or F\or G%
1313     \or H\or I\or J\or K\or L\or M\or N\or O%
1314     \or P\or Q\or R\or S\or T\or U\or V\or W%
1315     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1316     \or \140\or a\or b\or c\or d\or e\or f\or g%
1317     \or h\or i\or j\or k\or l\or m\or n\or o%
1318     \or p\or q\or r\or s\or t\or u\or v\or w%
1319     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1320     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1321     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1322     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1323     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1324     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1325     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1326     \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1327     \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1328     \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1329     \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1330     \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1331     \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1332     \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1333     \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1334     \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1335     \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1336   \fi
1337 }

```

### 6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1338 \def\HyPsd@CJKhook@unicode{%
1339   \let\Unicode\HyPsd@CJK@Unicode
1340   \let\CJKnumber\HyPsd@CJKnumber
1341   \let\CJKdigits\HyPsd@CJKdigits
1342 }

```

\HyPsd@CJK@Unicode

```

1343 \def\HyPsd@CJK@Unicode#1#2{%
1344   \ifnum#1<256 %
1345     \HyPsd@DecimalToOctalFirst{#1}%
1346     \HyPsd@DecimalToOctalSecond{#2}%
1347   \else
1348     \933%
1349     \expandafter\expandafter\expandafter\HyPsd@HighA
1350     \intcalcDiv{#1}{4}!%
1351     \933%
1352     \ifcase\intcalcMod{#1}{4} %

```

```

1353     4\or 5\or 6\or 7%
1354     \fi
1355     \HyPsd@DecimalToOctalSecond{#2}%
1356     \fi
1357 }

1358 \def\HyPsd@HighA#1!{%
1359     \expandafter\expandafter\expandafter\HyPsd@HighB
1360     \IntCalcDiv#1!64!!%
1361     \expandafter\expandafter\expandafter\HyPsd@HighD
1362     \IntCalcMod#1!64!!%
1363 }
1364 \def\HyPsd@HighB#1!{%
1365     \expandafter\expandafter\expandafter\HyPsd@HighC
1366     \IntCalcDec#1!!%
1367 }
1368 \def\HyPsd@HighC#1!{%
1369     \IntCalcDiv#1!4!%
1370     \@backslashchar
1371     \IntCalcMod#1!4!%
1372 }
1373 \def\HyPsd@HighD#1!{%
1374     \ifcase\IntCalcDiv#1!8! %
1375         0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1376     \fi
1377     \ifcase\IntCalcMod#1!8! %
1378         0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1379     \fi
1380 }
1381 \def\HyPsd@DecimalToOctalFirst#1{%
1382     \9%
1383     \ifcase#1 %
1384         000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1385         \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1386         \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1387         \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1388         \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1389         \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1390         \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1391         \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1392         \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1393         \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1394         \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1395         \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1396         \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1397         \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1398         \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1399         \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1400         \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1401         \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1402         \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1403         \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1404         \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1405         \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1406         \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1407         \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1408         \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1409         \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%

```

```

1410 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1411 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1412 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1413 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1414 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1415 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1416 \fi
1417 }
1418 \def\HyPsd@DecimalToOctalSecond#1{%
1419 \ifcase #1 %
1420 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1421 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1422 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1423 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1424 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1425 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1426 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1427 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1428 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1429 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1430 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1431 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1432 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1433 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1434 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1435 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1436 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1437 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1438 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1439 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1440 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1441 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1442 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1443 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1444 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1445 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1446 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1447 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1448 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1449 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1450 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1451 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1452 \fi
1453 }
1454 \def\HyPsd@CJKnumber#1{%
1455 \ifnum#1<\z@
1456 \CJK@minus
1457 \expandafter\HyPsd@@CJKnumber\expandafter{\number-\number#1}%
1458 \else
1459 \expandafter\HyPsd@@CJKnumber\expandafter{\number#1}%
1460 \fi
1461 }
1462 \def\HyPsd@@CJKnumber#1{%
1463 \ifcase#1 %
1464 \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1465 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1466 \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or

```

```

1467 \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1468 \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1469 \CJK@ten\CJK@nine
1470 \else
1471 \ifnum#1<10000 %
1472 \HyPsd@CJKnumberFour#1!\@empty{20}%
1473 \@empty
1474 \else
1475 \ifnum#1<100000000 %
1476 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1477 \IntCalcDiv#1!10000!%
1478 !\CJK@zero{20}%
1479 \CJK@tenthousand
1480 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1481 \IntCalcMod#1!10000!%
1482 !\CJK@zero{10}%
1483 \@empty
1484 \else
1485 \expandafter\HyPsd@CJKnumberLarge
1486 \number\IntCalcDiv#1!100000000!\expandafter!%
1487 \number\IntCalcMod#1!100000000!!%
1488 \fi
1489 \fi
1490 \fi
1491 }
1492 \def\HyPsd@CJKnumberLarge#1!#2!{%
1493 \HyPsd@CJKnumberFour#1!\@empty{20}%
1494 \CJK@hundredmillion
1495 \ifnum#2=\z@
1496 \else
1497 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1498 \IntCalcDiv#2!10000!%
1499 !\CJK@zero{10}%
1500 \CJK@tenthousand
1501 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1502 \IntCalcMod#2!10000!%
1503 !\CJK@zero{10}%
1504 \@empty
1505 \fi
1506 }
1507 \def\HyPsd@CJKnumberFour#1!#2#3{%
1508 \ifnum#1=\z@
1509 \expandafter\@gobble
1510 \else
1511 \ifnum#1<1000 %
1512 #2%
1513 \HyPsd@CJKnumberThree#1!\@empty{#3}%
1514 \else
1515 \HyPsd@@CJKnumber{\IntCalcDiv#1!1000!}%
1516 \CJK@thousand
1517 \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1518 \IntCalcMod#1!1000!%
1519 !\CJK@zero{10}%
1520 \fi
1521 \fi
1522 }
1523 \def\HyPsd@CJKnumberThree#1!#2#3{%

```

```

1524 \ifnum#1=\z@
1525 \else
1526 \ifnum#1<100 %
1527 #2%
1528 \HyPsd@CJKnumberTwo#1!#{#3}%
1529 \else
1530 \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1531 \CJK@hundred
1532 \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1533 \IntCalcMod#1!100!%
1534 !\CJK@zero{10}%
1535 \fi
1536 \fi
1537 }
1538 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1539 \ifnum#1=\z@
1540 \else
1541 \ifnum#1<#3 %
1542 #2%
1543 \HyPsd@@CJKnumber{#1}%
1544 \else
1545 \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1546 \CJK@ten
1547 \ifnum\IntCalcMod#1!10!=\z@
1548 \else
1549 \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1550 \fi
1551 \fi
1552 \fi
1553 }
1554 \def\HyPsd@CJKdigits#1{%
1555 \ifx*#1\relax
1556 \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1557 \else
1558 \HyPsd@@CJKdigits\CJK@null{#1}%
1559 \fi
1560 }
1561 \def\HyPsd@@CJKdigits#1#2{%
1562 \ifx\#2\%
1563 \else
1564 \HyPsd@@@CJKdigits#1#2\@nil
1565 \fi
1566 }%
1567 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1568 \HyPsd@CJKdigit#1{#2}%
1569 \ifx\#3\%
1570 \expandafter\@gobble
1571 \else
1572 \expandafter\@firstofone
1573 \fi
1574 {%
1575 \HyPsd@@@CJKdigits#1#3\@nil
1576 }%
1577 }
1578 \def\HyPsd@CJKdigit#1#2{%
1579 \ifcase#2 %
1580 #1\or

```

```

1581 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1582 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1583 \fi
1584 }

```

### 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 L<sup>A</sup>T<sub>E</sub>X 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 (L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> release [1998/12/01]). In the normal case `\pdfstringdef` is executed in a context where `\protect` has the meaning of `\@typesetprotect` (`=\relax`).

```

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

1585 \def\HyPsd@inmathwarn#1#2{%
1586   \ifx#2\expandafter
1587     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1588       \HyPsd@GLYPHERR
1589       \expandafter\@gobble\string#1%
1590     >%
1591     \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1592   \else

```

```

1593 \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1594 \fi
1595 \else
1596 \expandafter#2%
1597 \fi
1598 }
1599 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1600 \def\HyPsd@EndWithElse#1\else{\else}

```

\HyPsd@add@accent

```

1601 \def\HyPsd@add@accent#1#2{%
1602 \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1603 #2%
1604 }%

```

### 6.5.7 Unexpandable spaces

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

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

These properties are used in \HyPsd@CheckCatcodes.

```

1605 \def\HyPsd@LetUnexpandableSpace#1{%
1606 \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1607 }

```

\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.

```

1608 \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.

```

1609 \edef\HyPsd@XSPACE{\string#\string X}
1610 \edef\HyPsd@ITALCORR{\string#\string I}
1611 \edef\HyPsd@GLYPHERR{\string#\string G}

```

### 6.5.9 \hspace fix

\HyPsd@hspace

```

1612 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*END}

```

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

```

1613 \def\HyPsd@@hspace#1*#2END{%
1614 \ifx\#2\%
1615 \HyPsd@hspacetest{#1}%
1616 \else
1617 \expandafter\HyPsd@hspacetest
1618 \fi
1619 }

```



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

```
1620 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

#### 6.5.10 Fix for AMS classes

```
1621 \ltx@ifundefined{tocsection}{%
1622   \let\HyPsd@AMSclassfix\relax
1623 }{%
1624   \def\HyPsd@AMSclassfix{%
1625     \let\tocpart\HyPsd@tocsection
1626     \let\tocchapter\HyPsd@tocsection
1627     \let\tocappendix\HyPsd@tocsection
1628     \let\tocsection\HyPsd@tocsection
1629     \let\tocsubsection\HyPsd@tocsection
1630     \let\tocsubsubsection\HyPsd@tocsection
1631     \let\tocparagraph\HyPsd@tocsection
1632   }%
1633   \def\HyPsd@tocsection#1#2#3{%
1634     \if @#2@\else\if @#1@\else#1 \fi#2. \fi
1635     #3%
1636   }%
1637 }
```

#### 6.5.11 Reference commands

`\HyPsd@href`

```
1638 \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.

```
1639 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1640 \def\HyPsd@@ref#1*#2\END{%
1641   \ifx\#2\%
1642     \HyPsd@@@ref{#1}%
1643   \else
1644     \expandafter\HyPsd@@@ref
1645   \fi
1646 }
```

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

```
1647 \def\HyPsd@@@ref#1{%
1648   \expandafter\ifx\csname r@#1\endcsname\relax
1649     ??%
1650   \else
1651     \expandafter\expandafter\expandafter
1652     \@car\csname r@#1\endcsname\@nil
1653   \fi
1654 }
```

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

```
1655 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}
```

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

```

1656 \def\HyPsd@@pageref#1*#2\END{%
1657   \ifx\#2\%
1658     \HyPsd@@@pageref{#1}%
1659   \else
1660     \expandafter\HyPsd@@@pageref
1661   \fi
1662 }

```

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

```

1663 \def\HyPsd@@@pageref#1{%
1664   \expandafter\ifx\csname r@#1\endcsname\relax
1665     ??%
1666   \else
1667     \expandafter\expandafter\expandafter\expandafter
1668     \expandafter\expandafter\expandafter\@car
1669     \expandafter\expandafter\expandafter\@gobble
1670     \csname r@#1\endcsname{}\@nil
1671   \fi
1672 }

```

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

```

1673 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}

```

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

```

1674 \def\HyPsd@@nameref#1*#2\END{%
1675   \ifx\#2\%
1676     \HyPsd@@@nameref{#1}%
1677   \else
1678     \expandafter\HyPsd@@@nameref
1679   \fi
1680 }

```

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

```

1681 \def\HyPsd@@@nameref#1{%
1682   \expandafter\ifx\csname r@#1\endcsname\relax
1683     ??%
1684   \else
1685     \expandafter\expandafter\expandafter\expandafter
1686     \expandafter\expandafter\expandafter\@car
1687     \expandafter\expandafter\expandafter\@gobbletwo
1688     \csname r@#1\endcsname{}\@nil
1689   \fi
1690 }

```

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

```

1691 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

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

```

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

```

1699 \def\HyPsd@@@autoref#1{%
1700   \expandafter\ifx\csname r@#1\endcsname\relax
1701     ??%
1702   \else
1703     \expandafter\expandafter\expandafter\HyPsd@autorefname
1704       \csname r@#1\endcsname\relax\@nil
1705     \expandafter\expandafter\expandafter
1706       \@car\csname r@#1\endcsname\@nil
1707   \fi
1708 }
```

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

```

1709 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1710   \ifx\#4\%
1711   \else
1712     \HyPsd@@@autorefname#4.\@nil
1713   \fi
1714 }
```

`\HyPsd@@@autorefname`

```

1715 \def\HyPsd@@@autorefname#1.#2\@nil{%
1716   \ltx@ifundefined{#1autorefname}{%
1717     \ltx@ifundefined{#1name}{%
1718       }{%
1719         \csname#1name\endcsname\space
1720       }%
1721     }{%
1722       \csname#1autorefname\endcsname\space
1723     }%
1724 }
```

### 6.5.12 Redefining the defining commands

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

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

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

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

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

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

```
\HyPsd@DefCommand
\HyPsd@LetCommand 1725 \begingroup
1726 \def\x#1#2{%
1727 \endgroup
1728 \let#1\def
1729 \def\HyPsd@DefCommand##1##2###{%
1730 #1%
1731 \expandafter\noexpand
1732 \csname\expandafter\@gobble\string##1\@empty\endcsname
1733 \@gobble
1734 }%
1735 \let#2\let
1736 \def\HyPsd@@LetCommand##1{%
1737 \expandafter\ifx\csname##1\expandafter\endcsname
1738 \csname iftrue\endcsname
1739 \pdfstringdefWarn\let
1740 \expandafter\@gobble
1741 \else
1742 \expandafter\ifx\csname##1\expandafter\endcsname
1743 \csname iffalse\endcsname
1744 \pdfstringdefWarn\let
1745 \expandafter\expandafter\expandafter\@gobble
1746 \else
1747 #2%
1748 \expandafter\noexpand
1749 \csname##1\expandafter\expandafter\expandafter\endcsname
1750 \fi
1751 \fi
1752 }%
1753 }%
1754 \expandafter\x\csname <def>-command\expandafter\endcsname
1755 \csname <let>-command\endcsname
1756 \def\HyPsd@LetCommand#1{%
1757 \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1758 \expandafter\expandafter\expandafter{%
1759 \expandafter\@gobble\string#1\@empty
1760 }%
1761 }
```

### 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).

```
1762 \def\HyPsd@ifnextchar#1{%
1763   \pdfstringdefWarn#1%
1764   \expandafter\@gobbletwo\@gobble
1765 }
```

#### 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`.

```
1766 \def\HyPsd@protected@testopt#1{%
1767   \pdfstringdefWarn#1%
1768   \@gobbletwo
1769 }
```

## 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:

```
1770 \def\HyPsd@Warning#1{%
1771   \begingroup
1772   \let\space\ltx@space
1773   \Hy@Warning{#1}%
1774   \endgroup
1775 }
```

### 6.6.2 Protecting spaces

```
1776 \RequirePackage{etexcmds}[2007/09/09]
1777 \ifetex@unexpanded
1778   \expandafter\@secondoftwo
1779 \else
1780   \expandafter\@firstoftwo
1781 \fi
1782 {%
```

`\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`.

```
1783   \def\HyPsd@ProtectSpaces#1{%
1784     \iftrue
1785       \expandafter\HyPsd@@ProtectSpacesFi
1786       \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1787     \fi
1788   }%
```

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

```

1789 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1790   \fi
1791   \ifx\scrollmode#2\scrollmode
1792     \HyPsd@RemoveMask#1\HyPsd@End#3%
1793   \else
1794     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1795     \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1796   \fi
1797 }%

```

### 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.

```

1798 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1799   \toks@\expandafter{#1}%
1800   \xdef#2{\the\toks@}%
1801 }%

1802 }{%
1803   \let\HyPsd@fi\fi
1804   \def\HyPsd@ProtectSpaces#1{%
1805     \xdef#1{%
1806       \iftrue
1807         \expandafter\HyPsd@@ProtectSpacesFi
1808         \expandafter|\expandafter\@empty#1| %
1809       \HyPsd@fi
1810     }%
1811     \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1812   }%
1813   \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1814     \fi
1815     \etex@unexpanded{#1}%
1816     \ifx\scrollmode#2\scrollmode
1817     \else
1818       \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1819       \HyPsd@fi
1820     }%
1821   \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1822     \xdef#2{\etex@unexpanded\expandafter{#1}}%
1823   }%
1824 }

```

### 6.6.3 Remove grouping braces

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

```

1825 \def\HyPsd@RemoveBraces#1{%
1826   \ifx\scrollmode#1\scrollmode
1827   \else
1828     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1829   \fi
1830 }

```

`\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`.

```

1831 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1832   \fi
1833   \def\Hy@temp@A{#1#2}%
1834   \def\Hy@temp@B{#3}%
1835   \ifx\Hy@temp@A\Hy@temp@B
1836     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1837       \HyPsd@String#1%
1838     }%
1839     \ifx\scrollmode#2\scrollmode
1840     \else
1841       \Hy@ReturnAfterFiFiEnd{%
1842         \HyPsd@RemoveBraces{#2}%
1843       }%
1844     \fi
1845   \else
1846     \def\Hy@temp@A{#1}%
1847     \HyPsd@AppendItalcorr\HyPsd@String
1848     \ifx\Hy@temp@A\@empty
1849       \Hy@ReturnAfterElseFiFiEnd{%
1850         \HyPsd@RemoveBraces{#2}%
1851       }%
1852     \else
1853       \HyPsd@ProtectSpaces\Hy@temp@A
1854       \HyPsd@AppendItalcorr\Hy@temp@A
1855       \Hy@ReturnAfterFiFiEnd{%
1856         \expandafter\HyPsd@RemoveBraces\expandafter
1857           {\Hy@temp@A#2}%
1858       }%
1859     \fi
1860   \fi
1861   \Hy@ReturnEnd
1862 }
```

`\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`.

```

1863 \def\HyPsd@AppendItalcorr#1{%
1864   \expandafter\HyPsd@@AppendItalcorr\expandafter{\/#1%
1865 }
1866 \def\HyPsd@@AppendItalcorr#1#2{%
1867   \expandafter\def\expandafter#2\expandafter{#2#1}%
1868 }
```

#### 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`.

```

1869 \catcode'\Q=\active
1870 \let Q\ltx@empty
1871 \def\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1872   \global\let\HyPsd@Rest\relax
1873   \ifcat\relax\noexpand#1\relax
1874     \ifx#1\protect
1875       \else
1876         \ifx#1\penalty
1877           \setbox\z@=\hbox{%
1878             \afterassignment\HyPsd@AfterCountRemove
1879             \count@=#2\HyPsd@End
1880           }%
1881         \else
1882           \ifx#1\kern
1883             \setbox\z@=\hbox{%
1884               \afterassignment\HyPsd@AfterDimenRemove
1885               \dimen@=#2\HyPsd@End
1886             }%
1887           \else
1888             \ifx#1\hskip
1889               \setbox\z@=\hbox{%
1890                 \afterassignment\HyPsd@AfterSkipRemove
1891                 \skip@=#2\HyPsd@End
1892               }%
1893             \else
1894               \HyPsd@CatcodeWarning{#1}%
1895             \fi
1896           \fi
1897         \fi
1898       \fi
1899     \else
1900       \ifcat\noexpand#1\noexpandQ% active character
1901         \expandafter\expandafter\expandafter\def
1902         \expandafter\expandafter\expandafter\HyPsd@String
1903         \expandafter\expandafter\expandafter{%
1904           \expandafter\HyPsd@String\string#1%
1905         }%
1906       \else
1907         \ifcat#1A% letter
1908           \expandafter\def\expandafter\HyPsd@String\expandafter{%
1909             \HyPsd@String#1%
1910           }%
1911         \else
1912           \ifcat#1 % SPACE
1913             \expandafter\def\expandafter\HyPsd@String\expandafter{%
1914               \HyPsd@String\HyPsd@SPACEOPTI

```



```

1915     }%
1916   \else
1917     \ifcat$#1%
1918       \HyPsd@CatcodeWarning{math shift}%
1919     \else
1920       \ifcat&#1%
1921         \HyPsd@CatcodeWarning{alignment tab}%
1922       \else
1923         \ifcat^#1%
1924           \HyPsd@CatcodeWarning{superscript}%
1925         \else
1926           \ifcat_#1%
1927             \HyPsd@CatcodeWarning{subscript}%
1928           \else
1929             \expandafter\def\expandafter\HyPsd@String\expandafter{%
1930               \HyPsd@String#1%
1931             }%
1932           \fi
1933         \fi
1934       \fi
1935     \fi
1936   \fi
1937 \fi
1938 \fi
1939 \fi
1940 \ifx\HyPsd@Rest\relax
1941   \ifx\scrollmode#2\scrollmode
1942   \else
1943     \Hy@ReturnAfterFiFiEnd{%
1944       \HyPsd@CheckCatcodes#2\HyPsd@End
1945     }%
1946   \fi
1947 \else
1948   \ifx\HyPsd@Rest\@empty
1949   \else
1950     \Hy@ReturnAfterFiFiEnd{%
1951       \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1952     }%
1953   \fi
1954 \fi
1955 \Hy@ReturnEnd
1956 }
1957 \catcode'\Q=11 %

```

### Remove counts, dimens, skips.

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

```

1958 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1959   \gdef\HyPsd@Rest{#1}%
1960 }

```

`\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.

```

1961 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1962   \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@ \fi>1ex %

```

```

1963 \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1964 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1965 \else
1966 \ifdim\dimen@=\z@
1967 \else
1968 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1969 \fi
1970 \gdef\HyPsd@Rest{#1}%
1971 \fi
1972 }

```

`\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).

```

1973 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1974 \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@\fi>lex %
1975 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1976 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1977 \else
1978 \ifdim\skip@=\z@
1979 \else
1980 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1981 \fi
1982 \gdef\HyPsd@Rest{#1}%
1983 \fi
1984 }

```

### Catcode warnings.

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

```

1985 \def\HyPsd@CatcodeWarning#1{%
1986 \HyPsd@Warning{%
1987 Token not allowed in a PDF string (%)
1988 \ifHy@unicode
1989 Unicode%
1990 \else
1991 PDFDocEncoding%
1992 \fi
1993 }:%
1994 \MessageBreak removing '\HyPsd@RemoveCmdPrefix#1'%
1995 }%
1996 }
1997 \begingroup
1998 \catcode'\|=0 %
1999 \catcode'\|=12 %
2000 \gdef\HyPsd@RemoveCmdPrefix#1{%
2001 |expandafter\HyPsd@@RemoveCmdPrefix
2002 |string#1|@empty\<>-|@empty|@empty
2003 }%
2004 \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
2005 |endgroup

```

`\HyPsd@RemoveSpaceWarning`

```

2006 \def\HyPsd@RemoveSpaceWarning#1{%
2007 \HyPsd@Warning{%
2008 Token not allowed in a PDF string (%)
2009 \ifHy@unicode
2010 Unicode%

```

```

2011 \else
2012     PDFDocEncoding%
2013 \fi
2014 ):%
2015 \MessageBreak #1\MessageBreak
2016 removed%
2017 }%
2018 }

```

\HyPsd@ReplaceSpaceWarning

```

2019 \def\HyPsd@ReplaceSpaceWarning#1{%
2020 \HyPsd@Warning{%
2021     Token not allowed in a PDF string (%
2022     \ifHy@unicode
2023         Unicode%
2024     \else
2025         PDFDocEncoding%
2026     \fi
2027 ):%
2028 \MessageBreak #1\MessageBreak
2029 replaced by space%
2030 }%
2031 }

```

### 6.6.5 Check for wrong glyphs

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

```

2032 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
2033 \expandafter\def\expandafter\HyPsd@String\expandafter{%
2034 \HyPsd@String#1%
2035 }%
2036 \ifx\#2\%
2037 \else
2038 \ltx@ReturnAfterFi{%
2039 \HyPsd@GlyphProcessWarning#2\@empty
2040 }%
2041 \fi
2042 }
2043 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
2044 \HyPsd@@@GlyphProcessWarning#1++>%
2045 \HyPsd@GlyphProcess#2\@empty
2046 }
2047 \def\HyPsd@@@GlyphProcessWarning#1+#2+#3>{%
2048 \ifx\#2\%
2049 \HyPsd@Warning{%
2050     Glyph not defined in %
2051     P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
2052     removing '\@backslashchar#1'%
2053 }%
2054 \else
2055 \HyPsd@Warning{%
2056     Composite letter '\@backslashchar#1+#2'\MessageBreak
2057     not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
2058 \MessageBreak
2059     removing '\@backslashchar#1'%
2060 }%

```

```

2061 \fi
2062 }

```

### 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`.

```

2063 \def\HyPsd@spaceopti#1{ % first space
2064 \ifx\HyPsd@spaceopti#1%
2065 \040%
2066 \else
2067 #1%
2068 \fi
2069 }%

```

### 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.
2070 \def\HyPsd@Subst#1#2#3{%
2071 \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
2072 \fi
2073 ##1%
2074 \ifx\scrollmode##2\scrollmode
2075 \else
2076 #2%
2077 \HyPsd@@ReplaceFi##2\END
2078 \fi
2079 }%
2080 \xdef#3{%
2081 \iftrue
2082 \expandafter\HyPsd@@ReplaceFi#3#1\END
2083 \fi
2084 }%
2085 }

```

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

```

2086 \def\HyPsd@StringSubst#1{%
2087 \expandafter\HyPsd@Subst\expandafter{\string#1}%
2088 }

```

`\HyPsd@EscapeTeX`

```

2089 \begingroup
2090 \lccode'\!=\'%%
2091 \lccode'\|=\'%%
2092 \lccode'\(=\{\'%
2093 \lccode'\)=\'}%
2094 \lccode'0=\ltx@zero
2095 \lccode'1=\ltx@zero

```

```

2096 \lccode'3=\ltx@zero
2097 \lccode'4=\ltx@zero
2098 \lccode'5=\ltx@zero
2099 \lccode'7=\ltx@zero
2100 \lowercase{\endgroup
2101 \def\HyPsd@EscapeTeX#1{%
2102   \HyPsd@Subst!{|045}#1%
2103   \HyPsd@Subst({|173}#1%
2104   \HyPsd@Subst){|175}#1%
2105 }%
2106 }

```

### 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.

```

2107 \def\HyPsd@doxspace#1{%
2108   \ifx#1\relax\else
2109     \ifx#1.\else
2110       \ifx#1:\else
2111         \ifx#1,\else
2112           \ifx#1;\else
2113             \ifx#1!\else
2114               \ifx#1?\else
2115                 \ifx#1/\else
2116                   \ifx#1-\else
2117                     \ifx#1'\else
2118                       \HyPsd@SPACEOPTI
2119                     \fi
2120                   \fi
2121                 \fi
2122               \fi
2123             \fi
2124           \fi
2125         \fi
2126       \fi
2127     \fi
2128   \fi
2129   #1%
2130 }%

```

### 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.

```

2131 \begingroup
2132 \catcode'\|=0 %
2133 \catcode'\|=12 %

```

`\HyPsd@ConvertToUnicode`

```

2134 |gdef|HyPsd@ConvertToUnicode#1{%
2135   |xdef#1{%
2136     |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty

```

```

2137 }%
2138 |ifx#1|@empty
2139 |else
2140 |xdef#1{%
2141 \376\377%
2142 #1%
2143 }%
2144 |fi
2145 }%

```

#### \HyPsd@DoConvert

```

2146 |gdef|HyPsd@DoConvert#1{%
2147 |ifx#1|@empty
2148 |else
2149 |ltx@ReturnAfterFi{%
2150 |ifx#1\%%
2151 \%%
2152 |expandafter|HyPsd@DoEscape
2153 |else
2154 |HyPsd@Char{#1}%
2155 |expandafter|HyPsd@DoConvert
2156 |fi
2157 }%
2158 |fi
2159 }%

```

#### \HyPsd@DoEscape

```

2160 |gdef|HyPsd@DoEscape#1{%
2161 |ifx#19%
2162 |expandafter|HyPsd@GetTwoBytes
2163 |else
2164 |ltx@ReturnAfterFi{%
2165 |ifx#18%
2166 00%
2167 |expandafter|HyPsd@GetTwoBytes
2168 |else
2169 #1%
2170 |expandafter|HyPsd@GetOneByte
2171 |fi
2172 }%
2173 |fi
2174 }%

```

#### \HyPsd@GetTwoBytes

```

2175 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
2176 #1\#2#3#4%
2177 |HyPsd@DoConvert
2178 }%

```

#### \HyPsd@GetOneByte

```

2179 |gdef|HyPsd@GetOneByte#1#2{%
2180 #1#2%
2181 |HyPsd@DoConvert
2182 }%
2183 |endgroup

```

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

```

2184 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
2185   \xdef#4{#4#1#2}%
2186   \HyPsd@@ConvertToUnicode#3\END#4%
2187 }

```

\HyPsd@Char

```

2188 \begingroup
2189   \catcode0=9 %
2190   \catcode'\^=7 %
2191   \catcode'\^^=12 %
2192   \def\x{^^^0000}%
2193 \expandafter\endgroup
2194 \ifx\x\@empty
2195   \def\HyPsd@Char#1{%
2196     \ifnum'#1<128 %
2197       \@backslashchar 000#1%
2198     \else
2199       \ifnum'#1<65536 %
2200         \expandafter\HyPsd@CharTwoByte\number'#1!%
2201       \else
2202         \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2203         \intcalcSub{'#1}{65536}!%
2204       \fi
2205     \fi
2206   }%
2207   \def\HyPsd@CharTwoByte#1!{%
2208     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2209     \IntCalcDiv#1!256!!%
2210     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2211     \IntCalcMod#1!256!!%
2212   }%
2213   \def\HyPsd@CharOctByte#1!{%
2214     \@backslashchar
2215     \IntCalcDiv#1!64!%
2216     \intcalcDiv{\IntCalcMod#1!64!}{8}%
2217     \IntCalcMod#1!8!%
2218   }%
2219   \def\HyPsd@CharSurrogate#1!{%
2220     \@backslashchar 33%
2221     \IntCalcDiv#1!262144!%
2222     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2223     \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2224     \@backslashchar 33%
2225     \expandafter\expandafter\expandafter\IntCalcAdd
2226     \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2227     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2228     \IntCalcMod#1!256!!%
2229   }%
2230 \else
2231   \def\HyPsd@Char#1{%
2232     \@backslashchar 000#1%
2233   }%
2234 \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

2235 \begingroup\expandafter\expandafter\expandafter\endgroup
2236 \expandafter\ifx\csname numexpr\endcsname\relax
2237   \let\HyPsd@UTFviii\relax
2238 \else
2239   \begingroup
2240     \lccode'\~='^f4\relax
2241   \lowercase{\endgroup
2242     \def\HyPsd@UTFviii{%
2243       \let\UTFviii@two@octets\HyPsd@UTFviii@two
2244       \let\UTFviii@three@octets\HyPsd@UTFviii@three
2245       \let\UTFviii@four@octets\HyPsd@UTFviii@four
2246       \ifx~\HyPsd@UTFviii@cccxiv\undef
2247         \let~\HyPsd@UTFviii@cccxiv\def
2248       \fi
2249       \let\unichar\HyPsd@unichar
2250     }%
2251   }%
2252   \def\HyPsd@UTFviii@cccxiv\undef{\@inpenc@undefined@{utf8}}%
2253   \edef\HyPsd@UTFviii@cccxiv\def{%
2254     \noexpand\UTFviii@four@octets\string ^f4%
2255   }%

```

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.

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

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

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

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

$$(5)$$

```

2256 \def\HyPsd@UTFviii@two#1#2{%
2257   \expandafter\HyPsd@UTFviii@@two
2258   \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter| %
2259   \number'#1\expandafter| %
2260   \number\dimexpr.125\dimexpr'#2sp\expandafter\relax\expandafter| %
2261   \number'#2 \@nil
2262 }%
2263 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
2264   \expandafter\8%
2265   \number\dimexpr #1-48\expandafter\relax
2266   \csname\number\dimexpr #2-4*#1\relax\expandafter\endcsname
2267   \number\dimexpr #3-8*%

```



```

2268 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2269 \number\numexpr #4-8*#3\relax
2270 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

2271 \def\HyPsd@UTFviii@three#1#2#3{%
2272 \expandafter\HyPsd@UTFviii@@three
2273 \number\dimexpr.25\dimexpr'#1sp\expandafter\relax\expandafter|
2274 \number'#1\expandafter|
2275 \number\ifnum\numexpr'#2-128\relax <32 0\else 1\fi\expandafter|
2276 \number\dimexpr.25\dimexpr'#2sp\expandafter\relax\expandafter|
2277 \number'#2\expandafter|
2278 \number\dimexpr.125\dimexpr'#3sp\expandafter\relax\expandafter|
2279 \number'#3 \@nil
2280 }%
2281 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
2282 \expandafter\9%
2283 \number\numexpr #1-56\expandafter\relax
2284 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
2285 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2286 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
2287 \number\numexpr #6-16\expandafter\relax
2288 \number\numexpr #7-8*#6\relax
2289 }%

```

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

```

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

```

```

2290 \def\HyPsd@UTFviii@four#1#2{%
2291 \expandafter\HyPsd@@UTFviii@four\number
2292 \numexpr-1+('#1-240)*4+\dimexpr.0625\dimexpr'#2sp-128sp%
2293 \expandafter|\number
2294 \numexpr'#2-16*\dimexpr.0625\dimexpr'#2sp|
2295 }%
2296 \def\HyPsd@@UTFviii@four#1|#2|#3{%
2297 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2298 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2299 \ifodd#2 %
2300 \number\numexpr(#2-1)/2\relax
2301 \else
2302 \number\numexpr#2/2\relax
2303 \fi

```

```

2304 \number\numexpr\ifodd#2 4+\fi
2305 \dimexpr.0625\dimexpr'#3sp-128sp\relax\relax\relax
2306 \933%
2307 \expandafter\HyPsd@@@UTFviii@four\number
2308 \numexpr'#3-16*\dimexpr.0625\dimexpr'#3sp| %
2309 }%
2310 \def\HyPsd@@@UTFviii@four#1|#2{%
2311 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2312 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2313 \number\dimexpr.125\dimexpr'#2sp-128sp\relax\relax
2314 \number\numexpr'#2-8*\dimexpr.125\dimexpr'#2sp\relax\relax\relax
2315 }%

```

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

```

2316 \def\HyPsd@unichar#1{%
2317 \ifHy@unicode
2318 \ifnum#1>"10FFFF %
2319 \HyPsd@UnicodeReplacementCharacter % illegal
2320 \else
2321 \ifnum#1>"FFFF %

```

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

```

2322 \expandafter\HyPsd@unichar\expandafter{%
2323 \number\numexpr 55296+%
2324 \dimexpr.0009765625\dimexpr\number#1sp-\p@
2325 \relax\relax\relax
2326 }%

```

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

```

2327 \expandafter\HyPsd@unichar\expandafter{%
2328 \number\numexpr#1-9216%
2329 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2330 \relax\relax\relax
2331 }%
2332 \else
2333 \ifnum#1>"7FFF %
2334 \9%
2335 \expandafter\HyPsd@unichar@first@byte\expandafter{%
2336 \number
2337 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2338 }%
2339 \else
2340 \8%
2341 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2342 \fi
2343 \expandafter\HyPsd@unichar@second@byte\expandafter{%
2344 \number
2345 \numexpr#1-256*\number
2346 \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2347 }%
2348 \fi
2349 \fi
2350 \else
2351 .% unsupported (Unicode -> PDF Doc Encoding)
2352 \fi
2353 }%
2354 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%

```

```

2355 \def\HyPsd@unichar@first@byte#1{%
2356   \number\dimexpr.015625\dimexpr#1sp\relax\relax
2357   \expandafter\HyPsd@unichar@octtwo\expandafter{%
2358     \number
2359     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2360     \relax\relax\relax
2361   }%
2362 }%
2363 \def\HyPsd@unichar@second@byte#1{%
2364   \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2365   \expandafter\HyPsd@unichar@octtwo\expandafter{%
2366     \number
2367     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2368     \relax\relax\relax
2369   }%
2370 }%
2371 \def\HyPsd@unichar@octtwo#1{%
2372   \number\dimexpr.125\dimexpr#1sp\relax\relax
2373   \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2374   \relax\relax\relax
2375 }%
2376 \fi

```

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

```

2377 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2378   \ifx\@gobble#1%
2379   \else
2380     [Please insert \textbackslash PrerenderUnicode%
2381     \textbraceleft#1\textbraceright\space
2382     into preamble]%
2383   \fi
2384 }%

```

### 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.

```

2385 \def\HyPsd@DieFace#1{%
2386   \ifHy@unicode
2387   \ifnum#1<1 %
2388     \HyPsd@UnicodeReplacementCharacter
2389   \else
2390     \ifnum#1>6 %
2391       \9046\205%
2392       \expandafter\expandafter\expandafter
2393       \HyPsd@DieFaceLarge\intcalcSub{#1}{6}!%
2394     \else
2395       \9046\20\intcalcDec{#1}%
2396   \fi

```

```

2397 \fi
2398 \else
2399 .% Die faces are not part of PDFDocEncoding
2400 \fi
2401 }

```

\HyPsd@DieFaceLarge

```

2402 \def\HyPsd@DieFaceLarge#1{%
2403 \ifnum#1>6 %
2404 \expandafter\ltx@firstoftwo
2405 \else
2406 \expandafter\ltx@secondoftwo
2407 \fi
2408 {%
2409 \9046\205%
2410 \expandafter\expandafter\expandafter
2411 \HyPsd@DieFaceLarge\IntCalcSub#1!6!!%
2412 }{%
2413 \9046\20\IntCalcDec#1!%
2414 }%
2415 }

```

### 6.6.11 Support for moon phases of package china2e

```

2416 \def\HyPsd@MoonPha#1{%
2417 \ifcase\intcalcNum{#1} %
2418 \HyPsd@UnicodeReplacementCharacter
2419 \or % 1
2420 % U+1F31A NEW MOON WITH FACE; \MoonPha{1} (china2e)
2421 \9330\074\9337\032%
2422 \or % 2
2423 \HyPsd@UnicodeReplacementCharacter
2424 \or % 3
2425 % U+1F31D FULL MOON WITH FACE; \MoonPha{3} (china2e)
2426 \9330\074\9337\035%
2427 \or % 4
2428 % U+1F31C LAST QUARTER MOON WITH FACE; \MoonPha{4} (china2e)
2429 \9330\074\9337\034%
2430 \else
2431 \HyPsd@UnicodeReplacementCharacter
2432 \fi
2433 }
2434 %* \HyPsd@MoonPha -> \MoonPha

```

### 6.6.12 Support for package pifont

\HyPsd@ding

```

2435 \def\HyPsd@ding#1{%
2436 \ifHy@unicode
2437 \ifnum#1<32 %
2438 \HyPsd@UnicodeReplacementCharacter
2439 \else
2440 \ifnum#1>254 %
2441 \HyPsd@UnicodeReplacementCharacter
2442 \else
2443 \ifnum#1<127 %
2444 \expandafter\expandafter\expandafter
2445 \HyPsd@@@ding\intcalcNum{#1}!%

```

```

2446     \else
2447     \ifnum#1>160 %
2448     \expandafter\expandafter\expandafter
2449     \HyPsd@@ding\intcalcNum{#1}!%
2450     \else
2451     \HyPsd@UnicodeReplacementCharacter
2452     \fi
2453     \fi
2454     \fi
2455     \fi
2456     \else
2457     .% Dingbats are not part of PDFDocEncoding
2458     \fi
2459 }

```

\HyPsd@@ding

```

2460 \def\HyPsd@@ding#1!{%
2461 \ltx@ifundefined{HyPsd@ding@#1}{%
2462 \ifnum#1<127 %
2463 \9047%
2464 \HyPsd@DecimalToOctalSecond{\IntCalcSub#1!32!}%
2465 \else
2466 \ifnum#1<168 %
2467 \9047\14\IntCalcSub#1!160!%
2468 \else
2469 \ifnum#1>181 %
2470 \9047\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!64!}%
2471 \else
2472 % 172..181 -> U+2460..U+2469
2473 \9044\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!76!}%
2474 \fi
2475 \fi
2476 \fi
2477 }{%
2478 \csname HyPsd@ding@#1\endcsname
2479 }%
2480 }

2481 \@namedef{HyPsd@ding@32}{\space}
2482 % U+260E BLACK TELEPHONE
2483 \@namedef{HyPsd@ding@37}{\9046\016}% U+260E
2484 % U+261B BLACK RIGHT POINTING INDEX
2485 \@namedef{HyPsd@ding@42}{\9046\033}% U+261B
2486 % U+261E WHITE RIGHT POINTING INDEX
2487 \@namedef{HyPsd@ding@43}{\9046\036}% U+261E
2488 % U+2605 BLACK STAR
2489 \@namedef{HyPsd@ding@72}{\9046\005}% U+2605
2490 % U+25CF BLACK CIRCLE
2491 \@namedef{HyPsd@ding@108}{\9045\317}% U+25CF
2492 % U+25A0 BLACK SQUARE
2493 \@namedef{HyPsd@ding@110}{\9045\240}% U+25A0
2494 % U+25B2 BLACK UP-POINTING TRIANGLE
2495 \@namedef{HyPsd@ding@115}{\9045\262}% U+25B2
2496 % U+25BC BLACK DOWN-POINTING TRIANGLE
2497 \@namedef{HyPsd@ding@116}{\9045\274}% U+25BC
2498 % U+25C6 BLACK DIAMOND
2499 \@namedef{HyPsd@ding@117}{\9045\306}% U+25C6
2500 % U+25D7 RIGHT HALF BLACK CIRCLE

```

```

2501 \@namedef{HyPsd@ding@119}{\9045\327}% U+25D7
2502 \@namedef{HyPsd@ding@168}{\textclubsuitblack}%
2503 \@namedef{HyPsd@ding@169}{\textdiamondsuitblack}%
2504 \@namedef{HyPsd@ding@170}{\textheartsuitblack}%
2505 \@namedef{HyPsd@ding@171}{\textspadesuitblack}%
2506 \@namedef{HyPsd@ding@213}{\textrightarrow}%
2507 \@namedef{HyPsd@ding@214}{\textleftarrow}%
2508 \@namedef{HyPsd@ding@215}{\textupdownarrow}%
2509 \@namedef{HyPsd@ding@240}{\HyPsd@UnicodeReplacementCharacter}

```

## 7 Support of other packages

### 7.1 Class memoir

```

2510 \@ifclassloaded{memoir}{%
2511   \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}%
2512 }{}

```

### 7.2 Package subfigure

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

```

2513 \@ifpackageloaded{subfigure}{%
2514   \ltx@ifundefined{sub@label}{%
2515     \Hy@hypertextnamesfalse
2516   }{%
2517     \renewcommand*{\sub@label}[1]{%
2518       \@bsphack
2519       \subfig@oldlabel{#1}%
2520       \if@filesw
2521         \begingroup
2522           \edef\@currentlabstr{%
2523             \expandafter\strip@prefix\meaning\@currentlabelname
2524           }%
2525           \protected@write\@auxout{}{%
2526             \string\newlabel{sub@#1}{%
2527               {\@nameuse{\@thesub\@capytype}}%
2528               {\thepage}%
2529             }%
2530             \expandafter\strip@period\@currentlabstr
2531             \relax.\relax\@@@%
2532           }%
2533           {\@currentHref}%
2534         }%
2535       }%
2536     }%
2537   \endgroup
2538   \fi
2539   \@esphack
2540 }%
2541 \@ifpackagelater{subfigure}{2002/03/26}{%
2542   \providecommand*{\toclevel@subfigure}{1}%
2543   \providecommand*{\toclevel@subtable}{1}%
2544 }%
2545 }%
2546 {}

```

### 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:

```
2547 \ltx@ifundefined{XR@addURL}{%
2548 }{%
```

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.

```
2549 \def\xR@addURL#1{\xR@dURL#1{}{}{}%
2550 \def\xR@dURL#1#2#3#4#5\{%
2551   {#1}{#2}%
2552   \if!#4!%
2553   \else
2554     {#3}{#4}{\xR@URL}%
2555   \fi
2556 }%
2557 }
```

```
2558 \def\Hy@true{true}
2559 \def\Hy@false{false}
```

Providing dummy definitions.

```
2560 \let\literalps@out\@gobble
2561 \newcommand\pdfbookmark[3]{}{}
2562 \def\Acrobatmenu#1#2{\leavevmode#2}
2563 \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

```
2564 \let\HyperRaiseLinkHook\@empty
2565 \def\HyperRaiseLinkDefault{\baselineskip}
```

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

```
2566 \newcount\Hy@SavedSpaceFactor
2567 \def\Hy@SaveSpaceFactor{%
2568   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@
2569 }
2570 \def\Hy@RestoreSpaceFactor{%
2571   \relax
2572   \ifhmode
2573     \ifnum\Hy@SavedSpaceFactor>\z@
2574       \spacefactor=\Hy@SavedSpaceFactor
2575     \fi
2576   \fi
```

```

2577 }
2578 \def\Hy@SaveSavedSpaceFactor{%
2579 \edef\Hy@RestoreSavedSpaceFactor{%
2580   \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2581 }%
2582 }
2583 \def\Hy@raisedlink#1{%
2584   \ifvmode
2585     #1%
2586   \else
2587     \Hy@SaveSpaceFactor
2588     \penalty\@M
2589     \smash{%
2590       \begingroup
2591         \let\HyperRaiseLinkLength\@tempdima
2592         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2593         \HyperRaiseLinkHook
2594       \expandafter\endgroup
2595       \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2596         \Hy@RestoreSpaceFactor
2597         #1%
2598       \Hy@SaveSpaceFactor
2599     }%
2600   }%
2601   \Hy@RestoreSpaceFactor
2602 \fi
2603 }

```

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

```

2604 \def\Hy@SaveLastskip{%
2605   \let\Hy@RestoreLastskip\relax
2606   \ifvmode
2607     \ifdim\lastskip=\z@
2608       \let\Hy@RestoreLastskip\nobreak
2609     \else
2610       \begingroup
2611         \skip@=-\lastskip
2612         \edef\x{%
2613           \endgroup
2614           \def\noexpand\Hy@RestoreLastskip{%
2615             \noexpand\ifvmode
2616               \noexpand\nobreak
2617               \vskip\the\skip@
2618               \vskip\the\lastskip\relax
2619             \noexpand\fi
2620           }%
2621         }%
2622       \x
2623     \fi
2624   \else
2625     \ifhmode
2626       \ifdim\lastskip=\z@
2627         \let\Hy@RestoreLastskip\nobreak
2628       \else
2629         \begingroup
2630           \skip@=-\lastskip
2631         \edef\x{%

```



```

2632         \endgroup
2633         \def\noexpand\Hy@RestoreLastskip{%
2634             \noexpand\ifhmode
2635                 \noexpand\nobreak
2636                 \hskip\the\skip@
2637                 \hskip\the\lastskip\relax
2638             \noexpand\fi
2639         }%
2640     }%
2641     \x
2642     \fi
2643     \fi
2644     \fi
2645 }%

```

## 9 Options

```

2646 \SetupKeyvalOptions{%
2647     family=Hyp,%
2648     prefix=HyOpt%
2649 }

```

### 9.1 Help macros

`\IfHyperBooleanExists`

```

2650 \def\IfHyperBooleanExists#1{%
2651     \ltx@ifundefined{Hy@#1false}\ltx@secondoftwo{%
2652         \ltx@ifundefined{KV@Hyp@#1@default}\ltx@secondoftwo\ltx@firstoftwo
2653     }%
2654 }

2655 \@namedef{KV@Hyp@stoppeearly@default}{\}

```

`\IfHyperBoolean`

```

2656 \def\IfHyperBoolean#1{%
2657     \IfHyperBooleanExists{#1}{%
2658         \csname ifHy@#1\endcsname
2659         \expandafter\ltx@firstoftwo
2660     \else
2661         \expandafter\ltx@secondoftwo
2662     \fi
2663 } \ltx@secondoftwo
2664 }

```

`\Hy@boolkey`

```

2665 \def\Hy@boolkey#1#2{%
2666     \edef\Hy@tempa{#2}%
2667     \lowercase\expandafter{%
2668         \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2669     }%
2670     \ifx\Hy@tempa\@empty
2671         \let\Hy@tempa\Hy@true
2672     \fi
2673     \ifx\Hy@tempa\Hy@true
2674     \else
2675         \ifx\Hy@tempa\Hy@false
2676     \else

```

```

2677 \let\Hy@tempa\relax
2678 \fi
2679 \fi
2680 \ifx\Hy@tempa\relax
2681 \Hy@WarnOptionValue{#2}{#1}{‘true’ or ‘false’}%
2682 \else
2683 \Hy@Info{Option ‘#1’ set ‘\Hy@tempa’}%
2684 \csname Hy@#1\Hy@tempa\endcsname
2685 \fi
2686 }

```

\Hy@WarnOptionValue

```

2687 \def\Hy@WarnOptionValue#1#2#3{%
2688 \Hy@Warning{%
2689 Unexpected value ‘#1’\MessageBreak
2690 of option ‘#2’ instead of\MessageBreak
2691 #3%
2692 }%
2693 }

```

\Hy@DisableOption

```

2694 \def\Hy@DisableOption#1{%
2695 \ltx@ifundefined{KV@Hyp@#1@default}{%
2696 \define@key{Hyp}{#1}%
2697 }{%
2698 \define@key{Hyp}{#1}[]%
2699 }%
2700 {\Hy@WarnOptionDisabled{#1}}}%
2701 }

```

\Hy@WarnOptionDisabled

```

2702 \def\Hy@WarnOptionDisabled#1{%
2703 \Hy@Warning{%
2704 Option ‘#1’ has already been used,\MessageBreak
2705 setting the option has no effect%
2706 }%
2707 }

```

\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.

```

2708 \def\Hy@CheckOptionValue#1#2#3{%
2709 \begingroup
2710 \edef\x{#1}%
2711 \@onelevel@sanitize\x
2712 \let\y=y%
2713 \def\do##1##2{%
2714 \def\z{##1}%
2715 \@onelevel@sanitize\z
2716 \ifx\x\z
2717 \let\y=n%
2718 \let\do\@gobbletwo
2719 \fi
2720 }%
2721 #3%
2722 \ifx\y y%
2723 \def\do##1##2{%

```

```

2724      * '#1'%
2725      \ifx\##2\\\else\space(##2)\fi
2726      \MessageBreak
2727    }%
2728    \Hy@Warning{%
2729      Values of option '#2':\MessageBreak
2730      #3%
2731      * An empty value disables the option.\MessageBreak
2732      Unknown value '\x'%
2733    }%
2734    \fi
2735    \endgroup
2736 }

```

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

```

2737 \def\Hy@DefNameKey#1{%
2738   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2739 }

```

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

```

2740 \def\Hy@@DefNameKey#1#2#3{%
2741   \define@key{Hyp}{#2}{%
2742     \edef#1{##1}%
2743     \ifx#1\@empty
2744       \else
2745         \Hy@CheckOptionValue{##1}{#2}{#3}%
2746       \fi
2747     }%
2748   \let#1\@empty
2749 }

```

\Hy@UseNameKey

```

2750 \def\Hy@UseNameKey#1#2{%
2751   \ifx#2\@empty
2752     \else
2753       /#1/#2%
2754     \fi
2755 }

```

## 9.2 Defining the options

```

2756 \define@key{Hyp}{implicit}[true]{%
2757   \Hy@boolkey{implicit}{#1}%
2758 }
2759 \define@key{Hyp}{draft}[true]{%
2760   \Hy@boolkey{draft}{#1}%
2761 }
2762 \define@key{Hyp}{final}[true]{%
2763   \Hy@boolkey{final}{#1}%
2764 }
2765 \let\KV@Hyp@nolinks\KV@Hyp@draft
2766 \def\Hy@ObsoletePaperOption#1{%

```

```

2767 \Hy@WarningNoLine{%
2768   Option '#1' is no longer used%
2769 }%
2770 \define@key{Hyp}{#1}[true]{}%
2771 }
2772 \def\Hy@temp#1{%
2773   \define@key{Hyp}{#1}[true]{}%
2774   \Hy@ObsoletePaperOption{#1}%
2775 }%
2776 }
2777 \Hy@temp{a4paper}
2778 \Hy@temp{a5paper}
2779 \Hy@temp{b5paper}
2780 \Hy@temp{letterpaper}
2781 \Hy@temp{legalpaper}
2782 \Hy@temp{executivepaper}

2783 \define@key{Hyp}{setpagesize}[true]{}%
2784 \Hy@boolkey{setpagesize}{#1}%
2785 }
2786 \define@key{Hyp}{debug}[true]{}%
2787 \Hy@boolkey{debug}{#1}%
2788 }
2789 \define@key{Hyp}{linktocpage}[true]{}%
2790 \Hy@boolkey{linktocpage}{#1}%
2791 \ifHy@linktocpage
2792   \let\Hy@linktoc\Hy@linktoc@page
2793 \else
2794   \let\Hy@linktoc\Hy@linktoc@section
2795 \fi
2796 }
2797 \chardef\Hy@linktoc@none=0 %
2798 \chardef\Hy@linktoc@section=1 %
2799 \chardef\Hy@linktoc@page=2 %
2800 \chardef\Hy@linktoc@all=3 %
2801 \ifHy@linktocpage
2802   \let\Hy@linktoc\Hy@linktoc@page
2803 \else
2804   \let\Hy@linktoc\Hy@linktoc@section
2805 \fi
2806 \define@key{Hyp}{linktoc}{}%
2807 \@ifundefined{Hy@linktoc@#1}{}%
2808   \Hy@Warning{%
2809     Unexpected value '#1' of\MessageBreak
2810     option 'linktoc' instead of 'none',\MessageBreak
2811     'section', 'page' or 'all'%
2812   }%
2813 }{}%
2814 \expandafter\let\expandafter\Hy@linktoc
2815   \csname Hy@linktoc@#1\endcsname
2816 }%
2817 }
2818 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2819 \let\XR@ext\relax
2820 \define@key{Hyp}{verbose}[true]{}%
2821 \Hy@boolkey{verbose}{#1}%
2822 }
2823 \define@key{Hyp}{typexml}[true]{}%

```

```

2824 \Hy@boolkey{typexml}{#1}%
2825 }

```

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.

```

2826 \define@key{Hyp}{raiselinks}[true]{%
2827 \Hy@boolkey{raiselinks}{#1}%
2828 }

```

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

```

2829 \def\Hy@setbreaklinks#1{%
2830 \csname breaklinks#1\endcsname
2831 }

2832 \def\Hy@breaklinks@unsupported{%
2833 \ifx\Hy@setbreaklinks\@gobble
2834 \ifHy@breaklinks
2835 \Hy@WarningNoLine{%
2836 You have enabled option 'breaklinks'.\MessageBreak
2837 But driver '\Hy@driver.def' does not support this.\MessageBreak
2838 Expect trouble with the link areas of broken links%
2839 }%
2840 \fi
2841 \fi
2842 }

```

```

2843 \define@key{Hyp}{breaklinks}[true]{%
2844 \Hy@boolkey{breaklinks}{#1}%
2845 \let\Hy@setbreaklinks\@gobble
2846 }

```

```

2847 \define@key{Hyp}{localanchorname}[true]{%
2848 \Hy@boolkey{localanchorname}{#1}%
2849 }

```

Determines whether an automatic anchor is put on each page

```

2850 \define@key{Hyp}{pageanchor}[true]{%
2851 \Hy@boolkey{pageanchor}{#1}%
2852 }

```

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.

```

2853 \define@key{Hyp}{plainpages}[true]{%
2854 \Hy@boolkey{plainpages}{#1}%
2855 }

```

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?

```

2856 \define@key{Hyp}{naturalnames}[true]{%
2857 \Hy@boolkey{naturalnames}{#1}%
2858 }

```

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

```

2859 \define@key{Hyp}{hypertexnames}[true]{%
2860 \Hy@boolkey{hypertexnames}{#1}%
2861 }

```

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

```

2862 \define@key{Hyp}{nesting}[true]{%

```

```

2863 \Hy@boolkey{nesting}{#1}%
2864 }
2865 \define@key{Hyp}{destlabel}[true]{%
2866 \Hy@boolkey{destlabel}{#1}%
2867 }
2868 \define@key{Hyp}{unicode}[true]{%
2869 \Hy@boolkey{unicode}{#1}%
2870 \ifHy@unicode
2871 \def\HyPsd@pdfencoding{unicode}%
2872 \HyPsd@LoadUnicode
2873 \else
2874 \def\HyPsd@pdfencoding{pdfdoc}%
2875 \fi
2876 }
2877 \Hy@AtBeginDocument{%
2878 \ifx\HyPsd@LoadUnicode\relax
2879 \else
2880 \def\HyPsd@LoadUnicode{%
2881 \Hy@Error{%
2882 Unicode support for bookmarks is not available.\MessageBreak
2883 Activate unicode support by using one of the options\MessageBreak
2884 'unicode', 'pdfencoding=unicode', 'pdfencoding=auto'\MessageBreak
2885 in the preamble%
2886 } \@ehc
2887 \global\let\HyPsd@LoadUnicode\relax
2888 \global\Hy@unicodetrue
2889 \global\let\Hy@unicodetrue\Hy@unicodetrue
2890 }%
2891 \fi
2892 }
2893 \define@key{Hyp}{pdfencoding}{%
2894 \edef\HyPsd@temp{#1}%
2895 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2896 \let\HyPsd@pdfencoding\HyPsd@temp
2897 \Hy@unicodetrue
2898 \else
2899 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2900 \z@
2901 \else
2902 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2903 \z@
2904 \else
2905 \@ne
2906 \fi
2907 \fi
2908 \let\HyPsd@pdfencoding\HyPsd@temp
2909 \hypersetup{unicode}%
2910 \ifHy@unicode
2911 \def\HyPsd@pdfencoding{#1}%
2912 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2913 \HyPsd@LoadStringEnc
2914 \fi
2915 \else
2916 \Hy@Warning{Cannot switch to unicode bookmarks}%
2917 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2918 \fi
2919 \else

```

```

2920 \@onelevel@sanitize\HyPsd@temp
2921 \Hy@Warning{%
2922   Values of option 'pdfencoding':\MessageBreak
2923   'pdfdoc', 'unicode', 'auto'.\MessageBreak
2924   Ignoring unknown value '\HyPsd@temp'%
2925 }%
2926 \fi
2927 \fi
2928 }
2929 \def\HyPsd@pdfencoding@auto{auto}
2930 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2931 \def\HyPsd@pdfencoding@unicode{unicode}
2932 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2933 \def\HyPsd@LoadStringEnc{%
2934   \RequirePackage{stringenc}[2009/12/15]%
2935   \let\HyPsd@LoadStringEnc\relax
2936 }
2937 \Hy@AtBeginDocument{%
2938   \ifpackageloaded{stringenc}{%
2939     \let\HyPsd@LoadStringEnc\relax
2940   }{%
2941     \def\HyPsd@LoadStringEnc{%
2942       \Hy@WarningNoLine{%
2943         Missing package 'stringenc'. Use 'pdfencoding=auto'\MessageBreak
2944         in the preamble or load the package there%
2945       }%
2946     }%
2947   }%
2948 }
2949 \define@key{Hyp}{psdextra}[true]{%
2950   \Hy@boolkey{psdextra}{#1}%
2951 }
2952 \def\hypersetup{\kvsetkeys{Hyp}}
2953 \newif\ifHy@setpdfversion
2954 \define@key{Hyp}{pdfversion}{%
2955   \@ifundefined{Hy@pdfversion@#1}{%
2956     \PackageWarning{hyperref}{%
2957       Unsupported PDF version '#1'.\MessageBreak
2958       Valid values: 1.2 until 1.9%
2959     }%
2960   }{%
2961     \Hy@setpdfversiontrue
2962     \edef\Hy@pdfversion{\@nameuse{Hy@pdfversion@#1}}%
2963   }%
2964 }
2965 \@namedef{Hy@pdfversion@1.2}{2}%
2966 \@namedef{Hy@pdfversion@1.3}{3}%
2967 \@namedef{Hy@pdfversion@1.4}{4}%
2968 \@namedef{Hy@pdfversion@1.5}{5}%
2969 \@namedef{Hy@pdfversion@1.6}{6}%
2970 \@namedef{Hy@pdfversion@1.7}{7}%
2971 \@namedef{Hy@pdfversion@1.8}{8}%
2972 \@namedef{Hy@pdfversion@1.9}{9}%
2973 \def\Hy@pdfversion{2}

```

## 10 Options for different drivers

```

2974 \newif\ifHy@DviMode
2975 \let\Hy@DviErrMsg\ltx@empty
2976 \ifpdf
2977   \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
2978 \else
2979   \ifxetex
2980     \def\Hy@DviErrMsg{XeTeX is running}%
2981   \else
2982     \ifvtex
2983       \ifvtexdvi
2984         \Hy@DviModetrue
2985       \else
2986         \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
2987       \fi
2988     \else
2989       \Hy@DviModetrue
2990     \fi
2991   \fi
2992 \fi
2993 \def\HyOpt@CheckDvi#1{%
2994   \ifHy@DviMode
2995     \expandafter\ltx@firstofone
2996   \else
2997     \Hy@Error{%
2998       Wrong DVI mode driver option ‘#1’,\MessageBreak
2999       because \Hy@DviErrMsg
3000     }\@ehc
3001     \expandafter\ltx@gobble
3002   \fi
3003 }
3004 \DeclareVoidOption{tex4ht}{%
3005   \Hy@texhttrue
3006   \kvsetkeys{Hyp}{colorlinks=true}%
3007   \def\BeforeTeXIVht{\RequirePackage{color}}}%
3008 \def\Hy@driver{htex4ht}%
3009 \def\MaybeStopEarly{%
3010   \Hy@Message{Stopped early}%
3011   \Hy@AtBeginDocument{%
3012     \PDF@FinishDoc
3013     \gdef\PDF@FinishDoc{}%
3014   }%
3015   \endinput
3016 }%
3017 }
3018 \DeclareVoidOption{pdftex}{%
3019   \ifpdf
3020     \def\Hy@driver{hpdftex}%
3021   \else
3022     \Hy@Error{%
3023       Wrong driver option ‘pdftex’,\MessageBreak
3024       because pdfTeX in PDF mode is not detected%
3025     }\@ehc
3026   \fi
3027 }
3028 \DeclareVoidOption{nativepdf}{%

```



```

3029 \HyOpt@CheckDvi{nativepdf}{%
3030   \def\Hy@driver{hdvips}%
3031 }%
3032 }
3033 \DeclareVoidOption{dvipdfm}{%
3034   \HyOpt@CheckDvi{dvipdfm}{%
3035     \def\Hy@driver{hdvipdfm}%
3036   }%
3037 }
3038 \DeclareVoidOption{dvipdfmx}{%
3039   \HyOpt@CheckDvi{dvipdfmx}{%
3040     \def\Hy@driver{hdvipdfm}%
3041   }%
3042 }
3043 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
3044   \expandafter\ifx\csname if#1\expandafter\endcsname
3045     \csname iftrue\endcsname
3046     \chardef\SpecialDvipdfmxOutlineOpen\@ne
3047   \else
3048     \chardef\SpecialDvipdfmxOutlineOpen\z@
3049   \fi
3050 }
3051 \DeclareVoidOption{xetex}{%
3052   \ifxetex
3053     \def\Hy@driver{hxetex}%
3054   \else
3055     \Hy@Error{%
3056       Wrong driver option 'xetex',\MessageBreak
3057       because XeTeX is not detected%
3058     }\@ehc
3059   \fi
3060 }
3061 \DeclareVoidOption{pdfmark}{%
3062   \HyOpt@CheckDvi{pdfmark}{%
3063     \def\Hy@driver{hdvips}%
3064   }%
3065 }
3066 \DeclareVoidOption{dvips}{%
3067   \HyOpt@CheckDvi{dvips}{%
3068     \def\Hy@driver{hdvips}%
3069   }%
3070 }
3071 \DeclareVoidOption{hypertex}{%
3072   \HyOpt@CheckDvi{hypertex}{%
3073     \def\Hy@driver{hypertex}%
3074   }%
3075 }
3076 \let\Hy@MaybeStopNow\relax
3077 \DeclareVoidOption{vtex}{%
3078   \ifvtex
3079     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
3080     \def\Hy@driver{hvtex}%
3081   \else
3082     \ifnum\OpMode=10\relax
3083     \def\Hy@driver{hvtexhtm}%
3084     \def\Hy@MaybeStopEarly{%
3085       \Hy@Message{Stopped early}%

```

```

3086     \Hy@AtBeginDocument{%
3087         \PDF@FinishDoc
3088         \gdef\PDF@FinishDoc{}%
3089     }%
3090     \endinput
3091 }%
3092 \else
3093     \Hy@Error{%
3094         Wrong driver option 'vtex',\MessageBreak
3095         because of wrong OpMode (\the\OpMode)%
3096     }\@ehc
3097 \fi
3098 \fi
3099 \else
3100     \Hy@Error{%
3101         Wrong driver option 'vtex',\MessageBreak
3102         because VTeX is not running%
3103     }\@ehc
3104 \fi
3105 }
3106 \DeclareVoidOption{vtexpdfmark}{%
3107     \ifvtex
3108         \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
3109         \def\Hy@driver{hvtexmrk}%
3110     \else
3111         \Hy@Error{%
3112             Wrong driver option 'vtexpdfmark',\MessageBreak
3113             because of wrong OpMode (\the\OpMode)%
3114         }\@ehc
3115     \fi
3116 \else
3117     \Hy@Error{%
3118         Wrong driver option 'vtexpdfmark',\MessageBreak
3119         because VTeX is not running%
3120     }\@ehc
3121 \fi
3122 }
3123 \DeclareVoidOption{dviwindo}{%
3124     \HyOpt@CheckDvi{dviwindo}{%
3125         \def\Hy@driver{hdviwind}%
3126         \kvsetkeys{Hyp}{colorlinks}%
3127         \PassOptionsToPackage{dviwindo}{color}%
3128     }%
3129 }
3130 \DeclareVoidOption{dvipsone}{%
3131     \HyOpt@CheckDvi{dvipsone}{%
3132         \def\Hy@driver{hdvipson}%
3133     }%
3134 }
3135 \DeclareVoidOption{textures}{%
3136     \HyOpt@CheckDvi{textures}{%
3137         \def\Hy@driver{htexture}%
3138     }%
3139 }
3140 \DeclareVoidOption{latex2html}{%
3141     \HyOpt@CheckDvi{latex2html}{%
3142         \Hy@AtBeginDocument{\@latex2htmlX}%

```

```

3143 }%
3144 }

```

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

```

3145 \DeclareVoidOption{ps2pdf}{}%
3146 \HyOpt@CheckDvi{ps2pdf}{}%
3147 \def\Hy@driver{hdvips}%
3148 }%
3149 }

3150 \let\HyOpt@DriverFallback\ltx@empty
3151 \define@key{Hyp}{driverfallback}{}%
3152 \ifHy@DviMode
3153 \def\HyOpt@DriverFallback{#1}%
3154 \Hy@Match\HyOpt@DriverFallback{%
3155   ^(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
3156   latex2html|tex4ht)$%
3157 }{}{%
3158   \let\HyOpt@DriverFallback\ltx@empty
3159 }%
3160 \fi
3161 }

```

## 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.

```

3162 \define@key{Hyp}{hyperfigures}[true]{%
3163   \Hy@boolkey{hyperfigures}{#1}%
3164 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

3165 \define@key{Hyp}{hyperfootnotes}[true]{%
3166   \Hy@boolkey{hyperfootnotes}{#1}%
3167 }

```

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

```

3168 \def\back@none{none}
3169 \def\back@section{section}
3170 \def\back@page{page}
3171 \def\back@slide{slide}
3172 \define@key{Hyp}{backref}[section]{%
3173   \lowercase{\def\Hy@tempa{#1}}%
3174   \ifx\Hy@tempa\@empty
3175     \let\Hy@tempa\back@section
3176   \fi
3177   \ifx\Hy@tempa\Hy@false
3178     \let\Hy@tempa\back@none
3179   \fi
3180   \ifx\Hy@tempa\back@slide
3181     \let\Hy@tempa\back@section
3182   \fi
3183   \ifx\Hy@tempa\back@page
3184     \PassOptionsToPackage{hyperpageref}{backref}%
3185     \Hy@backreftrue
3186   \else
3187     \ifx\Hy@tempa\back@section
3188       \PassOptionsToPackage{hyperref}{backref}%
3189       \Hy@backreftrue

```

```

3190 \else
3191 \ifx\Hy@tempa\back@none
3192 \Hy@backreffalse
3193 \else
3194 \Hy@WarnOptionValue{#1}{backref}{%
3195 'section', 'slide', 'page', 'none', \MessageBreak
3196 or 'false'}%
3197 \fi
3198 \fi
3199 \fi
3200 }
3201 \define@key{Hyp}{pagebackref}[true]{%
3202 \edef\Hy@tempa{#1}%
3203 \lowercase\expandafter{%
3204 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
3205 }%
3206 \ifx\Hy@tempa\@empty
3207 \let\Hy@tempa\Hy@true
3208 \fi
3209 \ifx\Hy@tempa\Hy@true
3210 \PassOptionsToPackage{hyperpageref}{backref}%
3211 \Hy@backreftrue
3212 \else
3213 \ifx\Hy@tempa\Hy@false
3214 \Hy@backreffalse
3215 \else
3216 \Hy@WarnOptionValue{#1}{pagebackref}{'true' or 'false'}%
3217 \fi
3218 \fi
3219 }

```

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

```

3220 \define@key{Hyp}{hyperindex}[true]{%
3221 \Hy@boolkey{hyperindex}{#1}%
3222 }

```

Configuration of encap char.

```

3223 \define@key{Hyp}{encap}{\|}{%
3224 \def\HyInd@EncapChar{#1}%
3225 }

```

## 12 Language options

The `\autoref` feature depends on the language.

```

3226 \def\HyLang@afrikaans{%
3227 \def\equationautorefname{Vergelyking}%
3228 \def\footnoteautorefname{Voetnota}%
3229 \def\itemautorefname{Item}%
3230 \def\figureautorefname{Figuur}%
3231 \def\tableautorefname{Tabel}%
3232 \def\partautorefname{Deel}%
3233 \def\appendixautorefname{Bylae}%
3234 \def\chapterautorefname{Hoofstuk}%
3235 \def\sectionautorefname{Afdeling}%
3236 \def\subsectionautorefname{Subafdeling}%
3237 \def\subsubsectionautorefname{Subsubafdeling}%

```

```

3238 \def\paragraphautorefname{Paragraaf}%
3239 \def\subparagraphautorefname{Subparagraaf}%
3240 \def\FancyVerbLineautorefname{Lyn}%
3241 \def\theoremautorefname{Teorema}%
3242 \def\pageautorefname{Bladsy}%
3243 }
3244 \def\HyLang@english{%
3245 \def\equationautorefname{Equation}%
3246 \def\footnoteautorefname{footnote}%
3247 \def\itemautorefname{item}%
3248 \def\figureautorefname{Figure}%
3249 \def\tableautorefname{Table}%
3250 \def\partautorefname{Part}%
3251 \def\appendixautorefname{Appendix}%
3252 \def\chapterautorefname{chapter}%
3253 \def\sectionautorefname{section}%
3254 \def\subsectionautorefname{subsection}%
3255 \def\subsubsectionautorefname{subsubsection}%
3256 \def\paragraphautorefname{paragraph}%
3257 \def\subparagraphautorefname{subparagraph}%
3258 \def\FancyVerbLineautorefname{line}%
3259 \def\theoremautorefname{Theorem}%
3260 \def\pageautorefname{page}%
3261 }
3262 \def\HyLang@french{%
3263 \def\equationautorefname{'Equation}%
3264 \def\footnoteautorefname{note}%
3265 \def\itemautorefname{item}%
3266 \def\figureautorefname{Figure}%
3267 \def\tableautorefname{Tableau}%
3268 \def\partautorefname{Partie}%
3269 \def\appendixautorefname{Appendice}%
3270 \def\chapterautorefname{chapitre}%
3271 \def\sectionautorefname{section}%
3272 \def\subsectionautorefname{sous-section}%
3273 \def\subsubsectionautorefname{sous-sous-section}%
3274 \def\paragraphautorefname{paragraphe}%
3275 \def\subparagraphautorefname{sous-paragraphe}%
3276 \def\FancyVerbLineautorefname{ligne}%
3277 \def\theoremautorefname{Th\'eor\`eme}%
3278 \def\pageautorefname{page}%
3279 }
3280 \def\HyLang@german{%
3281 \def\equationautorefname{Gleichung}%
3282 \def\footnoteautorefname{Fu\ss note}%
3283 \def\itemautorefname{Punkt}%
3284 \def\figureautorefname{Abbildung}%
3285 \def\tableautorefname{Tabelle}%
3286 \def\partautorefname{Teil}%
3287 \def\appendixautorefname{Anhang}%
3288 \def\chapterautorefname{Kapitel}%
3289 \def\sectionautorefname{Abschnitt}%
3290 \def\subsectionautorefname{Unterabschnitt}%
3291 \def\subsubsectionautorefname{Unterunterabschnitt}%
3292 \def\paragraphautorefname{Absatz}%
3293 \def\subparagraphautorefname{Unterabsatz}%
3294 \def\FancyVerbLineautorefname{Zeile}%

```

```

3295 \def\theoremautorefname{Theorem}%
3296 \def\pageautorefname{Seite}%
3297 }
3298 \def\HyLang@italian{%
3299 \def\equationautorefname{Equazione}%
3300 \def\footnoteautorefname{nota}%
3301 \def\itemautorefname{punto}%
3302 \def\figureautorefname{Figura}%
3303 \def\tableautorefname{Tabella}%
3304 \def\partautorefname{Parte}%
3305 \def\appendixautorefname{Appendice}%
3306 \def\chapterautorefname{Capitolo}%
3307 \def\sectionautorefname{sezione}%
3308 \def\subsectionautorefname{sottosezione}%
3309 \def\subsubsectionautorefname{sottosottosezione}%
3310 \def\paragraphautorefname{paragrafo}%
3311 \def\subparagraphautorefname{sottoparagrafo}%
3312 \def\FancyVerbLineautorefname{linea}%
3313 \def\theoremautorefname{Teorema}%
3314 \def\pageautorefname{Pag.\@}%
3315 }
3316 \def\HyLang@magyar{%
3317 \def\equationautorefname{Egyenlet}%
3318 \def\footnoteautorefname{l\'abjegyzet}%
3319 \def\itemautorefname{Elem}%
3320 \def\figureautorefname{'\Abra}%
3321 \def\tableautorefname{T\'abl\'azat}%
3322 \def\partautorefname{R\'esz}%
3323 \def\appendixautorefname{F\'uggel\'ek}%
3324 \def\chapterautorefname{fejezet}%
3325 \def\sectionautorefname{szakasz}%
3326 \def\subsectionautorefname{alszakasz}%
3327 \def\subsubsectionautorefname{alalszakasz}%
3328 \def\paragraphautorefname{bekezd\'es}%
3329 \def\subparagraphautorefname{albekezd\'es}%
3330 \def\FancyVerbLineautorefname{sor}%
3331 \def\theoremautorefname{T\'etel}%
3332 \def\pageautorefname{oldal}%
3333 }
3334 \def\HyLang@portuges{%
3335 \def\equationautorefname{Equa\c c\~ao}%
3336 \def\footnoteautorefname{Nota de rodap\'e}%
3337 \def\itemautorefname{Item}%
3338 \def\figureautorefname{Figura}%
3339 \def\tableautorefname{Tabela}%
3340 \def\partautorefname{Parte}%
3341 \def\appendixautorefname{Ap\~endice}%
3342 \def\chapterautorefname{Cap\'itulo}%
3343 \def\sectionautorefname{Se\c c\~ao}%
3344 \def\subsectionautorefname{Subse\c c\~ao}%
3345 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3346 \def\paragraphautorefname{par\'agrafo}%
3347 \def\subparagraphautorefname{subpar\'agrafo}%
3348 \def\FancyVerbLineautorefname{linha}%
3349 \def\theoremautorefname{Teorema}%
3350 \def\pageautorefname{P\'agina}%
3351 }

```

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`.

```
3352 \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`?

```
3353 \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`.

```
3354 % \def\equationautorefname{%
```

```
3355 % \cyr\cyrv\cyrry\cyrr\cyra\cyrrh\cyre\cyrn\cyri\cyre
```

```
3356 % }%
```

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

```
3357 \def\footnoteautorefname{%
```

```
3358 \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
```

```
3359 }%
```

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}`”

```
3360 % \def\footnoteautorefname{%
```

```
3361 % \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %
```

```
3362 % \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre
```

```
3363 % }%
```

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

```
3364 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
```

```
3365 % \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.

```
3366 \def\itemautorefname{\cyr\cyrp.}%
```

```
3367 % \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.

```
3368 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
```

```
3369 \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.

```
3370 \def\partautorefname{\cyr\cyrch.}%
```

```
3371 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
```

```
3372 \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.

```
3373 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyr1.}%
3374 % \def\appendixautorefname{%
3375 % \cyr\cyrp\cyrr\cyri\cyr1\cyro\cyrzh\cyre\cyrn\cyri\cyre
3376 % }%
```

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.

```
3377 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
3378 \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.

```
3379 \def\paragraphautorefname{\cyr\cyrp.}%
3380 \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.

```
3381 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
3382 % \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.

```
3383 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
3384 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
3385 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
3386 % \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 ...

```
3387 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
3388 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
3389 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
3390 \def\pageautorefname{\cyr\cyrs.}%
3391 }
```

```
3392 \def\HyLang@spanish{%
3393 \def\equationautorefname{Ecuaci'on}%
3394 \def\footnoteautorefname{Nota a pie de p'agina}%
3395 \def\itemautorefname{Elemento}%
3396 \def\figureautorefname{Figura}%
```



```

3397 \def\tableautorefname{Tabla}%
3398 \def\partautorefname{Parte}%
3399 \def\appendixautorefname{Ap\`endice}%
3400 \def\chapterautorefname{Cap\`itulo}%
3401 \def\sectionautorefname{Secci\`on}%
3402 \def\subsectionautorefname{Subsecci\`on}%
3403 \def\subsubsectionautorefname{Subsubsecci\`on}%
3404 \def\paragraphautorefname{P\`arrafo}%
3405 \def\subparagraphautorefname{Subp\`arrafo}%
3406 \def\FancyVerbLineautorefname{L\`inea}%
3407 \def\theoremautorefname{Teorema}%
3408 \def\pageautorefname{P\`agina}%
3409 }
3410 \def\HyLang@vietnamese{%
3411 \def\equationautorefname{Ph\`uhorn{}}\ohorn{}ng tr\`inh}%
3412 \def\footnoteautorefname{Ch\`u th\`ich}%
3413 \def\itemautorefname{m\`d{u}c}%
3414 \def\figureautorefname{H\`inh}%
3415 \def\tableautorefname{B\`h{a}ng}%
3416 \def\partautorefname{Ph\`acircumflex{n}}%
3417 \def\appendixautorefname{Ph\`d{u} l\`d{u}c}%
3418 \def\chapterautorefname{ch\`uhorn{}}\ohorn{}ng}%
3419 \def\sectionautorefname{m\`d{u}c}%
3420 \def\subsectionautorefname{m\`d{u}c}%
3421 \def\subsubsectionautorefname{m\`d{u}c}%
3422 \def\paragraphautorefname{d{u}o\`d{a}n}%
3423 \def\subparagraphautorefname{d{u}o\`d{a}n}%
3424 \def\FancyVerbLineautorefname{d\`ong}%
3425 \def\theoremautorefname{D{J}{d{i}nh l\`y}}%
3426 \def\pageautorefname{Trang}%
3427 }

```

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

```

3428 \def\HyLang@addto#1#2{%
3429 #2%
3430 \@temptokena{#2}%
3431 \ifx#1\relax
3432 \let#1\@empty
3433 \fi
3434 \ifx#1\@undefined
3435 \edef#1{\the\@temptokena}%
3436 \else
3437 \toks@\expandafter{#1}%
3438 \edef#1{\the\toks@\the\@temptokena}%
3439 \fi
3440 \@temptokena{}\toks@\@temptokena
3441 }
3442 \def\HyLang@DeclareLang#1#2#3{%
3443 \@ifpackagewith{babel}{#1}{%
3444 \expandafter\HyLang@addto
3445 \csname extras#1\expandafter\endcsname
3446 \csname HyLang@#2\endcsname
3447 \begingroup
3448 \edef\x{\endgroup
3449 #3%
3450 }%

```

```

3451 \x
3452 \@namedef{HyLang@#1@done}{}%
3453 }{}%
3454 \begingroup
3455 \edef\x##1##2{%
3456 \noexpand\ifx##2\relax
3457 \errmessage{No definitions for language #2' found!}%
3458 \noexpand\fi
3459 \endgroup
3460 \noexpand\define@key{Hyp}{#1}[]{}%
3461 \noexpand\@ifundefined{HyLang@#1@done}{%
3462 \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3463 #3%
3464 \noexpand\@namedef{HyLang@#1@done}{}%
3465 }{}%
3466 }%
3467 }%
3468 \expandafter\x\csname extras#1\expandafter\endcsname
3469 \csname HyLang@#2\endcsname
3470 }
3471 \HyLang@DeclareLang{english}{english}{}
3472 \HyLang@DeclareLang{UKenglish}{english}{}
3473 \HyLang@DeclareLang{british}{english}{}
3474 \HyLang@DeclareLang{USenglish}{english}{}
3475 \HyLang@DeclareLang{american}{english}{}
3476 \HyLang@DeclareLang{german}{german}{}
3477 \HyLang@DeclareLang{austrian}{german}{}
3478 \HyLang@DeclareLang{ngerman}{german}{}
3479 \HyLang@DeclareLang{naustrian}{german}{}
3480 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3481 \HyLang@DeclareLang{brazil}{portuges}{}
3482 \HyLang@DeclareLang{brazilian}{portuges}{}
3483 \HyLang@DeclareLang{portuguese}{portuges}{}
3484 \HyLang@DeclareLang{spanish}{spanish}{}
3485 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3486 \HyLang@DeclareLang{french}{french}{}
3487 \HyLang@DeclareLang{frenchb}{french}{}
3488 \HyLang@DeclareLang{francais}{french}{}
3489 \HyLang@DeclareLang{acadian}{french}{}
3490 \HyLang@DeclareLang{canadien}{french}{}
3491 \HyLang@DeclareLang{italian}{italian}{}
3492 \HyLang@DeclareLang{magyar}{magyar}{}
3493 \HyLang@DeclareLang{hungarian}{magyar}{}

```

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

```

3494 \DeclareVoidOption{vietnamese}{%
3495 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3496 \Hy@AtEndOfPackage{%
3497 \@ifundefined{T@PU}{}%
3498 \input{puvnenc.def}%
3499 }%
3500 }%
3501 }
3502 \DeclareVoidOption{vietnam}{%
3503 \HyLang@addto\extrasvietnam\HyLang@vietnamese
3504 \Hy@AtEndOfPackage{%
3505 \@ifundefined{T@PU}{}%
3506 \input{puvnenc.def}%

```

```

3507 }%
3508 }%
3509 }

```

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

```

3510 \DeclareVoidOption{arabic}{%
3511   \Hy@AtEndOfPackage{%
3512     \@ifundefined{T@PU}{}{%
3513       \input{puarenc.def}%
3514     }%
3515   }%
3516 }

```

## 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.

```

3517 \define@key{Hyp}{colorlinks}[true]{%
3518   \Hy@boolkey{colorlinks}{#1}%
3519 }
3520 \DeclareVoidOption{hidelinks}{%
3521   \Hy@colorlinksfalse
3522   \Hy@ocgcolorlinksfalse
3523   \Hy@frenchlinksfalse
3524   \def\Hy@colorlink##1{\begingroup}%
3525   \def\Hy@endcolorlink{\endgroup}%
3526   \def\@pdfborder{0 0 0}%
3527   \let\@pdfborderstyle\ltx@empty
3528 }
3529 \define@key{Hyp}{ocgcolorlinks}[true]{%
3530   \Hy@boolkey{ocgcolorlinks}{#1}%
3531 }
3532 \Hy@AtBeginDocument{%
3533   \begingroup
3534   \@ifundefined{OBJ@OCG@view}{%
3535     \ifHy@ocgcolorlinks
3536       \Hy@Warning{%
3537         Driver does not support ‘ocgcolorlinks’,\MessageBreak
3538         using ‘colorlinks’ instead%
3539       }%
3540     \fi
3541   }{}%
3542   \endgroup
3543 }
3544 \define@key{Hyp}{frenchlinks}[true]{%
3545   \Hy@boolkey{frenchlinks}{#1}%
3546 }

```

## 14 Bookmarking

```

3547 \begingroup\expandafter\expandafter\expandafter\endgroup
3548 \expandafter\ifx\csname chapter\endcsname\relax
3549   \def\toclevel@part{0}%
3550 \else
3551   \def\toclevel@part{-1}%
3552 \fi
3553 \def\toclevel@chapter{0}

```

```

3554 \def\toclevel@section{1}
3555 \def\toclevel@subsection{2}
3556 \def\toclevel@subsubsection{3}
3557 \def\toclevel@paragraph{4}
3558 \def\toclevel@subparagraph{5}
3559 \def\toclevel@figure{0}
3560 \def\toclevel@table{0}
3561 \ifpackageloaded{listings}{%
3562   \providecommand*\theHlstlisting{\thelstlisting}%
3563   \providecommand*\toclevel@lstlisting{0}%
3564 }{}
3565 \ifpackageloaded{listing}{%
3566   \providecommand*\theHlisting{\thelisting}%
3567   \providecommand*\toclevel@listing{0}%
3568 }{}

3569 \define@key{Hyp}{bookmarks}[true]{%
3570   \Hy@boolkey{bookmarks}{#1}%
3571 }

3572 \define@key{Hyp}{bookmarksopen}[true]{%
3573   \Hy@boolkey{bookmarksopen}{#1}%
3574 }

```

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.

```

3575 \let\Hy@bookmarksdepth\c@tocdepth
3576 \define@key{Hyp}{bookmarksdepth}[]{}%
3577 \begingroup
3578   \edef\x{#1}%
3579   \ifx\x\empty
3580     \global\let\Hy@bookmarksdepth\c@tocdepth
3581   \else
3582     \@ifundefined{toclevel@\x}{%
3583       \@onelevel@sanitize\x
3584       \edef\y{\expandafter\@car\x\@nil}%
3585       \ifcase 0\expandafter\ifx\y-1\fi
3586         \expandafter\ifnum\expandafter'\y>47 %
3587         \expandafter\ifnum\expandafter'\y<58 1\fi\fi\relax
3588       \Hy@Warning{Unknown document division name (\x)}%
3589     \else
3590       \setbox\z@=\hbox{%
3591         \count@=\x
3592         \xdef\Hy@bookmarksdepth{\the\count@}%
3593       }%
3594     \fi
3595   }{}%
3596   \setbox\z@=\hbox{%
3597     \count@=\csname toclevel@\x\endcsname
3598     \xdef\Hy@bookmarksdepth{\the\count@}%

```

```

3599     }%
3600     }%
3601     \fi
3602 \endgroup
3603 }

```

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

```

3604 \define@key{Hyp}{bookmarksopenlevel}{%
3605   \def\@bookmarksopenlevel{#1}%
3606 }
3607 \def\@bookmarksopenlevel{\maxdimen}
3608 % ‘bookmarkstype’ to specify which ‘toc’ file to mimic
3609 \define@key{Hyp}{bookmarkstype}{%
3610   \def\Hy@bookmarkstype{#1}%
3611 }
3612 \def\Hy@bookmarkstype{toc}

```

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

```

3613 \define@key{Hyp}{bookmarksnumbered}[true]{%
3614   \Hy@boolkey{bookmarksnumbered}{#1}%
3615 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3616 \define@key{Hyp}{CJKbookmarks}[true]{%
3617   \Hy@boolkey{CJKbookmarks}{#1}%
3618 }

3619 \def\Hy@temp#1{%
3620   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3621 }
3622 \def\Hy@@temp#1#2#3{%
3623   \define@key{Hyp}{#2color}{%
3624     \HyColor@HyperrefColor{##1}#1%
3625   }%
3626   \def#1{#3}%
3627 }
3628 \Hy@temp{link}{red}
3629 \Hy@temp{anchor}{black}
3630 \Hy@temp{cite}{green}
3631 \Hy@temp{file}{cyan}
3632 \Hy@temp{url}{magenta}
3633 \Hy@temp{menu}{red}
3634 \Hy@temp{run}{\@filecolor}
3635 \define@key{Hyp}{pagecolor}{%
3636   \Hy@WarningPageColor
3637 }
3638 \def\Hy@WarningPageColor{%
3639   \Hy@WarningNoLine{Option ‘pagecolor’ is not available anymore}%
3640   \global\let\Hy@WarningPageColor\relax
3641 }
3642 \define@key{Hyp}{allcolors}{%
3643   \HyColor@HyperrefColor{#1}\@linkcolor
3644   \HyColor@HyperrefColor{#1}\@anchorcolor
3645   \HyColor@HyperrefColor{#1}\@citecolor
3646   \HyColor@HyperrefColor{#1}\@filecolor
3647   \HyColor@HyperrefColor{#1}\@urlcolor
3648   \HyColor@HyperrefColor{#1}\@menucolor
3649   \HyColor@HyperrefColor{#1}\@runcolor

```

```

3650 }
3651 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3652 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3653 \let\@baseurl\@empty
3654 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3655 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3656 \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.

```

3657 \let\@pdfpagetransition\relax
3658 \define@key{Hyp}{pdfpagetransition}{%
3659   \def\@pdfpagetransition{#1}%
3660 }

```

`\@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.

```

3661 \let\@pdfpageduration\relax
3662 \define@key{Hyp}{pdfpageduration}{%
3663   \def\@pdfpageduration{#1}%
3664   \Hy@Match\@pdfpageduration{%
3665     ^{([0-9]+\.[0-9]*|[0-9]*\.[0-9]+)}$%
3666   }{%
3667     \Hy@Warning{%
3668       Invalid value '@pdfpageduration'\MessageBreak
3669       of option 'pdfpageduration'\MessageBreak
3670       is replaced by an empty value%
3671     }%
3672     \let\@pdfpageduration\ltx@empty
3673   }%
3674 }

```

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.

```

3675 \newif\ifHy@useHidKey
3676 \Hy@useHidKeyfalse
3677 \define@key{Hyp}{pdfpagehidden}[true]{%
3678   \Hy@boolkey{pdfpagehidden}{#1}%
3679   \ifHy@pdfpagehidden
3680     \global\Hy@useHidKeytrue
3681   \fi
3682 }

```

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).

```

3683 \def\Hy@ColorList{cite,file,link,menu,run,url}
3684 \@for\Hy@temp:=\Hy@ColorList\do{%
3685   \edef\Hy@temp{%
3686     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3687       \noexpand\HyColor@HyperrefBorderColor
3688         {##1}%
3689       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3690       {hyperref}%
3691       {\Hy@temp bordercolor}%
3692     }%
3693   }%
3694   \Hy@temp
3695 }
3696 \define@key{Hyp}{pagebordercolor}{%
3697   \Hy@WarningPageBorderColor
3698 }
3699 \def\Hy@WarningPageBorderColor{%
3700   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3701   \global\let\Hy@WarningPageBorderColor\relax
3702 }
3703 \define@key{Hyp}{allbordercolors}{%
3704   \def\Hy@temp##1##2{%
3705     \HyColor@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}%
3706   }%
3707   \Hy@temp\@citebordercolor{cite}%
3708   \Hy@temp\@filebordercolor{file}%
3709   \Hy@temp\@linkbordercolor{link}%
3710   \Hy@temp\@menubordercolor{menu}%
3711   \Hy@temp\@runbordercolor{run}%
3712   \Hy@temp\@urlbordercolor{url}%
3713 }
3714 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3715 \Hy@DefNameKey{pdfhighlight}{%
3716   \do{/I}{Invert}%
3717   \do{/N}{None}%
3718   \do{/O}{Outline}%
3719   \do{/P}{Push}%
3720 }
3721 \define@key{Hyp}{pdfborder}{%
3722   \let\Hy@temp\@pdfborder
3723   \def\@pdfborder{#1}%
3724   \Hy@Match\@pdfborder{%
3725     ^\HyPat@NonNegativeReal/ %
3726     \HyPat@NonNegativeReal/ %
3727     \HyPat@NonNegativeReal/%
3728     ( ?[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*])?$$%
3729   }{}{%
3730     \Hy@Warning{%
3731       Invalid value '\@pdfborder'\MessageBreak
3732       for option 'pdfborder'\MessageBreak
3733       Option setting is ignored%
3734     }%
3735     \let\@pdfborder\Hy@temp
3736   }%
3737 }

```

```

3738 \define@key{Hyp}{pdfborderstyle}{%
3739   \let\Hy@temp\@pdfborderstyle
3740   \def\@pdfborderstyle{#1}%
3741   \Hy@Match\@pdfborderstyle{%
3742     ~%
3743     ( */Type */Border%
3744     | */W +\HyPat@NonNegativeReal/%
3745     | */S */[SDBIU]%
3746     | */D *\[ *(\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)?)?]%
3747     )* *$%
3748   }{}{%
3749     \Hy@Warning{%
3750       Invalid value '\@pdfborderstyle'\MessageBreak
3751       for option 'pdfborderstyle'\MessageBreak
3752       Option setting is ignored%
3753     }%
3754     \let\@pdfborderstyle\Hy@temp
3755   }%
3756 }
3757 \def\Hy@setpdfborder{%
3758   \ifx\@pdfborder\@empty
3759     \else
3760       /Border[\@pdfborder]%
3761     \fi
3762   \ifx\@pdfborderstyle\@empty
3763     \else
3764       /BS<<\@pdfborderstyle>>%
3765     \fi
3766 }
3767 \Hy@DefNameKey{pdfpagemode}{%
3768   \do{UseNone}{}%
3769   \do{UseOutlines}{}%
3770   \do{UseThumbs}{}%
3771   \do{FullScreen}{}%
3772   \do{UseOC}{PDF 1.5}%
3773   \do{UseAttachments}{PDF 1.6}%
3774 }
3775 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3776   \do{UseNone}{}%
3777   \do{UseOutlines}{}%
3778   \do{UseThumbs}{}%
3779   \do{FullScreen}{}%
3780   \do{UseOC}{PDF 1.5}%
3781   \do{UseAttachments}{PDF 1.6}%
3782 }
3783 \Hy@DefNameKey{pdfdirection}{%
3784   \do{L2R}{Left to right}%
3785   \do{R2L}{Right to left}%
3786 }
3787 \Hy@DefNameKey{pdfviewarea}{%
3788   \do{MediaBox}{}%
3789   \do{CropBox}{}%
3790   \do{BleedBox}{}%
3791   \do{TrimBox}{}%
3792   \do{ArtBox}{}%
3793 }
3794 \Hy@DefNameKey{pdfviewclip}{%

```



```

3795 \do{MediaBox}{}%
3796 \do{CropBox}{}%
3797 \do{BleedBox}{}%
3798 \do{TrimBox}{}%
3799 \do{ArtBox}{}%
3800 }
3801 \Hy@DefNameKey{pdfprintarea}{%
3802 \do{MediaBox}{}%
3803 \do{CropBox}{}%
3804 \do{BleedBox}{}%
3805 \do{TrimBox}{}%
3806 \do{ArtBox}{}%
3807 }
3808 \Hy@DefNameKey{pdfprintclip}{%
3809 \do{MediaBox}{}%
3810 \do{CropBox}{}%
3811 \do{BleedBox}{}%
3812 \do{TrimBox}{}%
3813 \do{ArtBox}{}%
3814 }
3815 \Hy@DefNameKey{pdfprintscaling}{%
3816 \do{AppDefault}{}%
3817 \do{None}{}%
3818 }
3819 \Hy@DefNameKey{pdfduplex}{%
3820 \do{Simplex}{}%
3821 \do{DuplexFlipShortEdge}{}%
3822 \do{DuplexFlipLongEdge}{}%
3823 }
3824 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3825 \do{true}{}%
3826 \do{false}{}%
3827 }
3828 \define@key{Hyp}{pdfprintpagerange}{%
3829 \def\@pdfprintpagerange{#1}%
3830 }
3831 \Hy@DefNameKey{pdfnumcopies}{%
3832 \do{2}{two copies}%
3833 \do{3}{three copies}%
3834 \do{4}{four copies}%
3835 \do{5}{five copies}%
3836 }
3837 \define@key{Hyp}{pdfusetitle}[true]{%
3838 \Hy@boolkey{pdfusetitle}{#1}%
3839 }
3840 \def\HyXeTeX@CheckUnicode{%
3841 \ifxetex
3842 \ifHy@unicode
3843 \else
3844 \Hy@WarningNoLine{%
3845 XeTeX driver only supports unicode.\MessageBreak
3846 Enabling option 'unicode'%
3847 }%
3848 \kvsetkeys{Hyp}{unicode}%
3849 \fi
3850 \else
3851 \let\HyXeTeX@CheckUnicode\relax

```

```

3852 \fi
3853 }
3854 \def\HyPsd@PrerenderUnicode#1{%
3855 \begingroup
3856 \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3857 \else
3858 \sbox0{%
3859 \let\GenericInfo\@gobbletwo
3860 \let\GenericWarning\@gobbletwo
3861 \let\GenericError\@gobblefour
3862 \PrerenderUnicode{#1}%
3863 }%
3864 \fi
3865 \endgroup
3866 }
3867 \define@key{Hyp}{pdftitle}{%
3868 \HyXeTeX@CheckUnicode
3869 \HyPsd@XeTeXBigCharstrue
3870 \HyPsd@PrerenderUnicode{#1}%
3871 \pdfstringdef\@pdftitle{#1}%
3872 }
3873 \define@key{Hyp}{pdfauthor}{%
3874 \HyXeTeX@CheckUnicode
3875 \HyPsd@XeTeXBigCharstrue
3876 \HyPsd@PrerenderUnicode{#1}%
3877 \pdfstringdef\@pdfauthor{#1}%
3878 }
3879 \define@key{Hyp}{pdfproducer}{%
3880 \HyXeTeX@CheckUnicode
3881 \HyPsd@XeTeXBigCharstrue
3882 \HyPsd@PrerenderUnicode{#1}%
3883 \pdfstringdef\@pdfproducer{#1}%
3884 \ifxetex
3885 \Hy@Warning{%
3886 pdfproducer: %
3887 xdvipdfmx will use its own setting\MessageBreak
3888 instead of the value given%
3889 }%
3890 \else
3891 \def\Hy@temp{hdvipdfm}%
3892 \ifx\Hy@driver\Hy@temp
3893 \Hy@Warning{%
3894 pdfproducer: %
3895 dvipdfm(x) will use its own setting\MessageBreak
3896 instead of the value given%
3897 }%
3898 \fi
3899 \fi
3900 }
3901 \define@key{Hyp}{pdfcreator}{%
3902 \HyXeTeX@CheckUnicode
3903 \HyPsd@XeTeXBigCharstrue
3904 \HyPsd@PrerenderUnicode{#1}%
3905 \pdfstringdef\@pdfcreator{#1}%
3906 }
3907 \define@key{Hyp}{pdfcreationdate}{%
3908 \begingroup

```

```

3909 \Hy@unicodedefalse
3910 \pdfstringdef\@pdfcreationdate{#1}%
3911 \endgroup
3912 }
3913 \define@key{Hyp}{pdfmoddate}{%
3914 \begingroup
3915 \Hy@unicodedefalse
3916 \pdfstringdef\@pdfmoddate{#1}%
3917 \endgroup
3918 }
3919 \define@key{Hyp}{pdfsubject}{%
3920 \HyXeTeX@CheckUnicode
3921 \HyPsd@XeTeXBigCharstrue
3922 \HyPsd@PrerenderUnicode{#1}%
3923 \pdfstringdef\@pdfsubject{#1}%
3924 }
3925 \define@key{Hyp}{pdfkeywords}{%
3926 \HyXeTeX@CheckUnicode
3927 \HyPsd@XeTeXBigCharstrue
3928 \HyPsd@PrerenderUnicode{#1}%
3929 \pdfstringdef\@pdfkeywords{#1}%
3930 }
3931 \define@key{Hyp}{pdftrapped}{%
3932 \lowercase{\edef\Hy@temp{#1}}%
3933 \ifx\Hy@temp\HyInfo@trapped@true
3934 \def\@pdftrapped{True}%
3935 \else
3936 \ifx\Hy@temp\HyInfo@trapped@false
3937 \def\@pdftrapped{False}%
3938 \else
3939 \ifx\Hy@temp\HyInfo@trapped@unknown
3940 \def\@pdftrapped{Unknown}%
3941 \else
3942 \ifx\Hy@temp\@empty
3943 \else
3944 \Hy@Warning{%
3945     Unsupported value '#1'\MessageBreak
3946     for option 'pdftrapped'%
3947 }%
3948 \fi
3949 \def\@pdftrapped{}%
3950 \fi
3951 \fi
3952 \fi
3953 }
3954 \def\HyInfo@trapped@true{true}
3955 \def\HyInfo@trapped@false{false}
3956 \def\HyInfo@trapped@unknown{unknown}
3957 \def\HyInfo@TrappedUnsupported{%
3958 \ifx\@pdftrapped\@empty
3959 \else
3960 \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
3961 \gdef\HyInfo@TrappedUnsupported{}%
3962 \fi
3963 }
3964 \define@key{Hyp}{pdfinfo}{%
3965 \kvsetkeys{pdfinfo}{#1}%

```

```

3966 }
3967 \def\Hy@temp#1{%
3968   \lowercase{\Hy@temp@A{#1}}{#1}%
3969 }
3970 \def\Hy@temp@A#1#2{%
3971   \define@key{pdfinfo}{#2}{%
3972     \hypersetup{pdf#1={##1}}}%
3973   }%
3974 }
3975 \Hy@temp{Title}
3976 \Hy@temp{Author}
3977 \Hy@temp{Keywords}
3978 \Hy@temp{Subject}
3979 \Hy@temp{Creator}
3980 \Hy@temp{Producer}
3981 \Hy@temp{CreationDate}
3982 \Hy@temp{ModDate}
3983 \Hy@temp{Trapped}
3984 \newif\ifHyInfo@AddonUnsupported
3985 \kv@set@family@handler{pdfinfo}{%
3986   \HyInfo@AddonHandler{#1}{#2}%
3987 }
3988 \let\HyInfo@do\relax
3989 \def\HyInfo@AddonHandler#1#2{%
3990   \ifx\kv@value\relax
3991     \Hy@Warning{%
3992       Option 'pdfinfo': ignoring key '\kv@key' without value%
3993     }%
3994   \else
3995     \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3996     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3997     \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3998       \ifHyInfo@AddonUnsupported
3999         \Hy@Warning{%
4000           This driver does not support additional\MessageBreak
4001           information entries, therefore\MessageBreak
4002           '\kv@key' is ignored%
4003         }%
4004       \else
4005         \define@key{pdfinfo}{\HyInfo@Key}{%
4006           \HyXeTeX@CheckUnicode
4007           \HyPsd@XeTeXBigChartrue
4008           \HyPsd@PrerenderUnicode{##1}%
4009           \pdfstringdef\HyInfo@Value{##1}%
4010           \expandafter\let\csname HyInfo@Value@\HyInfo@Key\endcsname
4011             \HyInfo@Value
4012         }%
4013       \edef\HyInfo@AddonList{%
4014         \HyInfo@AddonList
4015         \HyInfo@do{\HyInfo@Key}%
4016       }%
4017       \kv@parse@normalized{%
4018         \HyInfo@Key={#2}%
4019       }{%
4020         \kv@processor@default{pdfinfo}%
4021       }%
4022     \fi

```

```

4023 \else
4024 \kv@parse@normalized{%
4025 \HyInfo@Key={#2}%
4026 }{%
4027 \kv@processor@default{pdfinfo}%
4028 }%
4029 \fi
4030 \fi
4031 }
4032 \def\HyInfo@GenerateAddons{%
4033 \ifHyInfo@AddonUnsupported
4034 \def\HyInfo@Addons{%
4035 \else
4036 \begingroup
4037 \toks@{%
4038 \def\HyInfo@do##1{%
4039 \EdefEscapeName\HyInfo@Key{##1}%
4040 \edef\x{%
4041 \toks@{%
4042 \the\toks@
4043 /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
4044 }%
4045 }%
4046 \x
4047 }%
4048 \HyInfo@AddonList
4049 \edef\x{\endgroup
4050 \def\noexpand\HyInfo@Addons{\the\toks@}%
4051 }%
4052 \x
4053 \fi
4054 }
4055 \let\HyInfo@AddonList\ltx@empty
4056 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
4057 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
4058 \let\setpdfinkmargin\gobble
4059 \def\calculate@pdfview#1 #2\{%
4060 \def\@pdfview{#1}%
4061 \ifx\#2\%
4062 \def\@pdfviewparams{-32768}%
4063 \else
4064 \def\@pdfviewparams{#2}%
4065 \fi
4066 }
4067 \begingroup\expandafter\expandafter\expandafter\endgroup
4068 \expandafter\ifx\csname numexpr\endcsname\relax
4069 \def\Hy@number#1{%
4070 \expandafter\@firstofone\expandafter{\number#1}%
4071 }%
4072 \else
4073 \def\Hy@number#1{%
4074 \the\numexpr#1\relax
4075 }%
4076 \fi
4077 \define@key{Hyp}{pdfstartpage}{%
4078 \ifx\#1\%
4079 \let\@pdfstartpage\ltx@empty

```

```

4080 \else
4081 \edef\@pdfstartpage{\Hy@number{#1}}%
4082 \fi
4083 }%
4084 \define@key{Hyp}{pdfstartview}{%
4085 \ifx\#1\%
4086 \let\@pdfstartview\ltx@empty
4087 \else
4088 \hypercalcbpdef\@pdfstartview{/#1}%
4089 \fi
4090 }
4091 \def\HyPat@NonNegativeReal/{%
4092 \ *([0-9]+\.[0-9]*|[0-9]*\.[0-9]+) *%
4093 }
4094 \define@key{Hyp}{pdfremotestartview}{%
4095 \ifx\#1\%
4096 \def\@pdfremotestartview{/Fit}%
4097 \else
4098 \hypercalcbpdef\@pdfremotestartview{#1}%
4099 \edef\@pdfremotestartview{\@pdfremotestartview}%
4100 \Hy@Match\@pdfremotestartview{%
4101 ^{XYZ -?(null|\HyPat@NonNegativeReal/) %
4102 -?(null|\HyPat@NonNegativeReal/) %
4103 (null|\HyPat@NonNegativeReal/)|%
4104 Fit(|B| %
4105 (H|V|BH|BV) (null|\HyPat@NonNegativeReal/)|%
4106 R \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/ %
4107 \HyPat@NonNegativeReal/ \HyPat@NonNegativeReal/%
4108 )}$%
4109 }{ }{%
4110 \Hy@Warning{%
4111 Invalid value '\@pdfremotestartview'\MessageBreak
4112 of 'pdfremotestartview'\MessageBreak
4113 is replaced by 'Fit'%
4114 }%
4115 \let\@pdfremotestartview\@empty
4116 }%
4117 \ifx\@pdfremotestartview\@empty
4118 \def\@pdfremotestartview{/Fit}%
4119 \else
4120 \edef\@pdfremotestartview{/ \@pdfremotestartview}%
4121 \fi
4122 \fi
4123 }
4124 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
4125 \define@key{Hyp}{pdftoolbar}[true]{%
4126 \Hy@boolkey{pdftoolbar}{#1}%
4127 }
4128 \define@key{Hyp}{pdfmenubar}[true]{%
4129 \Hy@boolkey{pdfmenubar}{#1}%
4130 }
4131 \define@key{Hyp}{pdfwindowui}[true]{%
4132 \Hy@boolkey{pdfwindowui}{#1}%
4133 }
4134 \define@key{Hyp}{pdffitwindow}[true]{%
4135 \Hy@boolkey{pdffitwindow}{#1}%
4136 }

```

```

4137 \define@key{Hyp}{pdfcenterwindow}[true]{%
4138   \Hy@boolkey{pdfcenterwindow}{#1}%
4139 }
4140 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
4141   \Hy@boolkey{pdfdisplaydoctitle}{#1}%
4142 }
4143 \define@key{Hyp}{pdfa}[true]{%
4144   \Hy@boolkey{pdfa}{#1}%
4145 }
4146 \define@key{Hyp}{pdfnewwindow}[true]{%
4147   \def\Hy@temp{#1}%
4148   \ifx\Hy@temp\@empty
4149     \Hy@pdfnewwindowsetfalse
4150   \else
4151     \Hy@pdfnewwindowsettrue
4152     \Hy@boolkey{pdfnewwindow}{#1}%
4153   \fi
4154 }
4155 \def\Hy@SetNewWindow{%
4156   \ifHy@pdfnewwindowset
4157     /NewWindow %
4158   \ifHy@pdfnewwindow true\else false\fi
4159 }
4160 }
4161 \Hy@DefNameKey{pdfpagelayout}{%
4162   \do{SinglePage}{}%
4163   \do{OneColumn}{}%
4164   \do{TwoColumnLeft}{}%
4165   \do{TwoColumnRight}{}%
4166   \do{TwoPageLeft}{PDF 1.5}%
4167   \do{TwoPageRight}{PDF 1.5}%
4168 }
4169 \define@key{Hyp}{pdflang}{%
4170   \def\@pdflang{#1}%
4171 }
4172 \define@key{Hyp}{pdfpagelabels}[true]{%
4173   \Hy@boolkey{pdfpagelabels}{#1}%
4174 }
4175 \define@key{Hyp}{pdfescapeform}[true]{%
4176   \Hy@boolkey{pdfescapeform}{#1}%
4177 }

```

Default values:

```

4178 \def\@linkbordercolor{1 0 0}
4179 \def\@urlbordercolor{0 1 1}
4180 \def\@menubordercolor{1 0 0}
4181 \def\@filebordercolor{0 .5 .5}
4182 \def\@runbordercolor{0 .7 .7}
4183 \def\@citebordercolor{0 1 0}
4184 \def\@pdfhighlight{/I}
4185 \let\@pdftitle\ltx@empty
4186 \let\@pdfauthor\ltx@empty
4187 \let\@pdfproducer\relax
4188 \def\@pdfcreator{LaTeX with hyperref package}
4189 \let\@pdfcreationdate\ltx@empty
4190 \let\@pdfmoddate\ltx@empty
4191 \let\@pdfsubject\ltx@empty
4192 \let\@pdfkeywords\ltx@empty

```

```

4193 \let\@pdftrapped\ltx@empty
4194 \let\@pdfpagescrop\ltx@empty
4195 \def\@pdfstartview{/Fit}
4196 \def\@pdfremotestartview{/Fit}
4197 \def\@pdfstartpage{1}
4198 \let\@pdfprintpagerange\ltx@empty
4199 \let\@pdflang\ltx@empty
4200 \let\PDF@SetupDoc\@empty
4201 \let\PDF@FinishDoc\@empty
4202 \let\phantomsection\@empty
4203 \let\special@paper\@empty
4204 \def\HyperDestNameFilter#1{#1}
4205 \Hy@AtBeginDocument{%
4206   \begingroup
4207     \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
4208     \dimen@=\x\relax
4209     \ifdim\dimen@>\z@
4210       \else
4211         \dimen@=11in\relax
4212         \Hy@WarningNoLine{%
4213           Height of page (\expandafter\string\x) %
4214           is invalid (\the\x),\MessageBreak
4215           using 11in%
4216         }%
4217       \fi
4218       \dimen@=0.99626401\dimen@
4219       \xdef\Hy@pageheight{\strip@pt\dimen@}%
4220     \endgroup
4221 }
4222 \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.

```

4223 \let\hyper@normalise\ExecuteOptions
4224 \let\ExecuteOptions\hypersetup
4225 \Hy@RestoreCatcodes
4226 \InputIfFileExists{hyperref.cfg}{-}{-}
4227 \Hy@SetCatcodes
4228 \let\ExecuteOptions\hyper@normalise
4229 \ifx\Hy@MaybeStopNow\relax
4230 \else
4231   \Hy@stoppedearlytrue
4232   \expandafter\Hy@MaybeStopNow
4233 \fi
4234 \Hy@stoppedearlyfalse

```

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

```

4235 \SetupKeyvalOptions{family=Hyp}
4236 \DeclareLocalOptions{%
4237   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4238 }

```

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

```

4239 \@ifpackageloaded{tex4ht}{%
4240   \@ifpackagewith{hyperref}{tex4ht}{-}{-}%
4241   \PassOptionsToPackage{tex4ht}{hyperref}%

```



```

4242 }%
4243 }{}

4244 \let\ReadBookmarks\relax
4245 \ProcessKeyvalOptions{Hyp}

```

After processing options.

## 15.1 Package xspace support

```

4246 \def\Hy@xspace@end{}
4247 \ltx@ifundefined{xspaceaddexceptions}{%
4248   \Hy@AtBeginDocument{%
4249     \ltx@ifundefined{xspaceaddexceptions}{%
4250       }{%
4251         \def\Hy@xspace@end{%
4252           \ltx@gobble{end for xspace}%
4253         }%
4254         \xspaceaddexceptions{%
4255           \Hy@xspace@end,\hyper@linkend,\hyper@anchorend
4256         }%
4257       }%
4258     }%
4259   }{%
4260     \def\Hy@xspace@end{%
4261       \ltx@gobble{end for xspace}%
4262     }%
4263     \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4264   }

```

## 15.2 Option draft

```

4265 \Hy@AtBeginDocument{%
4266   \ifHy@draft
4267     \let\hyper@@anchor\@gobble
4268     \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%
4269     \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4270     \def\hyper@anchorend{\Hy@xspace@end}%
4271     \let\hyper@linkstart\@gobbletwo
4272     \def\hyper@linkend{\Hy@xspace@end}%
4273     \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4274     \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4275     \def\hyper@link@[#1]#2#3#4{#4\Hy@xspace@end}%
4276     \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%
4277     \let\PDF@SetupDoc\@empty
4278     \let\PDF@FinishDoc\@empty
4279     \let\@fifthoffive\@secondoftwo
4280     \let\@secondoffive\@secondoftwo
4281     \let\ReadBookmarks\relax
4282     \let\WriteBookmarks\relax
4283     \Hy@WarningNoLine{Draft mode on}%
4284   \fi
4285   \Hy@DisableOption{draft}%
4286   \Hy@DisableOption{nolinks}%
4287   \Hy@DisableOption{final}%
4288 }

```

## 15.3 PDF/A

```

4289 \Hy@DisableOption{pdfa}

```

```

4290 \ifHy@pdfa
4291   \kvsetkeys{Hyp}{pdfversion=1.4}%
4292   \Hy@DisableOption{pdfversion}%
4293   \def\Hy@Acrobatmenu#1#2{%
4294     \leavevmode
4295     \begingroup
4296     \edef\x{#1}%
4297     \@onelevel@sanitize\x
4298     \ifx\x\Hy@NextPage
4299       \let\y=Y%
4300     \else
4301       \ifx\x\Hy@PrevPage
4302         \let\y=Y%
4303       \else
4304         \ifx\x\Hy@FirstPage
4305           \let\y=Y%
4306         \else
4307           \ifx\x\Hy@LastPage
4308             \let\y=Y%
4309           \else
4310             \let\y=N%
4311           \fi
4312         \fi
4313       \fi
4314     \fi
4315     \expandafter\endgroup
4316     \ifx\y Y%
4317     \else
4318       \Hy@Error{%
4319         PDF/A: Named action ‘#1’ is not permitted%
4320       }\@ehc
4321       {#2}%
4322       \expandafter\@gobble
4323     \fi
4324   }%
4325   \def\Hy@temp#1{%
4326     \expandafter\def\csname Hy@#1\endcsname{#1}%
4327     \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4328   }%
4329   \Hy@temp{NextPage}%
4330   \Hy@temp{PrevPage}%
4331   \Hy@temp{FirstPage}%
4332   \Hy@temp{LastPage}%
4333 \else
4334   \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4335 \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.

```

4336 \Hy@nextfalse
4337 \ltx@ifundefined{spanish@sh@}{\Hy@nexttrue}
4338 \ltx@ifundefined{galician@sh@}{\Hy@nexttrue}
4339 \ltx@ifundefined{estonian@sh@}{\Hy@nexttrue}
4340 \ifHy@next
4341   \let\texttilde\~%

```

```

4342 \fi
4343 \def\Hy@wrapper@babel#1#2{%
4344   \begingroup
4345     \Hy@safe@activetrue
4346     \set@display@protect
4347     \edef\x{#2}%
4348     \@onelevel@sanitize\x
4349     \toks@{#1}%
4350     \edef\x{\endgroup\the\toks@{\x}}%
4351   \x
4352 }
4353 \def\Hy@WrapperDef#1{%
4354   \begingroup
4355     \escapechar=\m@ne
4356     \xdef\Hy@gtemp{%
4357       \expandafter\noexpand\csname HyWrap@string#1\endcsname
4358     }%
4359   \endgroup
4360   \edef#1{%
4361     \noexpand\Hy@wrapper@babel
4362     \expandafter\noexpand\Hy@gtemp
4363   }%
4364   \expandafter\def\Hy@gtemp
4365 }
4366 \ifHy@hyperfigures
4367   \Hy@Info{Hyper figures ON}%
4368 \else
4369   \Hy@Info{Hyper figures OFF}%
4370 \fi
4371 \ifHy@nesting
4372   \Hy@Info{Link nesting ON}%
4373 \else
4374   \Hy@Info{Link nesting OFF}%
4375 \fi
4376 \ifHy@hyperindex
4377   \Hy@Info{Hyper index ON}%
4378 \else
4379   \Hy@Info{Hyper index OFF}%
4380 \fi
4381 \ifHy@plainpages
4382   \Hy@Info{Plain pages ON}%
4383 \else
4384   \Hy@Info{Plain pages OFF}%
4385 \fi
4386 \ifHy@backref
4387   \Hy@Info{Backreferencing ON}%
4388 \else
4389   \Hy@Info{Backreferencing OFF}%
4390 \fi
4391 \ifHy@typexml
4392   \Hy@AtEndOfPackage{%
4393     \RequirePackage{color}%
4394     \RequirePackage{nameref}[2012/07/28]%
4395   }%
4396 \fi
4397 \Hy@DisableOption{typexml}
4398 \ifHy@implicit

```

```

4399 \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4400 \else
4401 \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4402 \def\MaybeStopEarly{%
4403   \Hy@Message{Stopped early}%
4404   \Hy@AtBeginDocument{%
4405     \PDF@FinishDoc
4406     \gdef\PDF@FinishDoc{}}%
4407   }%
4408   \endinput
4409 }%
4410 \Hy@AtBeginDocument{%
4411   \let\autoref\ref
4412   \let\autopageref\pageref
4413   \ifx\@pdfpagemode\@empty
4414     \gdef\@pdfpagemode{UseNone}%
4415   \fi
4416   \global\Hy@backreffalse
4417 }%
4418 \Hy@AtEndOfPackage{%
4419   \global\let\ReadBookmarks\relax
4420   \global\let\WriteBookmarks\relax
4421 }%
4422 \fi
4423 \Hy@DisableOption{implicit}

```

#### 15.4.1 Driver loading

```

4424 \Hy@AtEndOfPackage{%
4425   \@ifpackageloaded{tex4ht}{%
4426     \def\Hy@driver{htex4ht}%
4427     \Hy@texhttrue
4428   }{}%

```

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.

```

4429 \ifx\Hy@driver\@empty
4430 \else
4431   \def\Hy@temp{hpdftex}%
4432   \ifpdf
4433     \ifx\Hy@driver\Hy@temp
4434     \else
4435       \Hy@WarningNoLine{%
4436         Wrong driver ‘\Hy@driver.def’;\MessageBreak
4437         pdfTeX is running in PDF mode.\MessageBreak
4438         Forcing driver ‘\Hy@temp.def’%
4439       }%
4440       \let\Hy@driver\Hy@temp
4441     \fi
4442   \else
4443     \ifx\Hy@driver\Hy@temp
4444     \Hy@WarningNoLine{%
4445       Wrong driver ‘\Hy@driver.def’;\MessageBreak
4446       pdfTeX is not running in PDF mode.\MessageBreak
4447       Using default driver%
4448     }%
4449     \let\Hy@driver\@empty
4450   \fi

```

```

4451 \fi
4452 \fi
4453 \ifHy@texht
4454 \else
4455 \ifx\Hy@driver\@empty
4456 \else
4457 \def\Hy@temp{hxtex}%
4458 \ifxetex
4459 \ifx\Hy@driver\Hy@temp
4460 \else
4461 \Hy@WarningNoLine{%
4462   Wrong driver '\Hy@driver.def';\MessageBreak
4463   XeTeX is running.\MessageBreak
4464   Forcing driver '\Hy@temp.def' for XeTeX%
4465 }%
4466 \let\Hy@driver\Hy@temp
4467 \fi
4468 \fi
4469 \fi
4470 \fi
4471 \ifx\Hy@driver\@empty
4472 \else
4473 \def\Hy@temp{hvtexhtm}%
4474 \ifvtexhtml
4475 \ifx\Hy@driver\Hy@temp
4476 \else
4477 \Hy@WarningNoLine{%
4478   Wrong driver '\Hy@driver.def';\MessageBreak
4479   VTeX is running in HTML mode.\MessageBreak
4480   Forcing driver '\Hy@temp.def'%
4481 }%
4482 \let\Hy@driver\Hy@temp
4483 \fi
4484 \else
4485 \ifx\Hy@driver\Hy@temp
4486 \Hy@WarningNoLine{%
4487   Wrong driver '\Hy@driver.def';\MessageBreak
4488   VTeX is not running in HTML mode.\MessageBreak
4489   Using default driver%
4490 }%
4491 \let\Hy@driver\@empty
4492 \fi
4493 \fi
4494 \fi

```

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

```

4495 \def\HyOpt@DriverType{%
4496 \ifx\Hy@driver\@empty
4497 \def\HyOpt@DriverType{ (autodetected)}}%
4498 \providecommand*\Hy@defaultdriver{hypertex}%
4499 \ifpdf
4500 \def\Hy@driver{hpdtex}%
4501 \else
4502 \ifxetex
4503 \def\Hy@driver{hxtex}%
4504 \else
4505 \ifvtexhtml
4506 \def\Hy@driver{hvtexhtm}%

```

```

4507     \def\MaybeStopEarly{%
4508         \Hy@Message{Stopped early}%
4509         \Hy@AtBeginDocument{%
4510             \PDF@FinishDoc
4511             \gdef\PDF@FinishDoc{}}%
4512     }%
4513     \endinput
4514 }%
4515 \else
4516     \ifvtexpdf
4517         \def\Hy@driver{hvtex}%
4518     \else
4519         \ifvtexps
4520             \def\Hy@driver{hvtex}%
4521         \else
4522             \ifx\HyOpt@DriverFallback\ltx@empty
4523                 \let\Hy@driver\Hy@defaultdriver
4524                 \def\HyOpt@DriverType{ (default)}%
4525             \else
4526                 \begingroup
4527                 \toks@{\expandafter{\HyOpt@DriverFallback}%
4528                 \edef\x{\endgroup
4529                     \noexpand\kvsetkeys{Hyp}{\the\toks@}%
4530                 }%
4531                 \x
4532                 \ifx\Hy@driver\ltx@empty
4533                     \let\Hy@driver\Hy@defaultdriver
4534                     \def\HyOpt@DriverType{ (default)}%
4535                 \else
4536                     \def\HyOpt@DriverType{ (fallback)}%
4537                 \fi
4538             \fi
4539         \fi
4540     \fi
4541 \fi
4542 \fi
4543 \fi
4544 \ifx\Hy@driver\Hy@defaultdriver
4545     \def\Hy@temp{hdwind}%
4546     \ifx\Hy@temp\Hy@driver
4547         \kvsetkeys{Hyp}{colorlinks}%
4548         \PassOptionsToPackage{dviwindo}{color}%
4549     \fi
4550 \fi
4551 \fi
4552 \Hy@Message{Driver\HyOpt@DriverType: \Hy@driver}%
4553 \chardef\Hy@VersionChecked=0 %
4554 \input{\Hy@driver.def}%
4555 \ifcase\Hy@VersionChecked
4556     \Hy@VersionCheck{\Hy@driver.def}%
4557 \fi
4558 \let\@unprocessedoptions\relax
4559 \Hy@RestoreCatcodes
4560 \Hy@DisableOption{tex4ht}%
4561 \Hy@DisableOption{pdftex}%
4562 \Hy@DisableOption{nativepdf}%
4563 \Hy@DisableOption{dvipdfm}%

```

```

4564 \Hy@DisableOption{dvipdfmx}%
4565 \Hy@DisableOption{dvipdfmx-outline-open}%
4566 \Hy@DisableOption{pdfmark}%
4567 \Hy@DisableOption{dvips}%
4568 \Hy@DisableOption{hypertex}%
4569 \Hy@DisableOption{vtex}%
4570 \Hy@DisableOption{vtexpdfmark}%
4571 \Hy@DisableOption{dviwindo}%
4572 \Hy@DisableOption{dvipsone}%
4573 \Hy@DisableOption{textures}%
4574 \Hy@DisableOption{latex2html}%
4575 \Hy@DisableOption{ps2pdf}%
4576 \Hy@DisableOption{xetex}%
4577 \Hy@DisableOption{pdfversion}%
4578 }

```

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.

```

4579 \newif\ifHy@DvipdfmxOutlineOpen
4580 \ifxetex
4581   \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4582   \else
4583     \chardef\SpecialDvipdfmxOutlineOpen\@ne
4584     \Hy@DvipdfmxOutlineOpenttrue
4585   \fi
4586 \fi
4587 \begingroup\expandafter\expandafter\expandafter\endgroup
4588 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4589 \else
4590   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4591     \Hy@DvipdfmxOutlineOpenttrue
4592   \fi
4593 \fi

```

#### 15.4.2 Bookmarks

```

4594 \def\WriteBookmarks{0}
4595 \def\@bookmarkopenstatus#1{%
4596   \ifHy@bookmarksopen

```

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

```

4597   \ifnum#1<\expandafter\@firstofone\expandafter
4598     {\number\@bookmarksopenlevel} % explicit space
4599   \else
4600     -%
4601   \fi
4602 \else
4603   -%
4604 \fi
4605 }
4606 \ifHy@bookmarks
4607   \Hy@Info{Bookmarks ON}%
4608   \ifx\@pdfpagemode\@empty
4609     \def\@pdfpagemode{UseOutlines}%
4610   \fi
4611 \else
4612   \let\@bookmarkopenstatus\ltx@gobble

```

```

4613 \Hy@Info{Bookmarks OFF}%
4614 \Hy@AtEndOfPackage{%
4615   \global\let\ReadBookmarks\relax
4616   \global\let\WriteBookmarks\relax
4617 }%
4618 \ifx\@pdfpagemode\@empty
4619   \def\@pdfpagemode{UseNone}%
4620 \fi
4621 \fi
4622 \Hy@DisableOption{bookmarks}

  Add wrapper for setting standard catcodes (babel's shorthands).
4623 \def\Hy@CatcodeWrapper#1{%
4624   \let\Hy@endWrap\ltx@empty
4625   \def\TMP@EnsureCode##1##2{%
4626     \edef\Hy@endWrap{%
4627       \Hy@endWrap
4628       \catcode##1 \the\catcode##1\relax
4629     }%
4630     \catcode##1 ##2\relax
4631   }%
4632   \TMP@EnsureCode{10}{12}% ^^J
4633   \TMP@EnsureCode{33}{12}% !
4634   \TMP@EnsureCode{34}{12}% "
4635   \TMP@EnsureCode{36}{3}% $ (math)
4636   \TMP@EnsureCode{38}{4}% & (alignment)
4637   \TMP@EnsureCode{39}{12}% '
4638   \TMP@EnsureCode{40}{12}% (
4639   \TMP@EnsureCode{41}{12}% )
4640   \TMP@EnsureCode{42}{12}% *
4641   \TMP@EnsureCode{43}{12}% +
4642   \TMP@EnsureCode{44}{12}% ,
4643   \TMP@EnsureCode{45}{12}% -
4644   \TMP@EnsureCode{46}{12}% .
4645   \TMP@EnsureCode{47}{12}% /
4646   \TMP@EnsureCode{58}{12}% :
4647   \TMP@EnsureCode{59}{12}% ;
4648   \TMP@EnsureCode{60}{12}% <
4649   \TMP@EnsureCode{61}{12}% =
4650   \TMP@EnsureCode{62}{12}% >
4651   \TMP@EnsureCode{63}{12}% ?
4652   \TMP@EnsureCode{91}{12}% [
4653   \TMP@EnsureCode{93}{12}% ]
4654   \TMP@EnsureCode{94}{7}% ^ (superscript)
4655   \TMP@EnsureCode{95}{8}% _ (subscript)
4656   \TMP@EnsureCode{96}{12}% '
4657   \TMP@EnsureCode{124}{12}% |
4658   \TMP@EnsureCode{126}{13}% ~ (active)
4659   ##1\relax
4660   \Hy@endWrap
4661 }

```

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

```

4662 \Hy@AtBeginDocument{%
4663   \ifHy@ocgcolorlinks
4664     \kvsetkeys{Hyp}{colorlinks}%
4665     \ifHy@pdfa
4666       \Hy@Warning{%

```



```

4667     PDF/A: Optional Content Groups are prohibited,\MessageBreak
4668     using 'colorlinks' instead of 'ocgcolorlinks'%
4669   }%
4670   \Hy@ocgcolorlinksfalse
4671 \fi
4672 \fi
4673 \ifHy@ocgcolorlinks
4674 \else
4675   \Hy@DisableOption{ocgcolorlinks}%
4676 \fi
4677 \ifHy@colorlinks
4678   \def\@pdfborder{0 0 0}%
4679   \let\@pdfborderstyle\@empty
4680   \ifHy@typexml
4681     \else
4682       \Hy@CatcodeWrapper{%
4683         \RequirePackage{color}%
4684       }%
4685     \fi
4686     \def\Hy@colorlink#1{%
4687       \begingroup
4688       \HyColor@UseColor#1%
4689     }%
4690     \def\Hy@endcolorlink{\endgroup}%
4691     \Hy@Info{Link coloring ON}%
4692   \else
4693     \ifHy@frenchlinks
4694       \def\Hy@colorlink#1{\begingroup\fontshape{sc}\selectfont}%
4695       \def\Hy@endcolorlink{\endgroup}%
4696       \Hy@Info{French linking ON}%
4697     \else
4698       \def\Hy@colorlink#1{\begingroup}%
4699       \def\Hy@endcolorlink{\endgroup}%
4700       \Hy@Info{Link coloring OFF}%
4701     \fi
4702   \fi
4703   \Hy@DisableOption{colorlinks}%
4704   \Hy@DisableOption{frenchlinks}%
4705   \ifHy@texht
4706     \long\def\@firstoffive#1#2#3#4#5{#1}%
4707     \long\def\@secondoffive#1#2#3#4#5{#2}%
4708     \long\def\@thirdoffive#1#2#3#4#5{#3}%
4709     \long\def\@fourthoffive#1#2#3#4#5{#4}%
4710     \long\def\@fifthoffive#1#2#3#4#5{#5}%
4711     \providecommand*\@safe@activetrue{}%
4712     \providecommand*\@safe@activesfalse{}%
4713     \def\T@ref#1{%
4714       \Hy@safe@activetrue
4715       \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4716       \Hy@safe@activesfalse
4717     }%
4718     \def\T@pageref#1{%
4719       \Hy@safe@activetrue
4720       \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4721       \Hy@safe@activesfalse
4722     }%

```

```

4723 \else
4724   \ifHy@typexml
4725   \else
4726     \Hy@CatcodeWrapper{%
4727       \RequirePackage{nameref}[2012/07/28]%
4728     }%
4729   \fi
4730 \fi
4731 \DeclareRobustCommand\ref{%
4732   \@ifstar\@refstar\T@ref
4733 }%
4734 \DeclareRobustCommand\pageref{%
4735   \@ifstar\@pagerefstar\T@pageref
4736 }%
4737 % \@ifclassloaded{memoir}{-%
4738 %   \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
4739 %     \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
4740 %   }%
4741 % } \ltx@secondoftwo
4742 % {%
4743 %   \DeclareRobustCommand*{\nameref}{-%
4744 %     \@ifstar\@mem@titlerefno link\@mem@titleref
4745 %   }%
4746 % }{%
4747   \DeclareRobustCommand*{\nameref}{-%
4748     \@ifstar\@namerefstar\T@nameref
4749   }%
4750 % }%
4751 }
4752 \Hy@AtBeginDocument{%
4753   \ifHy@texht
4754   \else
4755     \Hy@CatcodeWrapper\ReadBookmarks
4756   \fi
4757 }
4758 \ifHy@backref
4759   \RequirePackage{backref}%
4760 \else
4761   \let\Hy@backout\@gobble
4762 \fi
4763 \Hy@DisableOption{backref}
4764 \Hy@DisableOption{pagebackref}
4765 \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`.

```

4766 \begingroup
4767   \endlinechar=-1 %
4768   \catcode'\^A=14 %

```

```

4769 \catcode'\^^M\active
4770 \catcode'\%\active
4771 \catcode'\#\active
4772 \catcode'\_\active
4773 \catcode'\$\active
4774 \catcode'\&\active
4775 \gdef\hyper@normalise{^^A
4776   \begingroup
4777   \catcode'\^^M\active
4778   \def^^M{ }^^A
4779   \catcode'\%\active
4780   \let%\@percentchar
4781   \let%\@percentchar
4782   \catcode'\#\active
4783   \def#{\hyper@hash}^^A
4784   \def#{\hyper@hash}^^A
4785   \@makeother\&^^A
4786   \edef&{\string&}^^A
4787   \edef\&{\string&}^^A
4788   \edef\textunderscore{\string_}^^A
4789   \let_\textunderscore
4790   \catcode'\_\active
4791   \let_\textunderscore
4792   \let~\hyper@tilde
4793   \let~\hyper@tilde
4794   \let\textasciitilde\hyper@tilde
4795   \let\\\@backslashchar
4796   \edef$\string$}^^A
4797   \Hy@safe@activestrue
4798   \hyper@n@rmalise
4799 }^^A
4800 \catcode'\#=6 ^^A
4801 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4802 \gdef\hyper@n@rmalise#1#2{^^A
4803   \def\Hy@tempa{#2}^^A
4804   \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4805     \ltx@ReturnAfterElseFi{^^A
4806       \hyper@@normalise{#1}^^A
4807     }^^A
4808   \else
4809     \ltx@ReturnAfterFi{^^A
4810       \hyper@@normalise{#1}{#2}^^A
4811     }^^A
4812   \fi
4813 }^^A
4814 \gdef\hyper@@normalise#1#2{^^A
4815   \edef\Hy@tempa{^^A
4816     \endgroup
4817     \noexpand#1{\Hy@RemovePercentCr#2%\^^M\@nil}^^A
4818   }^^A
4819   \Hy@tempa
4820 }^^A
4821 \gdef\Hy@RemovePercentCr#1%\^^M#2\@nil{^^A
4822   #1^^A
4823   \ifx\limits#2\limits
4824   \else
4825     \ltx@ReturnAfterFi{^^A

```

```

4826     \Hy@RemovePercentCr #2\@nil
4827   }^^A
4828   \fi
4829 }^^A
4830 \endgroup
4831 \providecommand*\hyper@chars{%
4832   \let\#\hyper@hash
4833   \let\%\@percentchar
4834   \Hy@safe@activetrue
4835 }

4836 \def\hyperlink#1#2{%
4837   \hyper@@link{#1}{#2}%
4838 }

4839 \def\Hy@VerboseLinkStart#1#2{%
4840   \ifHy@verbose
4841     \begingroup
4842     \Hy@safe@activetrue
4843     \xdef\Hy@VerboseGlobalTemp{(#1) '#2'}%
4844     \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4845     \xdef\Hy@VerboseGlobalTemp{%
4846       \Hy@VerboseGlobalTemp, %
4847       line \the\inputlineno
4848     }%
4849   \endgroup
4850   \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4851   \@onelevel@sanitize\Hy@VerboseLinkInfo
4852   \fi
4853 }

4854 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4855 \def\Hy@VerboseLinkStop{%
4856   \ifHy@verbose
4857     \begingroup
4858     \edef\x{\endgroup
4859       \write\m@ne{%
4860         Package 'hyperref' Info: %
4861         End of reference \Hy@VerboseLinkInfo.%
4862       }%
4863     }%
4864   \x
4865   \fi
4866 }

4867 \def\Hy@VerboseAnchor#1{%
4868   \ifHy@verbose
4869     \begingroup
4870     \Hy@safe@activetrue
4871     \Hy@Info{Anchor '\HyperDestNameFilter{#1}'}%
4872   \endgroup
4873   \fi
4874 }

4875 \def\Hy@AllowHyphens{%
4876   \relax
4877   \ifhmode
4878     \penalty\@M
4879     \hskip\z@skip
4880   \fi
4881 }

```

```

4882 \DeclareRobustCommand*{\href}[1][]{%
4883   \begingroup
4884   \setkeys{href}{#1}%
4885   \@ifnextchar\bggroup\Hy@href{\hyper@normalise\href@}%
4886 }
4887 \def\Hy@href#{%
4888   \hyper@normalise\href@
4889 }
4890 \begingroup
4891   \catcode'\$=6 %
4892   \catcode'\#=12 %
4893   \gdef\href@#1{\expandafter\href@split$1##\}%
4894   \gdef\href@split$1##$2##$3\\$4{%
4895     \hyper@@link{$1}{$2}{$3}{$4}%
4896   }
4897 }%
4898 \endgroup

```

Option ‘page’.

```

4899 \define@key{href}{page}{%
4900   \def\Hy@href@page{#1}%
4901 }
4902 \let\Hy@href@page\@empty
4903 \newcount\c@Hy@tempcnt
4904 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4905 \def\Hy@MakeRemoteAction{%
4906   \ifx\Hy@href@page\@empty
4907     \def\Hy@href@page{0}%
4908   \else
4909     \setcounter{Hy@tempcnt}{\Hy@href@page}%
4910     \ifnum\c@Hy@tempcnt<\@ne
4911       \Hy@Warning{%
4912         Invalid page number (\theHy@tempcnt)\MessageBreak
4913         for remote PDF file.\MessageBreak
4914         Using page 1%
4915       }%
4916       \def\Hy@href@page{0}%
4917     \else
4918       \global\advance\c@Hy@tempcnt\m@ne
4919       \edef\Hy@href@page{\theHy@tempcnt}%
4920     \fi
4921   \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.

```

4922   \ifx\Hy@href@nextactionraw\@empty
4923   \else
4924     \Hy@pdfnewwindowsettrue
4925     \Hy@pdfnewwindowtrue
4926   \fi
4927 }

```

Option ‘pdfremotestartview’.

```

4928 \define@key{href}{pdfremotestartview}{%
4929   \setkeys{Hyp}{pdfremotestartview={#1}}%
4930 }

```

Option ‘pdfnewwindow’.

```

4931 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow

```

```
4932 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default
Option 'ismap'.
```

```
4933 \newif\ifHy@href@ismap
4934 \define@key{href}{ismap}[true]{%
4935 \ltx@ifundefined{Hy@href@ismap#1}{%
4936 \Hy@Error{%
4937 Invalid value (#1) for key 'ismap'.\MessageBreak
4938 Permitted values are 'true' or 'false'.\MessageBreak
4939 Ignoring 'ismap'%
4940 }\@ehc
4941 }{%
4942 \csname Hy@href@ismap#1\endcsname
4943 }%
4944 }
```

Option 'nextactionraw'.

```
4945 \let\Hy@href@nextactionraw\@empty
4946 \define@key{href}{nextactionraw}{%
4947 \edef\Hy@href@nextactionraw{#1}%
4948 \ifx\Hy@href@nextactionraw\@empty
4949 \else
4950 \Hy@Match\Hy@href@nextactionraw{%
4951 ~(\HyPat@ObjRef/|<<.*[/].+>>|%
4952 \[( ?\HyPat@ObjRef/|<<.*[/].+>>)+ ?)]$%
4953 }{ }{%
4954 \Hy@Warning{Invalid value for 'nextactionraw':\MessageBreak
4955 \Hy@href@nextactionraw\MessageBreak
4956 The action is discarded%
4957 }%
4958 }%
4959 \ifx\Hy@href@nextactionraw\@empty
4960 \else
4961 \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
4962 \fi
4963 \fi
4964 }
4965 \def\HyPat@ObjRef/{.+}
```

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

```
4966 \RequirePackage{url}
4967 \let\HyOrg@url\url
4968 \def\Hurl{\begingroup \Url}
4969 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
4970 \def\nolinkurl@#1{\Hurl{#1}}
4971 \DeclareRobustCommand*\url{\hyper@normalise\url@}
4972 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
4973 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
4974 \providecommand\hyper@image[2]{#2}
4975 \def\hypertarget#1#2{%
4976 \ifHy@nesting
4977 \hyper@@anchor{#1}{#2}%
4978 \else
4979 \hyper@@anchor{#1}{\relax}#2%
4980 \fi
4981 }
```

`\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 L<sup>A</sup>T<sub>E</sub>X label which can be used in a short form of `\hyperref` later, to avoid remembering the name and category.

```

4982 \DeclareRobustCommand*{\hyperref}{%
4983   \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
4984 }
4985 \def\Hy@babelnormalise#1[#2]{%
4986   \begingroup
4987     \Hy@safe@activetrue
4988     \edef\Hy@tempa{%
4989       \endgroup
4990       \noexpand#1[#2]}%
4991   }%
4992   \Hy@tempa
4993 }
4994 \def\@hyperref{\hyper@normalise\@hyperref}
4995 \def\@hyperref#1#2#3{%
4996   \edef\ref@one{\ifx\\#2\\else#2.\fi#3}%
4997   \expandafter\tryhyper@link\ref@one\{#1}%
4998 }
4999 \def\tryhyper@link#1\#2{%
5000   \hyper@@link{#2}{#1}%
5001 }

5002 \def\hyperdef{\@ifnextchar[{\label@hyperdef}\@hyperdef}}
5003 \def\@hyperdef#1#2#3{%, category, name, text
5004   \ifx\\#1\\%
5005     \def\Hy@AnchorName{#2}%
5006   \else
5007     \def\Hy@AnchorName{#1.#2}%
5008   \fi
5009   \ifHy@nesting
5010     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
5011   \else
5012     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
5013   \fi
5014 }

```

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.

```

5015 \def\label@hyperref[#1]{%
5016   \expandafter\label@\@hyperref\csname r@#1\endcsname{#1}%
5017 }%
5018 \def\label@\@hyperref#1#2#3{%
5019   \ifx#1\relax
5020     \protect\G@refundefinedtrue
5021     \@latex@warning{%
5022       Hyper reference ‘#2’ on page \thepage \space undefined%
5023     }%
5024     \begingroup
5025       #3%
5026     \endgroup
5027   \else
5028     \hyper@@link{\expandafter\@fifthoffive#1}%
5029     {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
5030   \fi

```

```

5031 }
5032 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
5033                               % anchor text
5034   \@bsphack
5035   \ifx\#2\%
5036     \def\Hy@AnchorName{#3}%
5037   \else
5038     \def\Hy@AnchorName{#2.#3}%
5039   \fi
5040   \if@filesw
5041     \protected@write\@auxout{}\{%
5042       \string\newlabel{#1}{\{ }\}\{\Hy@AnchorName\}\}%
5043    }%
5044   \fi
5045   \@esphack
5046   \ifHy@nesting
5047     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
5048   \else
5049     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
5050   \fi
5051 }

```

## 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.

```

5052 \def\hyper@@link{\let\Hy@reserved@a\relax
5053   \@ifnextchar{\hyper@link@}{\hyper@link@[link]}%
5054 }
5055 \def\hyper@link@[#1]#2#3#4{%
5056   \begingroup
5057   \protected@edef\Hy@tempa{#2}%
5058   \Hy@safe@activetrue
5059   \edef\x{#3}%
5060   \ifx\Hy@tempa\@empty
5061     \toks0{\hyper@link{#1}}%
5062   \else
5063     \toks0{\expandafter\hyper@readexternallink#2\{\{#1\}}%
5064   \fi
5065   \toks2{%
5066     \Hy@safe@activesfalse
5067     #4%
5068  }%
5069   \edef\Hy@tempa{\the\toks2}%
5070   \edef\x{\endgroup
5071     \ifx\Hy@tempa\@empty
5072       \noexpand\Hy@Warning{Suppressing empty link}%
5073     \else
5074       \the\toks0 \x\{\the\toks2}%
5075     \fi
5076  }%
5077   \x
5078 }

```



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.

```

5079 \def\hyper@readexternallink#1\\#2#3#4{%
5080   \begingroup
5081     \let\\\relax
5082   \expandafter\endgroup
5083   \expandafter\@hyper@@readexternallink#1\\#{#2}{#3}{#4}%
5084 }
5085 \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.

```

5086   \@hyper@readexternallink{#2}{#3}{#4}#1::\#{#1}%
5087 }

```

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

```

5088 \def\@pdftempwordfile{file}%
5089 \def\@pdftempwordrun{run}%
5090 \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:`

```

5091   \ifx\\#6\\%
5092     \@hyper@linkfile file:#7\\#{#3}{#2}{#7}%
5093   \else
5094     \ifx\\#4\\%
5095       \@hyper@linkfile file:#7\\#{#3}{#2}{#7}%
5096     \else

```

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

```

5097       \def\@pdftempa{#4}%
5098       \ifx\@pdftempa\@pdftempwordfile
5099         \@hyper@linkfile#7\\#{#3}{#2}{#7}%
5100       \else

```

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

```

5101       \ifx\@pdftempa\@pdftempwordrun
5102         \ifHy@pdfa
5103           \Hy@Error{%
5104             PDF/A: Launch action is prohibited%
5105           }\@ehc
5106         \begingroup

```

```

5107         \leavevmode
5108         #2%
5109     \endgroup
5110 \else
5111     \@hyper@launch#7\{\#3}\#2}%
5112 \fi
5113 \else

```

otherwise its a URL

```

5114     \hyper@linkurl{\#3}\#7\ifx\#2\else\hyper@hash#2\fi}%
5115 \fi
5116 \fi
5117 \fi
5118 \fi
5119 }

```

By default, turn run: into file:

```

5120 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
5121 \hyper@linkurl{\#2}%
5122 \Hy@linkfileprefix
5123 #1%
5124 \ifx\#3\%
5125 \else
5126 \hyper@hash
5127 #3%
5128 \fi
5129 }%
5130 }

```

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

```

5131 \def\@hyper@linkfile file:#1\#2#3#4{%
5132 %file url,link string, name, original uri
5133 \filename@parse{\#1}%
5134 \ifx\filename@ext\relax
5135 \edef\filename@ext{\XR@ext}%
5136 \fi
5137 \def\use@file{\filename@area\filename@base.\filename@ext}%
5138 \Hy@ifStringEndsWith\filename@ext\XR@ext{%
5139 \hyper@linkfile{\#2}\use@file{\#3}%
5140 }{%
5141 \ifx\@baseurl\@empty
5142 \hyper@linkurl{\#2}%
5143 #4\ifx\#3\else\hyper@hash#3\fi
5144 }%
5145 \else
5146 \hyper@linkurl{\#2}\use@file\ifx\#3\else\hyper@hash#3\fi}%
5147 \fi
5148 }%
5149 }

5150 \def\Hy@ifStringEndsWith#1#2{%
5151 \begingroup
5152 \edef\x{\#1}%
5153 \@onelevel@sanitize\x
5154 \edef\x{.\x}%
5155 \edef\y{\#2}%
5156 \@onelevel@sanitize\y
5157 \edef\y{.\y}%

```

```

5158 \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
5159 \endgroup
5160 \ifx\relax##2\relax
5161 \expandafter\ltx@secondoftwo
5162 \else
5163 \expandafter\ltx@firstoftwo
5164 \fi
5165 }%
5166 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
5167 }

5168 \def\Hy@StringLocalhost{localhost}
5169 \@onelevel@sanitize\Hy@StringLocalhost
5170 \def\Hy@CleanupFile#1{%
5171 \edef#1{#1}%
5172 \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
5173 }
5174 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5175 \begingroup
5176 \toks@{\endgroup}%
5177 \def\x{#1}%
5178 \ifx\x\@empty
5179 \def\x{#2}%
5180 \ifx\x\@empty
5181 \toks@{\endgroup\def#5{/#3}}%
5182 \else
5183 \@onelevel@sanitize\x
5184 \ifx\x\Hy@StringLocalhost
5185 \toks@{\endgroup\def#5{/#3}}%
5186 \fi
5187 \fi
5188 \fi
5189 \the\toks@
5190 }

```

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.

```

5191 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5192 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5193 \ifx\#1\%
5194 #2\Hy@Warning{Ignoring empty anchor}%
5195 \else
5196 \def\anchor@spot{#2#3}%
5197 \let\put@me@back\@empty
5198 \ifx\relax#2\relax
5199 \else
5200 \ifHy@nesting
5201 \else
5202 \ifcat a\noexpand#2\relax
5203 \else
5204 \ifcat 0\noexpand#2 \relax
5205 \else
5206 % \typeout{Anchor start is not alphanumeric %

```

```

5207 %           on input line\the\inputlineno%
5208 %           }%
5209     \let\anchor@spot\@empty
5210     \def\put@me@back{#2#3}%
5211   \fi
5212 \fi
5213 \fi
5214 \fi
5215 \ifHy@activeanchor
5216   \anchor@spot
5217 \else
5218   \hyper@anchor{#1}%
5219 \fi
5220 \expandafter\put@me@back
5221 \fi
5222 \let\anchor@spot\@empty
5223 }
5224 \let\anchor@spot\ltx@empty

```

## 18 Option ‘destlabel’

```

5225 \ifHy@destlabel

\hyper@newdestlabel

5226 \def\hyper@newdestlabel#1#2{%
5227   \begingroup
5228   \Hy@safe@activetrue
5229   \edef\x{\endgroup
5230     \noexpand\@newl@bel{HyDL}{#1}{#2}%
5231   }%
5232   \x
5233 }%

\hyper@destlabel@hook

5234 \providecommand*\hyper@destlabel@hook{}%

\Hy@DestRename

5235 \newcommand*\Hy@DestRename[2]{%
5236   \ltx@ifundefined{HyDL!#1}{%
5237     \begingroup
5238     \Hy@safe@activetrue
5239     \edef\dest@name{#1}%
5240     \edef\label@name{#2}%
5241     \hyper@destlabel@hook
5242     \Hy@IsNotEmpty{dest@name}{%
5243       \Hy@IsNotEmpty{label@name}{%
5244         \global\expandafter
5245         \let\csname HyDL!#1\endcsname\ltx@empty
5246       \if@filesw
5247         \protected@write\@auxout{}{%
5248           \string\hyper@newdestlabel
5249           {#1}%
5250           {\label@name}%
5251         }%
5252       \fi
5253     }%
5254   }%

```

```

5255 \endgroup
5256 }{}%
5257 }%

```

\HyperDestRename

```

5258 \newcommand*{\HyperDestRename}[2]{%
5259 \AtBeginDocument{%
5260 \Hy@DestRename{#1}{#2}%
5261 }%
5262 }%
5263 \AtBeginDocument{%
5264 \let\HyperDestRename\Hy@DestRename
5265 }%

```

\Hy@IsNotEmpty

```

5266 \def\Hy@IsNotEmpty#1{%
5267 \ltx@ifundefined{#1}\ltx@gobble{%
5268 \expandafter\ifx\csname#1\endcsname\ltx@empty
5269 \expandafter\ltx@gobble
5270 \else
5271 \expandafter\ltx@firstofone
5272 \fi
5273 }%
5274 }%

5275 \ltx@GlobalAppendToMacro\label@hook{%
5276 \HyperDestRename\@currentHref\label@name
5277 }%

```

\HyperDestLabelReplace

```

5278 \def\HyperDestLabelReplace#1{%
5279 \ltx@ifundefined{HyDL@#1}{%
5280 #1%
5281 }{%
5282 \csname HyDL@#1\endcsname
5283 }%
5284 }%

```

\HyperDestNameFilter

```

5285 \let\HyperDestNameFilter\HyperDestLabelReplace
5286 \else

```

\hyper@newdestlabel

```

5287 \let\hyper@newdestlabel\ltx@gobbletwo

```

\HyperDestLabelReplace

```

5288 \let\HyperDestLabelReplace\ltx@firstofone

```

\HyperDestRename

```

@gobbletwo
5289 \fi
5290 \Hy@DisableOption{destlabel}

```

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

```

5291 \AddLineBeginAux{%
5292 \string\providecommand\string\hyper@newdestlabel[2]{}%
5293 }

```

## 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.

```
5294 \let\htmladdimg\hyperimage
5295 \def\htmladdnormallink#1#2{\href{#2}{#1}}
5296 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
5297 \def\htmlref#1#2{% anchor text, label
5298   \label@hyperref[{#2}]{#1}%
5299 }
```

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.

```
5300 \def\@@latextohtmlX{%
5301   \let\hhyperref\hyperref
5302   \def\hyperref##1##2##3##4{% anchor text for HTML
5303     % text to print before label in print
5304     % label
5305     % post-label text in print
5306     ##2\ref{##4}##3%
5307   }%
5308 }
```

## 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.

```
5309 \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
5310 \def\HyField@NewFlag#1#2{%
5311   \lowercase{\HyField@NewOption{#2}}%
5312   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5313 }
```

```

\HyField@NewFlagOnly
5314 \def\HyField@NewFlagOnly#1#2{%
5315 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5316 }

\HyField@NewOption #1: option name
5317 \def\HyField@NewOption#1{%
5318 \expandafter\newif\csname ifFld@#1\endcsname
5319 \define@key{Field}{#1}[true]{%
5320 \lowercase{\Field@boolkey{##1}}{#1}%
5321 }%
5322 }

\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
5323 \def\HyField@NewBitsetFlag#1#2#3#4{%
5324 \begingroup
5325 \count@=#4\relax
5326 \advance\count@m@ne
5327 \def\x##1{%
5328 \endgroup
5329 \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5330 \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
5331 \expandafter\edef\csname HyField@#3@#1\endcsname{%
5332 (\number#4) #2%
5333 }%
5334 \else
5335 \expandafter\edef\csname HyField@#3@#1\endcsname{%
5336 \csname HyField@#3@#1\endcsname
5337 /#2%
5338 }%
5339 \fi
5340 }%
5341 \expandafter\x\expandafter{\the\count@}%
5342 }

\HyField@UseFlag The bit set is HyField@#1
5343 \def\HyField@UseFlag#1#2{%
5344 \lowercase{\HyField@@UseFlag{#2}}{#1}%
5345 }

\HyField@@UseFlag
5346 \def\HyField@@UseFlag#1#2{%
5347 \bitsetSetValue{HyField@#2}{%
5348 \csname HyField@#2@#1\endcsname
5349 }{%
5350 \csname ifFld@#1\endcsname 1\else 0\fi
5351 }%
5352 }

\HyField@SetFlag The bit set is HyField@#1
5353 \def\HyField@SetFlag#1#2{%
5354 \lowercase{\HyField@@SetFlag{#2}}{#1}%
5355 }

```

```

\HyField@@SetFlag
5356 \def\HyField@@SetFlag#1#2{%
5357   \bitsetSetValue{HyField@#2}{%
5358     \csname HyField@#2@#1\endcsname
5359   }{1}%
5360 }

\HyField@PrintFlags
5361 \def\HyField@PrintFlags#1#2{%
5362   \ifHy@verbose
5363     \begingroup
5364     \let\Hy@temp\@empty
5365     \let\MessageBreak\relax
5366     \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5367     \bitsetGetSetBitList{HyField@#1}\do{%
5368       \edef\Hy@temp{%
5369         \Hy@temp
5370         \csname HyField@#1@\x\endcsname\MessageBreak
5371       }%
5372     }%
5373   \edef\x{\endgroup
5374     \noexpand\Hy@Info{%
5375       Field flags: %
5376       \expandafter\ifx\@car#1\@nil S\else/\fi
5377       #1 %
5378       \bitsetGetDec{HyField@#1} %
5379       (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5380       \Hy@temp
5381       for #2%
5382     }%
5383   }\x
5384 \fi
5385 }

```

### 20.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

5386 \HyField@NewFlag{Ff}{ReadOnly}{1}
5387 \HyField@NewFlag{Ff}{Required}{2}
5388 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

5389 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5390 \HyField@NewFlag{Ff}{Radio}{16}
5391 \HyField@NewFlag{Ff}{Pushbutton}{17}
5392 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

5393 \HyField@NewFlag{Ff}{Multiline}{13}
5394 \HyField@NewFlag{Ff}{Password}{14}
5395 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5396 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5397 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5398 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5399 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

5400 \HyField@NewFlag{Ff}{Combo}{18}

```



```

5401 \HyField@NewFlag{Ff}{Edit}{19}
5402 \HyField@NewFlag{Ff}{Sort}{20}
5403 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5404 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5405 \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.

```

5406 \newif\ifFld@popdown
5407 \define@key{Field}{popdown}[true]{%
5408 \lowercase{\Field@boolkey{#1}}{popdown}%
5409 }

```

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.

```

5410 \HyField@NewFlag{F}{Invisible}{1}
5411 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5412 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5413 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5414 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5415 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5416 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5417 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5418 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

5419 \ifHy@pdfa
5420 \def\HyField@PDFAFflagWarning#1#2{%
5421 \Hy@Warning{%
5422 PDF/A: Annotation flag ‘#1’ must\MessageBreak
5423 be set to ‘#2’%
5424 }%
5425 }%
5426 \Fld@invisiblefalse
5427 \def\Fld@invisibletrue{%
5428 \HyField@PDFAFflagWarning{invisible}{false}%
5429 }%
5430 \Fld@hiddenfalse
5431 \def\Fld@hiddentrue{%
5432 \HyField@PDFAFflagWarning{hidden}{false}%
5433 }%
5434 \Fld@printtrue
5435 \def\Fld@printfalse{%
5436 \HyField@PDFAFflagWarning{print}{true}%
5437 }%
5438 \Fld@nozoomtrue
5439 \def\Fld@nozoomfalse{%
5440 \HyField@PDFAFflagWarning{nozoom}{true}%
5441 }%
5442 \Fld@norotatetrue
5443 \def\Fld@norotatefalse{%
5444 \HyField@PDFAFflagWarning{norotate}{true}%
5445 }%
5446 \Fld@noviewfalse
5447 \def\Fld@noviewtrue{%

```

```

5448 \HyField@PDFAFIWarning{noview}{false}%
5449 }%
5450 \fi

```

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

```

5451 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5452 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5453 \HyField@NewFlag{Submit}{GetMethod}{4}
5454 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5455 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5456 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5457 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5458 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5459 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5460 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5461 \HyField@NewFlag{Submit}{ExclFKey}{12}
5462 \HyField@NewFlag{Submit}{EmbedForm}{14}

5463 \define@key{Field}{export}{%
5464 \lowercase{\def\Hy@temp{#1}}%
5465 \@ifundefined{Fld@export@\Hy@temp}{%
5466 \onelevel@sanitize\Hy@temp
5467 \Hy@Error{%
5468 Unknown export format '\Hy@temp'.\MessageBreak
5469 Known formats are 'FDF', 'HTML', 'XFDF', and 'PDF'%
5470 }\@ehc
5471 }%
5472 \let\Fld@export\Hy@temp
5473 }%
5474 }
5475 \def\Fld@export{fdf}
5476 \@namedef{Fld@export@fdf}{0}%
5477 \@namedef{Fld@export@html}{1}%
5478 \@namedef{Fld@export@xfdf}{2}%
5479 \@namedef{Fld@export@pdf}{3}%

```

### 20.1.2 Set submit flags

\HyField@FlagsSubmit

```

5480 \def\HyField@FlagsSubmit{%
5481 \bitsetReset{HyField@Submit}%
5482 \ifcase\@nameuse{Fld@export@\Fld@export} %
5483 % FDF
5484 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5485 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5486 \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5487 \HyField@UseFlag{Submit}{IncludeAnnotations}%
5488 \HyField@UseFlag{Submit}{CanonicalFormat}%
5489 \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5490 \HyField@UseFlag{Submit}{ExclFKey}%
5491 \HyField@UseFlag{Submit}{EmbedForm}%
5492 \or % HTML
5493 \HyField@SetFlag{Submit}{ExportFormat}%
5494 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5495 \HyField@UseFlag{Submit}{GetMethod}%
5496 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5497 \HyField@UseFlag{Submit}{CanonicalFormat}%

```

```

5498 \or % XFDF
5499   \HyField@SetFlag{Submit}{XFDF}%
5500   \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5501   \HyField@UseFlag{Submit}{SubmitCoordinates}%
5502   \HyField@UseFlag{Submit}{CanonicalFormat}%
5503 \or % PDF
5504   \HyField@SetFlag{Submit}{SubmitPDF}%
5505   \HyField@UseFlag{Submit}{GetMethod}%
5506 \fi
5507 \HyField@PrintFlags{Submit}{submit button field}%
5508 \bitsetIsEmpty{HyField@Submit}{%
5509   \let\Fld@submitflags\tx@empty
5510 }{%
5511   \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
5512 }%
5513 }

```

### 20.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5514 \def\HyField@FlagsAnnot#1{%
5515   \bitsetReset{HyField@F}%
5516   \HyField@UseFlag{F}{Invisible}%
5517   \HyField@UseFlag{F}{Hidden}%
5518   \HyField@UseFlag{F}{Print}%
5519   \HyField@UseFlag{F}{NoZoom}%
5520   \HyField@UseFlag{F}{NoRotate}%
5521   \HyField@UseFlag{F}{NoView}%
5522   \HyField@UseFlag{F}{Locked}%
5523   \HyField@UseFlag{F}{ToggleNoView}%
5524   \HyField@UseFlag{F}{LockedContents}%
5525   \HyField@PrintFlags{F}{#1}%
5526   \bitsetIsEmpty{HyField@F}{%
5527     \let\Fld@annotflags\tx@empty
5528   }{%
5529     \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
5530   }%
5531 }

```

### 20.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5532 \def\HyField@FlagsPushButton{%
5533   \HyField@FlagsAnnot{push button field}%
5534   \bitsetReset{HyField@Ff}%
5535   \HyField@UseFlag{Ff}{ReadOnly}%
5536   \HyField@UseFlag{Ff}{Required}%
5537   \HyField@UseFlag{Ff}{NoExport}%
5538   \HyField@SetFlag{Ff}{PushButton}%
5539   \HyField@PrintFlags{Ff}{push button field}%
5540   \bitsetIsEmpty{HyField@Ff}{%
5541     \let\Fld@flags\tx@empty
5542   }{%
5543     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5544   }%
5545 }

```

### 20.1.5 Check box field

\HyField@FlagsCheckBox

```
5546 \def\HyField@FlagsCheckBox{%
5547   \HyField@FlagsAnnot{check box field}%
5548   \bitsetReset{HyField@Ff}%
5549   \HyField@UseFlag{Ff}{ReadOnly}%
5550   \HyField@UseFlag{Ff}{Required}%
5551   \HyField@UseFlag{Ff}{NoExport}%
5552   \HyField@PrintFlags{Ff}{check box field}%
5553   \bitsetIsEmpty{HyField@Ff}{%
5554     \let\Fld@flags\ltx@empty
5555   }{%
5556     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5557   }%
5558 }
```

### 20.1.6 Radio button field

\HyField@FlagsRadioButton

```
5559 \def\HyField@FlagsRadioButton{%
5560   \HyField@FlagsAnnot{radio button field}%
5561   \bitsetReset{HyField@Ff}%
5562   \HyField@UseFlag{Ff}{ReadOnly}%
5563   \HyField@UseFlag{Ff}{Required}%
5564   \HyField@UseFlag{Ff}{NoExport}%
5565   \HyField@UseFlag{Ff}{NoToggleToOff}%
5566   \HyField@SetFlag{Ff}{Radio}%
5567   \HyField@UseFlag{Ff}{RadiosInUnison}%
5568   \HyField@PrintFlags{Ff}{radio button field}%
5569   \bitsetIsEmpty{HyField@Ff}{%
5570     \let\Fld@flags\ltx@empty
5571   }{%
5572     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5573   }%
5574 }
```

### 20.1.7 Text fields

\HyField@FlagsText

```
5575 \def\HyField@FlagsText{%
5576   \HyField@FlagsAnnot{text field}%
5577   \bitsetReset{HyField@Ff}%
5578   \HyField@UseFlag{Ff}{ReadOnly}%
5579   \HyField@UseFlag{Ff}{Required}%
5580   \HyField@UseFlag{Ff}{NoExport}%
5581   \HyField@UseFlag{Ff}{Multiline}%
5582   \HyField@UseFlag{Ff}{Password}%
5583   \HyField@UseFlag{Ff}{FileSelect}%
5584   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5585   \HyField@UseFlag{Ff}{DoNotScroll}%
5586   \ifFld@comb
5587     \ifcase0\ifFld@multiline
5588       \else\ifFld@password
5589       \else\ifFld@fileselect
5590       \else 1\fi\fi\fi\relax
5591     \Hy@Error{%
```

```

5592     Field option 'comb' cannot used together with \MessageBreak
5593     'multiline', 'password', or 'fileselect'%
5594   }\@ehc
5595   \else
5596     \HyField@UseFlag{Ff}{Comb}%
5597   \fi
5598 \fi
5599 \HyField@UseFlag{Ff}{RichText}%
5600 \HyField@PrintFlags{Ff}{text field}%
5601 \bitsetIsEmpty{HyField@Ff}{%
5602   \let\Fld@flags\ltx@empty
5603 }{%
5604   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5605 }%
5606 }

```

### 20.1.8 Choice fields

\HyField@FlagsChoice

```

5607 \def\HyField@FlagsChoice{%
5608   \HyField@FlagsAnnot{choice field}%
5609   \bitsetReset{HyField@Ff}%
5610   \HyField@UseFlag{Ff}{ReadOnly}%
5611   \HyField@UseFlag{Ff}{Required}%
5612   \HyField@UseFlag{Ff}{NoExport}%
5613   \HyField@UseFlag{Ff}{Combo}%
5614   \ifFld@combo
5615     \HyField@UseFlag{Ff}{Edit}%
5616   \fi
5617   \HyField@UseFlag{Ff}{Sort}%
5618   \HyField@UseFlag{Ff}{MultiSelect}%
5619   \ifFld@combo
5620     \ifFld@edit
5621       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5622     \fi
5623   \fi
5624   \HyField@UseFlag{Ff}{CommitOnSelChange}%
5625   \HyField@PrintFlags{Ff}{choice field}%
5626   \bitsetIsEmpty{HyField@Ff}{%
5627     \let\Fld@flags\ltx@empty
5628   }{%
5629     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5630   }%
5631 }

```

## 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.

```

5632 \def\HyField@PDFChoices#1{%
5633   \begingroup
5634   \global\let\Fld@choices\ltx@empty
5635   \let\HyTmp@optlist\ltx@empty
5636   \let\HyTmp@optitem\relax

```

```

5637 \count@=0 %
5638 \kv@parse{#1}{%
5639 \Hy@pdfstringdef\kv@key\kv@key
5640 \ifx\kv@value\relax
5641 \ifnum\Hy@pdfversion<3 % implementation note 122, PDF spec 1.7
5642 \xdef\Fld@choices{\Fld@choices(\kv@key)(\kv@key)}}%
5643 \else
5644 \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5645 \fi
5646 \else
5647 \Hy@pdfstringdef\kv@value\kv@value
5648 \xdef\Fld@choices{\Fld@choices(\kv@value)(\kv@key)}}%
5649 \fi
5650 \edef\HyTmp@optlist{%
5651 \HyTmp@optlist
5652 \HyTmp@optitem{the\count@}{\kv@key}0%
5653 }%
5654 \advance\count@ by 1 %
5655 \@gobbletwo
5656 }%
5657 \xdef\Fld@choices{/Opt[\Fld@choices]}%
5658 \ifFld@multiselect
5659 \HyField@@PDFChoices{DV}\Fld@default
5660 \HyField@@PDFChoices{V}\Fld@value
5661 \else
5662 \ifx\Fld@default\relax
5663 \else
5664 \pdfstringdef\Hy@gtemp\Fld@default
5665 \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5666 \fi
5667 \ifx\Fld@value\relax
5668 \else
5669 \pdfstringdef\Hy@gtemp\Fld@value
5670 \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5671 \fi
5672 \fi
5673 \endgroup
5674 }

```

\HyField@@PDFChoices

```

5675 \def\HyField@@PDFChoices#1#2{%
5676 \ifx#2\relax
5677 \else
5678 \count@=0 %
5679 \def\HyTmp@optitem##1##2##3{%
5680 \def\HyTmp@key{##2}%
5681 \ifx\HyTmp@key\Hy@gtemp
5682 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5683 \HyTmp@optlist
5684 \HyTmp@optitem{##1}{##2}1%
5685 }%
5686 \let\HyTmp@found=Y%
5687 \else
5688 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5689 \HyTmp@optlist
5690 \HyTmp@optitem{##1}{##2}##3%
5691 }%
5692 \fi

```

```

5693 }%
5694 \expandafter\comma@parse\expandafter{#2}{%
5695 \pdfstringdef\Hy@gtemp\comma@entry
5696 \let\HyTmp@found=N %
5697 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5698 \HyTmp@optlist
5699 \ifx\HyTmp@found Y%
5700 \advance\count@ by 1 %
5701 \else
5702 \@onelevel@sanitize\comma@entry
5703 \PackageWarning{hyperref}{%
5704 \string\ChoiceBox: Ignoring value ‘\comma@entry’,%
5705 \MessageBreak
5706 it cannot be found in the choices%
5707 }%
5708 \fi
5709 \@gobble
5710 }%
5711 \def\HyTmp@optitem##1##2##3{%
5712 \ifnum##3=1 %
5713 (##2)%
5714 \fi
5715 }%
5716 \ifcase\count@
5717 \or
5718 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5719 \else
5720 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5721 \ifx#1V%
5722 \def\HyTmp@optitem##1##2##3{%
5723 \ifnum##3=1 %
5724 \@firstofone{ ##1}%
5725 \fi
5726 }%
5727 \edef\HyTmp@optlist{\HyTmp@optlist}%
5728 \xdef\Fld@choices{%
5729 \Fld@choices
5730 /I[\expandafter\@firstofone\HyTmp@optlist]%
5731 }%
5732 \fi
5733 \fi
5734 \fi
5735 }

```

## 20.3 Forms

\HyField@SetKeys

```

5736 \def\HyField@SetKeys{%
5737 \kvsetkeys{Field}%
5738 }

5739 \newif\ifFld@checked
5740 \newif\ifFld@disabled
5741 \Fld@checkedfalse
5742 \Fld@disabledfalse
5743 \newcount\Fld@menulength
5744 \newdimen\Field@Width

```

```

5745 \newdimen\Fld@charsize
5746 \Fld@charsize=10\p@
5747 \def\Fld@maxlen{0}
5748 \def\Fld@align{0}
5749 \def\Fld@color{0 0 0 rg}
5750 \def\Fld@bcolor{1 1 1}
5751 \def\Fld@bordercolor{1 0 0}
5752 \def\Fld@bordersep{1\p@}
5753 \def\Fld@borderwidth{1}
5754 \def\Fld@borderstyle{S}
5755 \def\Fld@cbsymbol{4}
5756 \def\Fld@radiosymbol{H}
5757 \def\Fld@rotation{0}
5758 \def\Form{\@ifnextchar{\@Form}{\@Form[]}}
5759 \def\endForm{\@endForm}
5760 \newif\ifForm@html
5761 \Form@htmlfalse
5762 \def\Form@boolkey#1#2{%
5763   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5764 }
5765 \define@key{Form}{action}{%
5766   \hyper@normalise\Hy@DefFormAction{#1}%
5767 }
5768 \def\Hy@DefFormAction{\def\Form@action}
5769 \def\enc@html{html}
5770 \define@key{Form}{encoding}{%
5771   \def\Hy@tempa{#1}%
5772   \ifx\Hy@tempa\enc@html
5773     \Form@htmltrue
5774     \def\Fld@export{html}%
5775   \else
5776     \Hy@Warning{%
5777       Form 'encoding' key with \MessageBreak
5778       unknown value '#1'%
5779     }%
5780     \Form@htmlfalse
5781   \fi
5782 }
5783 \define@key{Form}{method}{%
5784   \lowercase{\def\Hy@temp{#1}}%
5785   \@ifundefined{Form@method@\Hy@temp}{%
5786     \@onelevel@sanitize\Hy@temp
5787     \Hy@Error{%
5788       Unknown method '\Hy@temp'\MessageBreak
5789       Known values are 'post' and 'get'%
5790     }\@ehc
5791   }{%
5792     \let\Form@method\Hy@temp
5793     \ifcase\@nameuse{Form@method@\Hy@temp} %
5794       \Fld@getmethodfalse
5795     \else
5796       \Fld@getmethodtrue
5797     \fi
5798   }%
5799 }
5800 \def\Form@method{}
5801 \@namedef{Form@method@post}{0}

```



```

5802 \@namedef{Form@method@get}{1}
5803 \newif\ifHyField@NeedAppearances
5804 \def\HyField@NeedAppearancesfalse{%
5805   \global\let\ifHyField@NeedAppearances\iffalse
5806 }
5807 \def\HyField@NeedAppearancetrue{%
5808   \global\let\ifHyField@NeedAppearances\iftrue
5809 }
5810 \HyField@NeedAppearancetrue
5811 \define@key{Form}{NeedAppearances}[true]{%
5812   \edef\Hy@tempa{#1}%
5813   \ifx\Hy@tempa\Hy@true
5814     \HyField@NeedAppearancetrue
5815   \else
5816     \ifx\Hy@tempa\Hy@false
5817       \HyField@NeedAppearancesfalse
5818     \else
5819       \Hy@Error{%
5820         Unexpected value '\Hy@tempa'\MessageBreak
5821         of option 'NeedAppearances' instead of\MessageBreak
5822         'true' or 'false'%
5823       }\@ehc
5824     \fi
5825   \fi
5826 }
5827 \def\Field@boolkey#1#2{%
5828   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5829 }
5830 \ifHy@texht
5831   \newtoks\Field@toks
5832   \Field@toks={ }%
5833   \def\Field@addtoks#1#2{%
5834     \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
5835     \@processme
5836   }%
5837 \else
5838   \def\Hy@WarnHTMLFieldOption#1{%
5839     \Hy@Warning{%
5840       HTML field option '#1'\MessageBreak
5841       is ignored%
5842     }%
5843   }%
5844 \fi
5845 \def\Fld@checkequals#1=#2=#3\\{%
5846   \def\@currDisplay{#1}%
5847   \ifx\\#2\\%
5848     \def\@currValue{#1}%
5849   \else
5850     \def\@currValue{#2}%
5851   \fi
5852 }
5853 \define@key{Field}{loc}{%
5854   \def\Fld@loc{#1}%
5855 }
5856 \define@key{Field}{checked}[true]{%
5857   \lowercase{\Field@boolkey{#1}}{checked}%
5858 }

```

```

5859 \define@key{Field}{disabled}[true]{%
5860   \lowercase{\Field@boolkey{#1}}{disabled}%
5861 }
5862 \ifHy@texht
5863   \define@key{Field}{accesskey}{%
5864     \Field@addtoks{accesskey}{#1}%
5865   }%
5866   \define@key{Field}{tabkey}{%
5867     \Field@addtoks{tabkey}{#1}%
5868   }%
5869 \else
5870   \define@key{Field}{accesskey}{%
5871     \Hy@WarnHTMLFieldOption{accesskey}%
5872   }%
5873   \define@key{Field}{tabkey}{%
5874     \Hy@WarnHTMLFieldOption{tabkey}%
5875   }%
5876 \fi
5877 \define@key{Field}{name}{%
5878   \def\Fld@name{#1}%
5879 }
5880 \let\Fld@altname\relax
5881 \define@key{Field}{altname}{%
5882   \def\Fld@altname{#1}%
5883 }
5884 \let\Fld@mappingname\relax
5885 \define@key{Field}{mappingname}{%
5886   \def\Fld@mappingname{#1}%
5887 }
5888 \define@key{Field}{width}{%
5889   \def\Fld@width{#1}%
5890   \Field@Width#1\setbox0=\hbox{m}%
5891 }
5892 \define@key{Field}{maxlen}{%
5893   \def\Fld@maxlen{#1}%
5894 }
5895 \define@key{Field}{menulength}{%
5896   \Fld@menulength=#1\relax
5897 }
5898 \define@key{Field}{height}{%
5899   \def\Fld@height{#1}%
5900 }
5901 \define@key{Field}{charsize}{%
5902   \setlength{\Fld@charsize}{#1}%
5903 }
5904 \define@key{Field}{borderwidth}{%
5905   \Hy@defaultbp\Fld@borderwidth{#1}%
5906 }
5907 \def\Hy@defaultbp#1#2{%
5908   \begingroup
5909   \afterassignment\Hy@defaultbpAux
5910   \dimen@=#2bp\relax{#1}{#2}%
5911 }
5912 \begingroup\expandafter\expandafter\expandafter\endgroup
5913 \expandafter\ifx\csname dimexpr\endcsname\relax
5914   \def\Hy@defaultbpAux#1\relax#2#3{%
5915     \ifx!#1!%

```

```

5916 \endgroup
5917 \def#2{#3}%
5918 \else
5919 \dimen@=.99626\dimen@
5920 \edef\x{\endgroup
5921 \def\noexpand#2{%
5922 \strip@pt\dimen@
5923 }%
5924 }\x
5925 \fi
5926 }%
5927 \else
5928 \def\Hy@defaultbpAux#1\relax#2#3{%
5929 \ifx!#1!%
5930 \endgroup
5931 \def#2{#3}%
5932 \else
5933 \edef\x{\endgroup
5934 \def\noexpand#2{%
5935 \strip@pt\dimexpr\dimen@*800/803\relax
5936 }%
5937 }\x
5938 \fi
5939 }%
5940 \fi
5941 \define@key{Field}{borderstyle}{%
5942 \let\Hy@temp\Fld@borderstyle
5943 \def\Fld@borderstyle{#1}%
5944 \Hy@Match\Fld@borderstyle{%
5945 ~[SDBIU]$%
5946 }-}{%
5947 \Hy@Warning{%
5948 Invalid value '~@pdfborderstyle'\MessageBreak
5949 for option 'pdfborderstyle'. Valid values:\MessageBreak
5950 \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
5951 \space\space I (Inset), U (Underline)\MessageBreak
5952 Option setting is ignored%
5953 }%
5954 \let\Fld@borderstyle\Hy@temp
5955 }%
5956 }
5957 \define@key{Field}{bordersep}{%
5958 \def\Fld@bordersep{#1}%
5959 }
5960 \define@key{Field}{default}{%
5961 \def\Fld@default{#1}%
5962 }
5963 \define@key{Field}{align}{%
5964 \def\Fld@align{#1}%
5965 }
5966 \define@key{Field}{value}{%
5967 \def\Fld@value{#1}%
5968 }
5969 \define@key{Field}{checkboxsymbol}{%
5970 \Fld@DingDef\Fld@cbsymbol{#1}%
5971 }
5972 \define@key{Field}{radiosymbol}{%

```

```

5973 \Fld@DingDef\Fld@radiosymbol{#1}%
5974 }
5975 \def\Fld@DingDef#1#2{%
5976 \let\Fld@temp\ltx@empty
5977 \Fld@@@DingDef#2\ding{}}\@nil
5978 \let#1\Fld@temp
5979 }
5980 \def\Fld@@@DingDef#1\ding#2#3\@nil{%
5981 \expandafter\def\expandafter\Fld@temp\expandafter{%
5982 \Fld@temp
5983 #1%
5984 }%
5985 \ifx\\#3\\%
5986 \expandafter\@gobble
5987 \else
5988 \begingroup
5989 \lccode'0=#2\relax
5990 \lowercase{\endgroup
5991 \expandafter\def\expandafter\Fld@temp\expandafter{%
5992 \Fld@temp
5993 0%
5994 }%
5995 }%
5996 \expandafter\@firstofone
5997 \fi
5998 {%
5999 \Fld@@@DingDef#3\@nil
6000 }%
6001 }

6002 \define@key{Field}{rotation}{%
6003 \def\Fld@rotation{#1}%
6004 }

6005 \define@key{Field}{backgroundcolor}{%
6006 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
6007 }
6008 \define@key{Field}{bordercolor}{%
6009 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
6010 }
6011 \define@key{Field}{color}{%
6012 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
6013 }

6014 \let\Fld@onclick@code\ltx@empty
6015 \let\Fld@format@code\ltx@empty
6016 \let\Fld@validate@code\ltx@empty
6017 \let\Fld@calculate@code\ltx@empty
6018 \let\Fld@keystroke@code\ltx@empty
6019 \let\Fld@onfocus@code\ltx@empty
6020 \let\Fld@onblur@code\ltx@empty
6021 \let\Fld@onmousedown@code\ltx@empty
6022 \let\Fld@onmouseup@code\ltx@empty
6023 \let\Fld@onenter@code\ltx@empty
6024 \let\Fld@onexit@code\ltx@empty
6025 \def\Hy@temp#1{%
6026 \expandafter\Hy@@@temp\csname Fld@#1@code\endcsname{#1}%
6027 }
6028 \def\Hy@@@temp#1#2{%

```

```

6029 \ifHy@pdfa
6030   \define@key{Field}{#2}{%
6031     \Hy@Error{%
6032       PDF/A: Additional action '#2' is prohibited%
6033     }\@ehc
6034   }%
6035 \else
6036   \define@key{Field}{#2}{%
6037     \def#1{##1}%
6038   }%
6039 \fi
6040 }
6041 \Hy@temp{keystroke}
6042 \Hy@temp{format}
6043 \Hy@temp{validate}
6044 \Hy@temp{calculate}
6045 \Hy@temp{onfocus}
6046 \Hy@temp{onblur}
6047 \Hy@temp{onenter}
6048 \Hy@temp{onexit}
6049 \ifHy@texht
6050   \def\Hy@temp#1{%
6051     \define@key{Field}{#1}{%
6052       \Field@addtoks{#1}{##1}%
6053     }%
6054   }%
6055 \else
6056   \def\Hy@temp#1{%
6057     \define@key{Field}{#1}{%
6058       \Hy@WarnHTMLFieldOption{#1}%
6059     }%
6060   }%
6061 \fi
6062 \Hy@temp{ondblclick}
6063 \Hy@temp{onmousedown}
6064 \Hy@temp{onmouseup}
6065 \Hy@temp{onmouseover}
6066 \Hy@temp{onmousemove}
6067 \Hy@temp{onmouseout}
6068 \Hy@temp{onkeydown}
6069 \Hy@temp{onkeyup}
6070 \Hy@temp{onselect}
6071 \Hy@temp{onchange}
6072 \Hy@temp{onkeypress}
6073 \ifHy@texht
6074   \define@key{Field}{onclick}{%
6075     \Field@addtoks{onclick}{#1}%
6076   }%
6077 \else
6078   \ifHy@pdfa
6079     \define@key{Field}{onclick}{%
6080       \Hy@Error{%
6081         PDF/A: Action 'onclick' is prohibited%
6082       }\@ehc
6083     }%
6084   \else
6085     \define@key{Field}{onclick}{%

```

```

6086 \def\Fld@onclick@code{#1}%
6087 }%
6088 \fi
6089 \fi

6090 \DeclareRobustCommand\TextField{%
6091 \@ifnextchar[{\@TextField}{\@TextField[]}%
6092 }
6093 \DeclareRobustCommand\ChoiceMenu{%
6094 \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
6095 }
6096 \DeclareRobustCommand\CheckBox{%
6097 \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
6098 }
6099 \DeclareRobustCommand\PushButton{%
6100 \@ifnextchar[{\@PushButton}{\@PushButton[]}%
6101 }
6102 \DeclareRobustCommand\Gauge{%
6103 \@ifnextchar[{\@Gauge}{\@Gauge[]}%
6104 }
6105 \DeclareRobustCommand\Submit{%
6106 \@ifnextchar[{\@Submit}{\@Submit[]}%
6107 }
6108 \DeclareRobustCommand\Reset{%
6109 \@ifnextchar[{\@Reset}{\@Reset[]}%
6110 }
6111 \def\LayoutTextField#1#2{% label, field
6112 #1 #2%
6113 }
6114 \def\LayoutChoiceField#1#2{% label, field
6115 #1 #2%
6116 }
6117 \def\LayoutCheckField#1#2{% label, field
6118 #1 #2%
6119 }
6120 \def\LayoutPushButtonField#1{% button
6121 #1%
6122 }
6123 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6124 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6125 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6126 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6127 \def\MakeButtonField#1{%
6128 \sbox0{%
6129 \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
6130 }%
6131 \@tempdima\ht0 %
6132 \advance\@tempdima by \Fld@borderwidth bp %
6133 \advance\@tempdima by \Fld@borderwidth bp %
6134 \ht0\@tempdima
6135 \@tempdima\dp0 %
6136 \advance\@tempdima by \Fld@borderwidth bp %
6137 \advance\@tempdima by \Fld@borderwidth bp %
6138 \dp0\@tempdima
6139 \box0\relax
6140 }
6141 \def\DefaultHeightofSubmit{14pt}
6142 \def\DefaultWidthofSubmit{2cm}

```

```

6143 \def\DefaultHeightofReset{14pt}
6144 \def\DefaultWidthofReset{2cm}
6145 \def\DefaultHeightofCheckBox{\baselineskip}
6146 \def\DefaultWidthofCheckBox{\baselineskip}
6147 \def\DefaultHeightofChoiceMenu{\baselineskip}
6148 \def\DefaultWidthofChoiceMenu{\baselineskip}
6149 \def\DefaultHeightofText{\baselineskip}
6150 \def\DefaultHeightofTextMultiline{4\baselineskip}
6151 \def\DefaultWidthofText{3cm}
6152 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
6153 \def\DefaultOptionsofReset{print,name=Reset,noexport}
6154 \def\DefaultOptionsofPushButton{print}
6155 \def\DefaultOptionsofCheckBox{print}
6156 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

6157 \def\DefaultOptionsofListBox{print}
6158 \def\DefaultOptionsofComboBox{print,edit,sort}
6159 \def\DefaultOptionsofPopdownBox{print}
6160 \def\DefaultOptionsofRadio{print,notoggletooff}

```

## 21 Setup

```

6161 \ifHy@hyperfigures
6162 \Hy@Info{Hyper figures ON}%
6163 \else
6164 \Hy@Info{Hyper figures OFF}%
6165 \fi
6166 \ifHy@nesting
6167 \Hy@Info{Link nesting ON}%
6168 \else
6169 \Hy@Info{Link nesting OFF}%
6170 \fi
6171 \ifHy@hyperindex
6172 \Hy@Info{Hyper index ON}%
6173 \else
6174 \Hy@Info{Hyper index OFF}%
6175 \fi
6176 \ifHy@backref
6177 \Hy@Info{backreferencing ON}%
6178 \else
6179 \Hy@Info{backreferencing OFF}%
6180 \fi
6181 \ifHy@colorlinks
6182 \Hy@Info{Link coloring ON}%
6183 \else
6184 \Hy@Info{Link coloring OFF}%
6185 \fi
6186 \ifHy@ocgcolorlinks
6187 \Hy@Info{Link coloring with OCG ON}%
6188 \else
6189 \Hy@Info{Link coloring with OCG OFF}%
6190 \fi
6191 \ifHy@pdfa
6192 \Hy@Info{PDF/A mode ON}%
6193 \else
6194 \Hy@Info{PDF/A mode OFF}%

```

6195 \fi

## 22 Low-level utility macros

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

```
6196 \edef\hyper@hash{\string#}  
6197 \edef\hyper@tilde{\string~}  
6198 \edef\hyper@quote{\string"}
```

Support \label before \begin{document}.

```
6199 \def\@currentHref{Doc-Start}  
6200 \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.

```
6201 \Hy@AtBeginDocument{%  
6202   \Hy@pdfstringtrue  
6203   \PDF@SetupDoc  
6204   \let\PDF@SetupDoc\@empty  
6205   \Hy@DisableOption{pdfpagescrop}%  
6206   \Hy@DisableOption{pdfpagemode}%  
6207   \Hy@DisableOption{pdfnonfullscreenpagemode}%  
6208   \Hy@DisableOption{pdfdirection}%  
6209   \Hy@DisableOption{pdfviewarea}%  
6210   \Hy@DisableOption{pdfviewclip}%  
6211   \Hy@DisableOption{pdfprintarea}%  
6212   \Hy@DisableOption{pdfprintclip}%  
6213   \Hy@DisableOption{pdfprintscaling}%  
6214   \Hy@DisableOption{pdfduplex}%  
6215   \Hy@DisableOption{pdfpicktraybypdfsize}%  
6216   \Hy@DisableOption{pdfprintpagerange}%  
6217   \Hy@DisableOption{pdfnumcopies}%  
6218   \Hy@DisableOption{pdfstartview}%  
6219   \Hy@DisableOption{pdfstartpage}%  
6220   \Hy@DisableOption{pdftoolbar}%  
6221   \Hy@DisableOption{pdfmenubar}%  
6222   \Hy@DisableOption{pdfwindowui}%  
6223   \Hy@DisableOption{pdffitwindow}%  
6224   \Hy@DisableOption{pdfcenterwindow}%  
6225   \Hy@DisableOption{pdfdisplaydoctitle}%  
6226   \Hy@DisableOption{pdfpagelayout}%  
6227   \Hy@DisableOption{pdflang}%  
6228   \Hy@DisableOption{baseurl}%  
6229   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi  
6230   \Hy@pdfstringfalse  
6231 }
```

Ignore star from referencing macros:

```
6232 \LetLtxMacro\NoHy@OrgRef\ref  
6233 \DeclareRobustCommand*{\ref}{%  
6234   \@ifstar\NoHy@OrgRef\NoHy@OrgRef  
6235 }  
6236 \LetLtxMacro\NoHy@OrgPageRef\pageref  
6237 \DeclareRobustCommand*{\pageref}{%  
6238   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef  
6239 }
```



## 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.

```

6240 \def\NoHyper{%
6241   \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6242   \def\hyper@@anchor##1##2{##2\Hy@xspace@end}%
6243   \global\let\hyper@livelink\hyper@link
6244   \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
6245   \let\hyper@anchor\ltx@gobble
6246   \let\hyper@anchorstart\ltx@gobble
6247   \def\hyper@anchorend{\Hy@xspace@end}%
6248   \let\hyper@linkstart\ltx@gobbletwo
6249   \def\hyper@linkend{\Hy@xspace@end}%
6250   \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6251   \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6252   \let\Hy@backout\@gobble
6253 }
6254 \def\stop@hyper{%
6255   \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6256   \let\Hy@backout\@gobble
6257   \let\hyper@@anchor\ltx@gobble
6258   \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
6259   \let\hyper@anchor\ltx@gobble
6260   \let\hyper@anchorstart\ltx@gobble
6261   \def\hyper@anchorend{\Hy@xspace@end}%
6262   \let\hyper@linkstart\ltx@gobbletwo
6263   \def\hyper@linkend{\Hy@xspace@end}%
6264   \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6265   \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6266 }
6267 \def\endNoHyper{%
6268   \global\let\hyper@link\hyper@livelink
6269 }
6270 \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:

```

6271 \nohyperref
6272 \RequirePackage{letltxmacro}[2008/06/13]
6273 \let\hyper@@anchor\@gobble
6274 \def\hyper@link##1##2##3{##3}%
6275 \let\hyper@anchorstart\@gobble
6276 \let\hyper@anchorend\@empty
6277 \let\hyper@linkstart\@gobbletwo
6278 \let\hyper@linkend\@empty
6279 \def\hyper@linkurl##1##2{##1}%

```

```

6280 \def\hyper@linkfile#1#2#3{#1}%
6281 \def\hyper@link@{#1}#2#3{#1}%
6282 \let\PDF@SetupDoc\@empty
6283 \let\PDF@FinishDoc\@empty
6284 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

6285 \def\Acrobatmenu#1#2{\leavevmode#2}
6286 \let\pdfstringdefDisableCommands\@gobbletwo
6287 \let\texorpdfstring\@firstoftwo
6288 \let\pdfbookmark\@undefined
6289 \newcommand\pdfbookmark[3]{}
6290 \let\phantomsection\@empty
6291 \let\hypersetup\@gobble
6292 \let\hyperbaseurl\@gobble
6293 \newcommand*\href{[3]}{#3}
6294 \let\hyperdef\@gobbletwo
6295 \let\hyperlink\@gobble
6296 \let\hypertarget\@gobble
6297 \def\hyperref{%
6298   \@ifnextchar{\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6299 }
6300 \long\def\@gobbleopt[#1]{}
6301 \let\hyperpage\@empty

```

Ignore star from referencing macros:

```

6302 \LetLtxMacro\NoHy@OrgRef\ref
6303 \DeclareRobustCommand*\ref{%
6304   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6305 }
6306 \LetLtxMacro\NoHy@OrgPageRef\pageref
6307 \DeclareRobustCommand*\pageref{%
6308   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6309 }
6310 \</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}`

```

6311 \<{*package}
6312 \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.

```

6313   \if@filesw
6314     \ifHy@typexml
6315       \immediate\closeout\@mainaux
6316       \immediate\openout\@mainaux\jobname.aux\relax
6317       \immediate\write\@auxout{<relaxxml>\relax}%
6318     \fi
6319     \immediate\write\@auxout{%
6320       \string\providecommand\string\HyperFirstAtBeginDocument{%
6321         \string\AtBeginDocument}^^J%
6322       \string\HyperFirstAtBeginDocument{%

```

```

6323 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6324 \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
6325 \string\gdef\string\contentsline%
6326 \string#1\string#2\string#3\string#4{%
6327 \string\oldcontentsline%
6328 {\string#1}{\string#2}{\string#3}}^^J%
6329 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6330 \string\gdef\string\newlabel\string#1\string#2{%
6331 \string\newlabelxx{\string#1}\string#2}^^J%
6332 \string\gdef\string\newlabelxx%
6333 \string#1\string#2\string#3\string#4\string#5\string#6{%
6334 \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.

```

6335 \string\AtEndDocument{%
6336 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6337 \string\let\string\contentsline\string\oldcontentsline^^J%
6338 \string\let\string\newlabel\string\oldnewlabel^^J%
6339 \string\fi%
6340 }^^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.

```

6341 \string\fi%
6342 }^^J%
6343 \string\global\string\let\string\hyper@last\relax^^J%
6344 \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6345 }%
6346 \fi
6347 \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.

```

6348 \ifx\hyper@last\@undefined
6349 \def\@starttoc#1{%
6350 \begingroup
6351 \makeatletter
6352 \IfFileExists{\jobname.#1}{%
6353 \Hy@WarningNoLine{%
6354 old #1 file detected, not used; run LaTeX again%
6355 }%
6356 }{}%
6357 \if@filesw
6358 \expandafter\newwrite\csname tf@#1\endcsname
6359 \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
6360 \fi
6361 \@nobreakfalse
6362 \endgroup
6363 }%
6364 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
6365 \fi
6366 }

```

## 26 Title strings

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

```

6367 \ifHy@pdfusetitle
6368   \let\HyOrg@title\title
6369   \let\HyOrg@author\author
6370   \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
6371   \def\Hy@scanopttitle[#1]{%
6372     \gdef\Hy@title{#1}%
6373     \HyOrg@title{#1}%
6374   }%
6375   \def\Hy@scantitle#1{%
6376     \gdef\Hy@title{#1}%
6377     \HyOrg@title{#1}%
6378   }%
6379   \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6380   \def\Hy@scanoptauthor[#1]{%
6381     \gdef\Hy@author{#1}%
6382     \HyOrg@author{#1}%
6383   }%
6384   \def\Hy@scanauthor#1{%
6385     \gdef\Hy@author{#1}%
6386     \HyOrg@author{#1}%
6387   }%

```

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

```

6388 \begingroup
6389   \def\process@me#1\@nil#2{%
6390     \expandafter\let\expandafter\x\csname @#2\endcsname
6391     \edef\y{\expandafter\strip@prefix\meaning\x}%
6392     \def\c##1##2\@nil{%
6393       \ifx\\##1\\%
6394         \else
6395           \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6396             \expandafter{\x}%
6397         \fi
6398       }%
6399     \expandafter\c\y\relax#1\@nil
6400   }%
6401   \expandafter\process@me\string\@latex@\@nil{title}%
6402   \expandafter\process@me\string\@latex@\@nil{author}%
6403 \endgroup
6404 \fi
6405 \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.

```

6406 \def\Hy@UseMaketitleString#1{%
6407   \ltx@ifundefined{Hy@#1}{}%
6408   \begingroup
6409     \let\Hy@saved@hook\pdfstringdefPreHook
6410     \pdfstringdefDisableCommands{%
6411       \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
6412       \let\newline\\%
6413     }%
6414     \expandafter\ifx\csname @pdf#1\endcsname\@empty
6415       \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6416         \csname Hy@#1\endcsname\@empty
6417       }%
6418     \fi
6419     \global\let\pdfstringdefPreHook\Hy@saved@hook
6420   \endgroup
6421 }%
6422 }
6423 \def\Hy@newline@title#1{ #1}
6424 \def\Hy@newline@author#1{, #1}
6425 \def\Hy@UseMaketitleInfos{%
6426   \Hy@UseMaketitleString{title}%
6427   \Hy@UseMaketitleString{author}%
6428 }

```

## 27 Page numbers

This stuff is done by Heiko Oberdiek.

## 28 Every page

```

6429 \RequirePackage{atbegshi}[2007/09/09]
6430 \let\Hy@EveryPageHook\ltx@empty
6431 \let\Hy@EveryPageBoxHook\ltx@empty
6432 \let\Hy@FirstPageHook\ltx@empty
6433 \AtBeginShipout{%
6434   \Hy@EveryPageHook
6435   \ifx\Hy@EveryPageBoxHook\ltx@empty
6436   \else
6437     \setbox\AtBeginShipoutBox=\vbox{%
6438       \offinterlineskip
6439       \Hy@EveryPageBoxHook
6440       \box\AtBeginShipoutBox
6441     }%
6442   \fi
6443 }
6444 \ltx@iffileloaded{hpdf.tex}{%
6445   \AtBeginShipout{%
6446     \Hy@FirstPageHook
6447     \global\let\Hy@FirstPageHook\ltx@empty
6448   }%
6449 }{%
6450   \AtBeginShipoutFirst{%
6451     \Hy@FirstPageHook
6452   }%
6453 }
6454 \g@addto@macro\Hy@FirstPageHook{%

```

```

6455 \PDF@FinishDoc
6456 \global\let\PDF@FinishDoc\ltx@empty
6457 }

```

## 28.1 PDF /PageLabels

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

```

6458 \ifHy@pdfpagelabels
6459 \begingroup\expandafter\expandafter\expandafter\endgroup
6460 \expandafter\ifx\csname thepage\endcsname\relax
6461 \Hy@pdfpagelabelsfalse
6462 \Hy@WarningNoLine{%
6463   Option 'pdfpagelabels' is turned off\MessageBreak
6464   because \string\thepage\space is undefined%
6465 }%
6466 \csname fi\endcsname
6467 \csname iffalse\expandafter\endcsname
6468 \fi

```

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

```

6469 \def\thispdfpagelabel#1{%
6470   \gdef\HyPL@thisLabel{#1}%
6471 }%
6472 \global\let\HyPL@thisLabel\relax

```

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

```

6473 \let\HyPL@Labels\ltx@empty

```

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

```

6474 \newcount\Hy@abspage
6475 \Hy@abspage=0 %

```

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

```

6476 \def\HyPL@LastType{init}%
6477 \def\HyPL@LastNumber{0}%
6478 \let\HyPL@LastPrefix\ltx@empty

```

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

```

6479 \def\HyPL@arabic{D}%
6480 \def\HyPL@Roman{R}%
6481 \def\HyPL@roman{r}%
6482 \def\HyPL@Alph{A}%
6483 \def\HyPL@alph{a}%
6484 \let\HyPL@SlidesSetPage\ltx@empty
6485 \ltx@ifclassloaded{slides}{%
6486   \def\HyPL@SlidesSetPage{%
6487     \advance\c@page\ltx@one
6488     \ifnum\value{page}>\ltx@one
6489       \protected@edef\HyPL@SlidesOptionalPage{%
6490         \Hy@SlidesFormatOptionalPage{\thepage}%
6491       }%
6492     \else
6493       \let\HyPL@SlidesOptionalPage\ltx@empty
6494     \fi
6495     \advance\c@page-\ltx@one

```

```

6496 \def\HyPL@page{%
6497 \csname the\Hy@SlidesPage\endcsname
6498 \HyPL@SlidesOptionalPage
6499 }%
6500 }%
6501 }{}%

```

`\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.

```

6502 \def\HyPL@EveryPage{%
6503 \begingroup
6504 \ifx\HyPL@thisLabel\relax
6505 \let\HyPL@page\thepage
6506 \HyPL@SlidesSetPage
6507 \else
6508 \let\HyPL@page\HyPL@thisLabel
6509 \global\let\HyPL@thisLabel\relax
6510 \fi
6511 \let\HyPL@Type\relax
6512 \ifnum\c@page>0 %
6513 \ifx\HyPL@SlidesSetPage\ltx@empty
6514 \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6515 \fi
6516 \fi
6517 \let\Hy@temp Y%
6518 \ifx\HyPL@Type\HyPL@LastType
6519 \else
6520 \let\Hy@temp N%
6521 \fi
6522 \ifx\HyPL@Type\relax
6523 \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6524 \else
6525 \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6526 \fi
6527 \ifx\HyPL@Prefix\HyPL@LastPrefix
6528 \else
6529 \let\Hy@temp N%
6530 \fi
6531 \if Y\Hy@temp
6532 \advance\c@page by -1 %
6533 \ifnum\HyPL@LastNumber=\the\c@page\relax
6534 \else
6535 \let\Hy@temp N%
6536 \fi
6537 \Hy@StepCount\c@page
6538 \fi
6539 \if N\Hy@temp
6540 \ifx\HyPL@Type\relax
6541 \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
6542 \else
6543 \HyPL@StorePageLabel{%
6544 \ifx\HyPL@Prefix\@empty
6545 \else
6546 /P(\HyPL@Prefix)%
6547 \fi
6548 /S/\csname HyPL\HyPL@Type\endcsname
6549 \ifnum\the\c@page=1 %

```

```

6550         \else
6551         \space/St \the\c@page
6552         \fi
6553     }%
6554     \fi
6555     \fi
6556     \xdef\HyPL@LastNumber{\the\c@page}%
6557     \global\let\HyPL@LastType\HyPL@Type
6558     \global\let\HyPL@LastPrefix\HyPL@Prefix
6559     \endgroup
6560     \Hy@GlobalStepCount\Hy@abspage
6561 }%

```

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

```

6562 \def\HyPL@CheckThePage#1\@nil{%
6563   \HyPL@@CheckThePage{#1}#1\c@page\endcsname\c@page\@nil
6564 }%

```

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

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

```

6565 \def\HyPL@@CheckThePage#1#2\c@page#3\endcsname\c@page#4\@nil{%
6566   \def\Hy@tempa{#4}%
6567   \def\Hy@tempb{\c@page\endcsname\c@page}%
6568   \ifx\Hy@tempa\Hy@tempb
6569     \expandafter\ifx\c@page HyPL#3\endcsname\relax
6570   \else
6571     \def\HyPL@Type{#3}%
6572     \def\HyPL@Prefix{#2}%
6573   \fi
6574   \else
6575     \begingroup
6576     \let\Hy@next\endgroup
6577     \let\HyPL@found\@undefined
6578     \def\arabic{\HyPL@Format{arabic}}%
6579     \def\Roman{\HyPL@Format{Roman}}%
6580     \def\roman{\HyPL@Format{roman}}%
6581     \def\Alph{\HyPL@Format{Alph}}%
6582     \def\alph{\HyPL@Format{alph}}%
6583     \protected@edef\Hy@temp{#1}%
6584     \ifx\HyPL@found\relax
6585       \toks@{\expandafter\Hy@temp}%
6586       \edef\Hy@next{\endgroup
6587         \noexpand\HyPL@@CheckThePage\the\toks@
6588         \noexpand\HyPL@found\relax\noexpand\@nil
6589       }%
6590     \fi
6591     \Hy@next
6592   \fi
6593 }%

```

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

```

6594 \def\HyPL@Format#1#2{%

```



```

6595 \ifx\HyPL@found\@undefined
6596 \expandafter\ifx\csname c@#2\endcsname\c@page
6597 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6598 \else
6599 \expandafter\noexpand\csname#1\endcsname{#2}%
6600 \fi
6601 \else
6602 \expandafter\noexpand\csname#1\endcsname{#2}%
6603 \fi
6604 }%

```

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

```

6605 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6606 \def\Hy@tempa{#3}%
6607 \def\Hy@tempb{\HyPL@found\relax}%
6608 \ifx\Hy@tempa\Hy@tempb
6609 \def\HyPL@Type{@#2}%
6610 \def\HyPL@Prefix{#1}%
6611 \fi
6612 }%

```

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

```

6613 \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`.

```

6614 \def\HyPL@Useless{0<</S/D>>}%
6615 \@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.

```

6616 \def\HyPL@SetPageLabels{%
6617 \@onelevel@sanitize\HyPL@Labels
6618 \ifx\HyPL@Labels\@empty
6619 \else
6620 \ifx\HyPL@Labels\HyPL@Useless
6621 \else
6622 \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6623 \fi
6624 \fi
6625 }%

```

```

6626 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6627 \fi

```

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

```

6628 \Hy@DisableOption{pdfpagelabels}
6629 </package>

```

### 28.1.1 pdfTeX and VTeX

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

\Hy@PutCatalog

```

6630 <*pdfTeX>
6631 \pdf@ifdraftmode{%
6632   \let\Hy@PutCatalog\ltx@gobble
6633 }{%
6634   \let\Hy@PutCatalog\pdfcatalog
6635 }
6636 </pdfTeX>

```

The code for VTeX is more complicate, because it does not allow the direct access to the /Catalog object. The command scans its argument and looks for a /PageLabels entry.

VTeX 6.59g is the first version, that implements \special{!pdfpagelabels...}. For this version \VTeXversion reports 660.

```

6637 <*vTeX>
6638 \providecommand*{\XR@ext}{pdf}
6639 \edef\Hy@VTeXversion{%
6640   \ifx\VTeXversion\@undefined
6641     \z@
6642   \else
6643     \ifx\VTeXversion\relax
6644       \z@
6645     \else
6646       \VTeXversion
6647     \fi
6648   \fi
6649 }
6650 \begingroup
6651   \ifnum\Hy@VTeXversion<660 %
6652     \gdef\Hy@PutCatalog#1{%
6653       \Hy@WarningNoLine{%
6654         VTeX 6.59g or above required for pdfpagelabels%
6655       }%
6656     }%
6657   \else
6658     \gdef\Hy@PutCatalog#1{%
6659       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6660     }%
6661     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6662       \ifx\#2\%
6663         \else
6664           \immediate\special{!pdfpagelabels #2}%
6665         \fi
6666       }%
6667     \fi
6668 \endgroup
6669 </vTeX>

6670 <*pdfTeX | vTeX>

```

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

```

6671 \ifHy@pdfpagelabels
6672   \def\HyPL@StorePageLabel#1{%
6673     \toks@\expandafter{\HyPL@Labels}%
6674     \xdef\HyPL@Labels{%
6675       \the\toks@
6676       \the\Hy@abspace<<#1>>%

```

```

6677 }%
6678 }%

```

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.

```

6679 \RequirePackage{atveryend}[2009/12/07]%
6680 \AtVeryEndDocument{%
6681   \HyPL@SetPageLabels
6682 }%

6683 \fi
6684 </pdfTeX | vtex>

```

### 28.1.2 xetex

```

6685 <*xetex>
6686 \HyPsd@LoadUnicode
6687 \Hy@unicodetrue
6688 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6689 \else
6690   \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6691 \fi
6692 \HyPsd@LoadStringEnc
6693 \define@key{Hyp}{unicode}[true]{%
6694   \Hy@boolkey{unicode}{#1}%
6695   \ifHy@unicode
6696   \else
6697     \Hy@Warning{%
6698       XeTeX driver only supports 'unicode=true'. Ignoring\MessageBreak
6699       option setting 'unicode=false'%
6700   }%
6701   \Hy@unicodetrue
6702 \fi
6703 }
6704 \define@key{Hyp}{pdfencoding}{%
6705   \edef\HyPsd@temp{#1}%
6706   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6707     \let\HyPsd@pdfencoding\HyPsd@temp
6708   \else
6709     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6710       \let\HyPsd@pdfencoding\HyPsd@temp
6711     \else
6712       \Hy@Warning{%
6713         XeTeX driver only supports\MessageBreak
6714         'pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6715         setting 'pdfencoding=\HyPsd@temp'%
6716       }%
6717     \fi
6718   \fi
6719 }
6720 \let\HyXeTeX@CheckUnicode\relax
6721 </xetex>

```

### 28.1.3 pdfmarkbase, dvipdfm, xetex

```

6722 <*pdfmarkbase>
6723 \begingroup
6724 \@ifundefined{headerps@out}{-}{%

```

```

6725 \toks@\expandafter{\Hy@FirstPageHook}%
6726 \xdef\Hy@FirstPageHook{%
6727 \noexpand\headerps@out{%
6728   systemdict /pdfmark known%
6729   {%
6730     userdict /?pdfmark systemdict /exec get put%
6731   }{%
6732     userdict /?pdfmark systemdict /pop get put %
6733     userdict /pdfmark systemdict /cleartomark get put%
6734   }%
6735   ifelse%
6736 }%
6737 \the\toks@
6738 }%
6739 }%
6740 \endgroup
6741 \pdfmarkbase

```

\Hy@PutCatalog

```

6742 \dvi\pdfm | xetex\def\Hy@PutCatalog#1{\@pdfm@mark{docview << #1 >>}}
6743 \*pdfmarkbase
6744 \def\Hy@PutCatalog#1{%
6745 \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} << #1 >>}}%
6746 }
6747 \pdfmarkbase

6748 \*pdfmarkbase | dvi\pdfm | xetex
6749 \ifHy@pdfpagelabels

```

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

```

6750 \def\HyPL@StorePageLabel#1{%
6751 \if@filesw
6752 \begingroup
6753 \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6754 \immediate\write\@mainaux{%
6755 \string\HyPL@Entry{\Hy@tempa}%
6756 }%
6757 \endgroup
6758 \fi
6759 }%

```

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.

```

6760 \Hy@AtBeginDocument{%
6761 \if@filesw
6762 \immediate\write\@mainaux{%
6763 \string\providecommand\string*\string\HyPL@Entry[1]{}%
6764 }%
6765 \fi
6766 \ifx\HyPL@Labels\@empty
6767 \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6768 \else
6769 \HyPL@SetPageLabels
6770 \fi
6771 \let\HyPL@Entry\@gobble
6772 }%

```

`\HyPL@Entry`

```

6773 \def\HyPL@Entry#1{%
6774   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6775     \HyPL@Labels
6776     #1%
6777   }%
6778 }%

6779 \fi
6780 </pdfmarkbase | dvipdfm | xetex>
6781 <*package>

6782 \ifx\MaybeStopEarly\relax
6783 \else
6784   \Hy@stoppedearlytrue
6785   \expandafter\MaybeStopEarly
6786 \fi
6787 \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

```

6788 \def\Hy@CounterExists#1{%
6789   \begingroup\expandafter\expandafter\expandafter\endgroup
6790   \expandafter\ifx\csname c@#1\endcsname\relax
6791     \expandafter\@gobble
6792   \else
6793     \begingroup\expandafter\expandafter\expandafter\endgroup
6794     \expandafter\ifx\csname the#1\endcsname\relax
6795       \expandafter\expandafter\expandafter\@gobble
6796     \else
6797       \expandafter\expandafter\expandafter\@firstofone
6798     \fi
6799   \fi
6800 }
6801 \Hy@CounterExists{section}{%
6802   \providecommand\theHequation{\theHsection.\arabic{equation}}}%
6803 }

```

```

6804 \Hy@CounterExists{part}{%
6805   \providecommand\theHpart{\arabic{part}}}%
6806 }
6807 \ltx@ifundefined{thechapter}{%
6808   \providecommand\theHsection   {\arabic{section}}%
6809   \providecommand\theHfigure    {\arabic{figure}}%
6810   \providecommand\theHtable     {\arabic{table}}%
6811 }{%
6812   \providecommand\theHchapter   {\arabic{chapter}}%
6813   \providecommand\theHfigure    {\theHchapter.\arabic{figure}}%
6814   \providecommand\theHtable     {\theHchapter.\arabic{table}}%
6815   \providecommand\theHsection   {\theHchapter.\arabic{section}}%
6816 }
6817 \providecommand\theHsubsection {\theHsection.\arabic{subsection}}
6818 \providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6819 \providecommand\theHparagraph   {\theHsubsubsection.\arabic{paragraph}}
6820 \providecommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
6821 \providecommand\theHtheorem     {\theHsection.\arabic{theorem}}
6822 \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.

```

6823 \let\H@item\item
6824 \newcounter{Item}
6825 \def\theHItem{\arabic{Item}}
6826 \def\item{%
6827   \@hyper@itemfalse
6828   \if@nmbrlist\@hyper@itemtrue\fi
6829   \H@item
6830 }
6831 \providecommand\theHenumi   {\theHItem}
6832 \providecommand\theHenumii  {\theHItem}
6833 \providecommand\theHenumiii {\theHItem}
6834 \providecommand\theHenumiv  {\theHItem}
6835 \providecommand\theHHfootnote {\arabic{Hfootnote}}
6836 \providecommand\theHmpfootnote{\arabic{mpfootnote}}
6837 \@ifundefined{theHHmpfootnote}{%
6838   \let\theHHmpfootnote\theHHfootnote
6839 }{}

```

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.

```

6840 \let\H@refstepcounter\refstepcounter
6841 \edef\name@of@eq{equation}%
6842 \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.

```

6843 \newif\if@hyper@item
6844 \newif\if@skiphyperref
6845 \@hyper@itemfalse
6846 \@skiphyperreffalse
6847 \def\refstepcounter#1{%
6848   \ifHy@pdfstring
6849   \else

```

```

6850 \H@refstepcounter{#1}%
6851 \edef\This@name{#1}%
6852 \ifx\This@name\name@of@slide
6853 \else
6854 \if@skiphyperref
6855 \else
6856 \if@hyper@item
6857 \stepcounter{Item}%
6858 \hyper@refstepcounter{Item}%
6859 \@hyper@itemfalse
6860 \else
6861 \hyper@refstepcounter{#1}%
6862 \fi
6863 \fi
6864 \fi
6865 \fi
6866 }
6867 \let\Hy@saved@refstepcounter\refstepcounter

```

AMSTeX processes all equations twice; we want to make sure that the hyper stuff is not executed twice, so we use the AMS `\ifmeasuring@`, initialized if AMS math is not used.

```

6868 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```

6869 \def\hyper@refstepcounter#1{%
6870 \edef\This@name{#1}%
6871 \ifx\This@name\name@of@eq
6872 \@ifundefined{theHequation}{%
6873 \make@stripped@name{\theequation}%
6874 \let\theHequation\newname
6875 }{}%
6876 \fi
6877 \@ifundefined{theH#1}{%
6878 \expandafter\def\csname theH#1\endcsname{\arabic{#1}}%
6879 }{}%
6880 \hyper@makecurrent{#1}%
6881 \ifmeasuring@
6882 \else
6883 \Hy@raisedlink{%
6884 \hyper@anchorstart{\@currentHref}\hyper@anchorend
6885 }%
6886 \fi
6887 }

```

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`.

```

6888 \begingroup\expandafter\expandafter\expandafter\endgroup
6889 \expandafter\ifx\csname chapter\endcsname\relax
6890 \def\Hy@chapterstring{section}%
6891 \else
6892 \def\Hy@chapterstring{chapter}%
6893 \fi

```

```

6894 \def\Hy@appendixstring{appendix}
6895 \def\Hy@chapapp{\Hy@chapterstring}
6896 \ltx@ifundefined{appendix}{%
6897 }{%
6898   \let\HyOrg@appendix\appendix
6899   \def\Hy@AlphNoErr#1{%
6900     \ifnum\value{#1}>26 %
6901       Alph\number\value{#1}%
6902     \else
6903       \ifnum\value{#1}<1 %
6904         Alph\number\value{#1}%
6905       \else
6906         \Alph{#1}%
6907       \fi
6908     \fi
6909   }%
6910   \def\appendix{%
6911     \ltx@ifundefined{chapter}{%
6912       \gdef\theHsection{\Hy@AlphNoErr{section}}%
6913     }{%
6914       \gdef\theHchapter{\Hy@AlphNoErr{chapter}}%
6915     }%
6916     \xdef\Hy@chapapp{\Hy@appendixstring}%
6917     \HyOrg@appendix
6918   }%
6919 }

```

\Hy@Test@alph

```

6920 \def\Hy@Test@alph#1{%
6921   \ifcase#1\or
6922     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
6923     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
6924     u\or v\or w\or x\or y\or z%
6925   \else
6926     \@ctrerr
6927   \fi
6928 }

```

\Hy@Test@Alph

```

6929 \def\Hy@Test@Alph#1{%
6930   \ifcase#1\or
6931     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
6932     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
6933     U\or V\or W\or X\or Y\or Z%
6934   \else
6935     \@ctrerr
6936   \fi
6937 }

```

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

```

6938 \def\hyper@makecurrent#1{%
6939   \begingroup
6940   \edef\Hy@param{#1}%
6941   \ifx\Hy@param\Hy@chapterstring
6942     \let\Hy@param\Hy@chapapp
6943   \fi

```



```

6944 \ifHy@hypertextnames
6945 \let\@number\@firstofone
6946 \def\@fnsymbol##1{fnsymbol\number##1}%
6947 \def\@arabic##1{\number##1}%
6948 \ifx\@alph\Hy@Test@alph
6949 \else
6950 \def\@alph{alph\number}%
6951 \fi
6952 \ifx\@Alph\Hy@Test@Alph
6953 \else
6954 \def\@Alph{Alph\number}%
6955 \fi
6956 \ifHy@naturalnames
6957 \let\textlatin\@firstofone
6958 \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
6959 \else
6960 \xdef\HyperGlobalCurrentHref{%
6961 \csname
6962 the%
6963 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
6964 #1%
6965 \endcsname
6966 }%
6967 \fi
6968 \xdef\HyperGlobalCurrentHref{%
6969 \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
6970 }%
6971 \else
6972 \Hy@GlobalStepCount\Hy@linkcounter
6973 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
6974 \fi
6975 \endgroup
6976 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6977 \ifHy@localanchorname
6978 \let\@currentHref\HyperLocalCurrentHref
6979 \else
6980 \global\let\@currentHref\HyperGlobalCurrentHref
6981 \fi
6982 }

```

\Hy@MakeCurrentHref

```

6983 \def\Hy@MakeCurrentHref#1{%
6984 \edef\HyperLocalCurrentHref{#1}%
6985 \@onelevel@sanitize\HyperLocalCurrentHref
6986 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
6987 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
6988 \ifHy@localanchorname
6989 \let\@currentHref\HyperLocalCurrentHref
6990 \else
6991 \global\let\@currentHref\HyperGlobalCurrentHref
6992 \fi
6993 }

```

\Hy@MakeCurrentHrefAuto

```

6994 \def\Hy@MakeCurrentHrefAuto#1{%
6995 \Hy@GlobalStepCount\Hy@linkcounter
6996 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
6997 }

```

```

\@currentHlabel \@currentHlabel is only defined for compatibility with package ‘hypdvips’.
6998 \def\@currentHlabel{\@currentHref}

6999 \@ifpackageloaded{fancyvrb}{%
7000   \@ifpackagelater{fancyvrb}{1998/05/20}{-}{-}%
7001   \def\FV@StepLineNo{%
7002     \FV@SetLineNo
7003     \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
7004     \FV@StepLineNo
7005   }%
7006 }%
7007 }{}

```

### 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

7008 \Hy@AtBeginDocument{%
7009   \@ifclassloaded{revtex4}{%
7010     \@namedef{ver@lastpage.sty}{1994/06/25}%
7011   }{}%
7012   \@ifpackageloaded{lastpage}{%
7013     \ifHy@pageanchor
7014     \else
7015       \Hy@WarningNoLine{%
7016         The \string\pageref{LastPage} link doesn't work\MessageBreak
7017         with disabled option ‘pageanchor’%
7018       }%
7019     \fi
7020     \def\lastpage@putlabel{%
7021       \addtocounter{page}{-1}%
7022       \if@filesw
7023         \begingroup
7024         \let\@number\@firstofone
7025         \ifHy@pageanchor
7026           \ifHy@hypertexnames
7027             \ifHy@plainpages
7028               \def\Hy@temp{\arabic{page}}%
7029             \else
7030               \Hy@unicodedefalse
7031               \pdfstringdef\Hy@temp{\thepage}%
7032             \fi
7033           \else
7034             \def\Hy@temp{\the\Hy@pagecounter}%
7035           \fi
7036         \fi
7037         \immediate\write\@auxout{%
7038           \string\newlabel
7039           {LastPage}{-}{\thepage}{-}%

```

```

7040         \ifHy@pageanchor page.\Hy@temp\fi}{}}%
7041     }%
7042     \endgroup
7043     \fi
7044     \addtocounter{page}{1}%
7045 }%
7046 \@ifclassloaded{revtex4}{%
7047     \begingroup
7048     \toks@{\expandafter{\lastpage@putlabel}}%
7049     \edef\x{\endgroup
7050         \def\noexpand\lastpage@putlabel{%
7051             \noexpand\stepcounter{page}%
7052             \the\toks@
7053             \noexpand\addtocounter{page}\noexpand\m@ne
7054         }%
7055     }%
7056     \x
7057 }{}%
7058 }{}%
7059 }
7060 \</package>
7061 \<*check>
7062 \checkpackage{lastpage}[1994/06/25]
7063 \checkcommand\def\lastpage@putlabel{%
7064     \addtocounter{page}{-1}%
7065     \immediate\write\@auxout{%
7066         \string\newlabel{LastPage}{\the\thepage}}%
7067 }%
7068 \addtocounter{page}{1}%
7069 }
7070 \</check>
7071 \<*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.

```

7072 \def\hypergetref#1{\getrefbykeydefault{#1}{}}{??}}
7073 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}

```

## 32 Package titlesec and titletoc support

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

Package titlesec support:

```

7074 \@ifpackageloaded{titlesec}{%
7075     \def\ttl@Hy@steplink#1{%
7076         \Hy@MakeCurrentHrefAuto{#1*}%
7077         \edef\ttl@Hy@saveanchor{%
7078             \noexpand\Hy@raisedlink{%
7079                 \noexpand\hyper@anchorstart{\@currentHref}%
7080                 \noexpand\hyper@anchorend
7081                 \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
7082                 \noexpand\ttl@Hy@PatchSaveWrite
7083             }%

```

```

7084 }%
7085 }%
7086 \def\ttl@Hy@PatchSaveWrite{%
7087   \begingroup
7088   \toks@\expandafter{\ttl@savewrite}%
7089   \edef\x{\endgroup
7090     \def\noexpand\ttl@savewrite{%
7091       \let\noexpand\@currentHref
7092       \noexpand\ttl@Hy@SavedCurrentHref
7093       \the\toks@
7094     }%
7095   }%
7096   \x
7097 }%
7098 \def\ttl@Hy@refstepcounter#1{%
7099   \let\ttl@b\Hy@raisedlink
7100   \def\Hy@raisedlink##1{%
7101     \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
7102   }%
7103   \refstepcounter{#1}%
7104   \let\Hy@raisedlink\ttl@b
7105 }%
7106 }{}

Package titletoc support:
7107 \@ifpackageloaded{titletoc}{%
7108   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
7109 }{}

```

### 33 Package varioref support

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

```

7110 \def\Hy@varioref@undefined{???}{??}{-}{-}{-}
7111 \@ifpackageloaded{varioref}{%
7112   \def\vref@pagenum#1#2{%
7113     \@ifundefined{r@#2}{%
7114       \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
7115     }{}%
7116     \edef#1{\getpagerefnumber{#2}}%
7117   }%
7118 }{}

```

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

```

7119 \def\Hy@varioref@refstepcounter#1{%
7120   \stepcounter{#1}%
7121   \protected@edef\@currentlabel{%
7122     \csname p@#1\endcsname\expandafter\endcsname\csname the#1\endcsname
7123   }%
7124 }
7125 \AtBeginDocument{%
7126   \ifx\refstepcounter\Hy@varioref@refstepcounter
7127     \let\H@refstepcounter\refstepcounter
7128     \let\refstepcounter\Hy@saved@refstepcounter
7129   \fi
7130 }

```

## 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

```

7131 \ifpackageloaded{longtable}{%
7132   \begingroup
7133   \def\y{\LT@array}%
7134   \@ifundefined{scr@LT@array}{%
7135     \@ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}{%
7136     }\def\y{\scr@LT@array}}%
7137   \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
7138     \expandafter\endgroup
7139     \expandafter\def\y[##1]##2{%
7140       \H@refstepcounter{#1}%
7141       \hyper@makecurrent{table}%
7142       \let\Hy@LT@currentHref\@currentHref
7143       #2\@sharp###4%
7144     }%
7145   }%
7146   \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil

```

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

```

7147 \begingroup
7148 \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
7149   \endgroup
7150   \def\LT@start{%
7151     #1%
7152     \ifvoid\LT@foot#2\fi
7153     \let\@currentHref\Hy@LT@currentHref
7154     \Hy@raisedlink{%
7155       \hyper@anchorstart{\@currentHref}\hyper@anchorend
7156     }%
7157     #3%
7158   }%
7159 }%
7160 \expandafter\x\LT@start\@nil
7161 }{}

```

## 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.

```

7162 \let\new@refstepcounter\refstepcounter
7163 \let\H@equation\equation
7164 \let\H@endequation\endequation
7165 \ifpackageloaded{amsmath}{%
7166   \long\def\Hy@temp{%
7167     \incr@eqnum
7168     \mathdisplay@push

```

```

7169 \st@rredfalse \global\@eqnswtrue
7170 \mathdisplay{equation}%
7171 }%
7172 \ifx\Hy@temp\equation
7173 \expandafter\ifx\csname if@fleqn\expandafter\endcsname
7174 \csname iftrue\endcsname
7175 \else
7176 \long\def\equation{%
7177 \mathdisplay@push
7178 \st@rredfalse \global\@eqnswtrue
7179 \mathdisplay{equation}%
7180 \incr@eqnum
7181 }%
7182 \fi
7183 \fi
7184 }{%
7185 \def\equation{%
7186 \let\refstepcounter\H@refstepcounter
7187 \H@equation
7188 \@ifundefined{theHequation}{%
7189 \make@stripped@name{\theequation}%
7190 \let\theHequation\newname
7191 }{}%
7192 \hyper@makecurrent{equation}%

```

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

```

7193 \mathopen{%
7194 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}}%
7195 }%
7196 \let\refstepcounter\new@refstepcounter
7197 }%
7198 \def\endequation{%
7199 \ifx\Hy@raisedlink\ltx@empty
7200 \hyper@anchorend
7201 \else
7202 \mathclose{\Hy@raisedlink{\hyper@anchorend}}}%
7203 \fi
7204 \H@endequation
7205 }%
7206 }

```

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.

```

7207 \newif\if@eqnstar
7208 \@eqnstarfalse
7209 \let\H@eqnarray\eqnarray
7210 \let\H@endeqnarray\endeqnarray
7211 \def\eqnarray{%
7212 \let\Hy@reserved@a\relax
7213 \def\@currentHref{}%
7214 \H@eqnarray
7215 \if@eqnstar
7216 \else
7217 \ifx\\\@currentHref\\%
7218 \else

```

```

7219 \ifundefined{theHequation}{%
7220 \make@stripped@name{\theequation}%
7221 \let\theHequation\newname
7222 }{}%
7223 \hyper@makecurrent{equation}%
7224 \mathopen{%
7225 \Hy@raisedlink{%
7226 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7227 }%
7228 }%
7229 \fi
7230 \fi
7231 }
7232 \def\endeqnarray{%
7233 \H@endeqnarray
7234 }

```

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.

```

7235 \@namedef{eqnarray*}{%
7236 \def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
7237 }
7238 \@namedef{endeqnarray*}{%
7239 \nonumber\endeqnarray\@eqnstarfalse
7240 }

```

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

```

7241 \ltx@ifundefined{subeqnarray}{}{%
7242 \let\H@subeqnarray\subeqnarray
7243 \let\H@endsubeqnarray\endsubeqnarray
7244 \def\subeqnarray{%
7245 \let\Hy@reserved@a\relax
7246 \H@subeqnarray
7247 \@ifundefined{theHequation}{%
7248 \make@stripped@name{\theequation}%
7249 \let\theHequation\newname
7250 }{}%
7251 \hyper@makecurrent{equation}%
7252 \hyper@anchorstart{\@currentHref}{ }\hyper@anchorend
7253 }%
7254 \def\endsubeqnarray{%
7255 \H@endsubeqnarray
7256 }%
7257 \providecommand\theHsubequation{\theHequation\alph{subequation}}%
7258 }

```

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

```

7259 \def\make@stripped@name#1{%
7260 \begingroup
7261 \escapechar\m@ne
7262 \global\let\newname\@empty
7263 \protected@edef\Hy@tempa{#1}%
7264 \edef\@tempb{%
7265 \noexpand\@tfor\noexpand\Hy@tempa:=%
7266 \expandafter\strip@prefix\meaning\Hy@tempa

```

```

7267 }%
7268 \@tempb\do{%
7269   \if{\Hy@tempa\else
7270     \if{\Hy@tempa\else
7271       \xdef\newname{\newname\Hy@tempa}%
7272     \fi
7273   \fi
7274 }%
7275 \endgroup
7276 }

```

Support for amsmath's subequations:

```

7277 \begingroup\expandafter\expandafter\expandafter\endgroup
7278 \expandafter\ifx\csname subequations\endcsname\relax
7279 \else
7280   \let\HyOrg@subequations\subequations
7281   \def\subequations{%
7282     \stepcounter{equation}%
7283     \protected@edef\theHparentequation{%
7284       \ifundefined{theHequation}\theequation\theHequation
7285     }%
7286     \addtocounter{equation}{-1}%
7287     \HyOrg@subequations
7288     \def\theHequation{\theHparentequation\alph{equation}}%
7289     \ignorespaces
7290   }%
7291 \fi

```

Support for package `amsthm` (Daniel Müllner):

```

7292 \@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

7293 \def\Hy@temp#1#2#3{%
7294   \ifhmode\unskip\unskip\par\fi
7295   \normalfont
7296   \trivlist
7297   \let\thmheadnl\relax
7298   \let\thm@swap\@gobble
7299   \let\thm@indent\indent % indent
7300   \thm@headfont{\scshape}% heading font small caps
7301   \thm@notefont{\fontseries\mddefault\upshape}%
7302   \thm@headpunct{.}% add period after heading
7303   \thm@headsep 5\p@ plus\p@ minus\p@\relax
7304   \thm@space@setup
7305   #1% style overrides
7306   \@topsep \thm@preskip % used by thm head
7307   \@topsepadd \thm@postskip % used by \@endparenv
7308   \def\@tempa{#2}\ifx\@empty\@tempa
7309     \def\@tempa{\@oparg{\@begintheorem{#3}{}}{}}%
7310   \else
7311     \refstepcounter{#2}%
7312     \def\@tempa{%
7313       \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}}%
7314     }%
7315   \fi

```



```

7316 \@tempa
7317 }%
7318 \ifx\Hy@temp\@thm
7319 \def\@thm#1#2#3{%
7320 \ifhmode
7321 \unskip\unskip\par
7322 \fi
7323 \normalfont
7324 \trivlist
7325 \let\thmheadnl\relax
7326 \let\thm@swap\@gobble
7327 \let\thm@indent\indent % indent
7328 \thm@headfont{\scshape}% heading font small caps
7329 \thm@notefont{\fontseries\mddefault\upshape}%
7330 \thm@headpunct{.}% add period after heading
7331 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7332 \thm@space@setup
7333 #1% style overrides
7334 \@topsep \thm@preskip % used by thm head
7335 \@topsepadd \thm@postskip % used by \@endparenv
7336 \def\dth@counter{#2}%
7337 \ifx\@empty\dth@counter
7338 \def\@tempa{%
7339 \@oparg{\@begintheorem{#3}-{}}[]%
7340 }%
7341 \else
7342 \H@refstepcounter{#2}%
7343 \hyper@makecurrent{#2}%
7344 \let\Hy@dth@currentHref\@currentHref
7345 \def\@tempa{%
7346 \@oparg{\@begintheorem{#3}-{\csname the#2\endcsname}}[]%
7347 }%
7348 \fi
7349 \@tempa
7350 }%
7351 \else
7352 \def\@thm#1#2#3{%
7353 \ifhmode
7354 \unskip\unskip\par
7355 \fi
7356 \normalfont
7357 \trivlist
7358 \let\thmheadnl\relax
7359 \let\thm@swap\@gobble
7360 \thm@notefont{\fontseries\mddefault\upshape}%
7361 \thm@headpunct{.}% add period after heading
7362 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7363 \thm@space@setup
7364 #1% style overrides
7365 \@topsep \thm@preskip % used by thm head
7366 \@topsepadd \thm@postskip % used by \@endparenv
7367 \def\dth@counter{#2}%
7368 \ifx\@empty\dth@counter
7369 \def\@tempa{%
7370 \@oparg{\@begintheorem{#3}-{}}[]%
7371 }%
7372 \else

```

```

7373 \H@refstepcounter{#2}%
7374 \hyper@makecurrent{#2}%
7375 \let\Hy@dth@currentHref\@currentHref
7376 \def\@tempa{%
7377 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}{}%
7378 }%
7379 \fi
7380 \@tempa
7381 }%
7382 \fi
7383 \dth@everypar={%
7384 \@minipagefalse
7385 \global\@newlistfalse
7386 \@noparitemfalse
7387 \if@inlabel
7388 \global\@inlabelfalse
7389 \begingroup
7390 \setbox\z@\lastbox
7391 \ifvoid\z@
7392 \kern-\itemindent
7393 \fi
7394 \endgroup
7395 \ifx\@empty\dth@counter
7396 \else
7397 \Hy@raisedlink{%
7398 \hyper@anchorstart{%
7399 \ltx@ifundefined{Hy@dth@currentHref}%
7400 \@currentHref\Hy@dth@currentHref
7401 }\hyper@anchorend
7402 }%
7403 \fi
7404 \unhbox\@labels
7405 \fi
7406 \if@nobreak
7407 \@nobreakfalse \clubpenalty\@M
7408 \else
7409 \clubpenalty\@clubpenalty \everypar{}%
7410 \fi
7411 }%
7412 }{}

```

## 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.

```

7413 \ifHy@hyperfootnotes
7414 \newcounter{Hfootnote}%
7415 \let\H@@footnotetext\@footnotetext
7416 \let\H@@footnotemark\@footnotemark
7417 \def\@xfootnotenext[#1]{%
7418 \begingroup
7419 \csname c@\@mpfn\endcsname #1\relax
7420 \unrestored@protected@xdef\@thefnmark{\thempfn}%

```

```

7421 \endgroup
7422 \ifx\@footnotetext\@mpfootnotetext
7423 \expandafter\H@@mpfootnotetext
7424 \else
7425 \expandafter\H@@footnotetext
7426 \fi
7427 }%
7428 \def\@xfootnotemark[#1]{%
7429 \begingroup
7430 \c@footnote #1\relax
7431 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7432 \endgroup
7433 \H@@footnotemark
7434 }%
7435 \let\H@@mpfootnotetext\@mpfootnotetext
7436 \long\def\@mpfootnotetext#1{%
7437 \H@@mpfootnotetext{%
7438 \ifHy@nesting
7439 \expandafter\ltx@firstoftwo
7440 \else
7441 \expandafter\ltx@secondoftwo
7442 \fi
7443 {%
7444 \expandafter\hyper@@anchor\expandafter{%
7445 \Hy@footnote@currentHref
7446 }{#1}%
7447 }{%
7448 \Hy@raisedlink{%
7449 \expandafter\hyper@@anchor\expandafter{%
7450 \Hy@footnote@currentHref
7451 }{\relax}%
7452 }#1%
7453 }%
7454 }%
7455 }%
7456 \long\def\@footnotetext#1{%
7457 \H@@footnotetext{%
7458 \ifHy@nesting
7459 \expandafter\ltx@firstoftwo
7460 \else
7461 \expandafter\ltx@secondoftwo
7462 \fi
7463 {%
7464 \expandafter\hyper@@anchor\expandafter{%
7465 \Hy@footnote@currentHref
7466 }{#1}%
7467 }{%
7468 \Hy@raisedlink{%
7469 \expandafter\hyper@@anchor\expandafter{%
7470 \Hy@footnote@currentHref
7471 }{\relax}%
7472 }%
7473 \let\@currentHref\Hy@footnote@currentHref
7474 \let\@currentlabelname\@empty
7475 #1%
7476 }%
7477 }%

```

7478 }%

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.

```

7479 \def\@footnotemark{%
7480   \leavevmode
7481   \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
7482   \stepcounter{Hfootnote}%
7483   \global\let\Hy@saved@currentHref\@currentHref
7484   \hyper@makecurrent{Hfootnote}%
7485   \global\let\Hy@footnote@currentHref\@currentHref
7486   \global\let\@currentHref\Hy@saved@currentHref
7487   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7488   \@makefnmark
7489   \hyper@linkend
7490   \ifhmode\spacefactor\x@sf\fi
7491   \relax
7492 }%
```

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

```

7493 \@ifpackageloaded{tabularx}{%
7494   \let\HyOrg@TX@endtabularx\TX@endtabularx
7495   \def\Hy@tabularx@hook{%
7496     \let\@footnotetext\H@@footnotetext
7497     \let\@footnotemark\H@@footnotemark
7498     \let\@mpfootnotetext\H@@mpfootnotetext
7499   }%
7500   \begingroup
7501     \toks@\expandafter{\TX@endtabularx}%
7502     \xdef\Hy@gtemp{%
7503       \noexpand\Hy@tabularx@hook
7504       \the\toks@
7505     }%
7506   \endgroup
7507   \let\TX@endtabularx\Hy@gtemp
7508 }{ }%
```

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

```

7509 \@ifpackageloaded{longtable}{%
7510   \CheckCommand*{\LT@p@ftntext}[1]{%
7511     \edef\@tempa{%
7512       \the\LT@p@ftn
7513       \noexpand\footnotetext[\the\c@footnote]%
7514     }%
7515     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7516   }%
7517   \long\def\LT@p@ftntext#1{%
7518     \edef\@tempa{%
7519       \the\LT@p@ftn
7520     }%
7521     \begingroup
7522       \noexpand\c@footnote=\the\c@footnote\relax
```

```

7522     \noexpand\protected@xdef\noexpand\@thefnmark{%
7523     \noexpand\thempfn
7524     }%
7525     \noexpand\Hy@LT@footnotetext{%
7526     \Hy@footnote@currentHref
7527     }%
7528     }%
7529     \global\LT@p@ftn\expandafter{%
7530     \@tempa{#1}%
7531     \endgroup
7532     }%
7533     }%
7534     \long\def\Hy@LT@footnotetext#1#2{%
7535     \H@@@footnotetext{%
7536     \ifHy@nesting
7537     \hyper@@@anchor{#1}{#2}%
7538     \else
7539     \Hy@raisedlink{%
7540     \hyper@@@anchor{#1}{\relax}%
7541     }%
7542     \def\@currentHref{#1}%
7543     \let\@currentlabelname\@empty
7544     #2%
7545     \fi
7546     }%
7547     }%
7548     }{}%

```

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

```

7549     \ifpackageloaded{fancyvrb}{%
7550     \def\V@@@footnotetext{%
7551     \insert\footins\bgroup
7552     \csname reset@font\endcsname
7553     \footnotesize
7554     \interlinepenalty\interfootnotelinepenalty
7555     \splittopskip\footnotesep
7556     \splitmaxdepth\dp\strutbox
7557     \floatingpenalty \@MM
7558     \hsize\columnwidth
7559     \@parboxrestore
7560     \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
7561     \@makefntext{}%
7562     \rule{\z@}{\footnotesep}%
7563     \bgroup
7564     \aftergroup\V@@@footnotetext
7565     \Hy@raisedlink{%
7566     \expandafter\hyper@@@anchor\expandafter{%
7567     \Hy@footnote@currentHref
7568     }{\relax}%
7569     }%
7570     \let\@currentHref\Hy@footnote@currentHref
7571     \let\@currentlabelname\@empty
7572     \ignorespaces
7573     }%
7574     }{}%

```

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

```

7575 \def\Hy@temp#1{%
7576   \begingroup
7577   \unrestored@protected@xdef\@thefnmark{\ref{#1}}}%
7578   \endgroup
7579   \@footnotemark
7580 }%
7581 \ifx\Hy@temp\footref
7582   \def\footref#1{%
7583     \begingroup
7584     \unrestored@protected@xdef\@thefnmark{\ref{#1}}}%
7585     \endgroup
7586     \H@@@footnotemark
7587   }%
7588 \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.

```

7589 \let\HyOrg@maketitle\maketitle
7590 \def\maketitle{%
7591   \let\Hy@saved@footnotemark\@footnotemark
7592   \let\Hy@saved@footnotetext\@footnotetext
7593   \let\@footnotemark\H@@@footnotemark
7594   \let\@footnotetext\H@@@footnotetext
7595   \@ifnextchar[\Hy@maketitle@optarg{% ]
7596     \HyOrg@maketitle
7597     \Hy@maketitle@end
7598   }%
7599 }%
7600 \def\Hy@maketitle@optarg[#1]{%
7601   \HyOrg@maketitle[{#1}]%
7602   \Hy@maketitle@end
7603 }%
7604 \def\Hy@maketitle@end{%
7605   \ifx\@footnotemark\H@@@footnotemark
7606     \let\@footnotemark\Hy@saved@footnotemark
7607   \fi
7608   \ifx\@footnotetext\H@@@footnotetext
7609     \let\@footnotetext\Hy@saved@footnotetext
7610   \fi
7611 }%

```

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

```

7612 \def\realfootnote{%
7613   \@ifnextchar[\@xfootnote{%
7614     \stepcounter{\@mpfn}%
7615     \protected@xdef\@thefnmark{\thempfn}%
7616     \H@@@footnotemark\H@@@footnotetext
7617   }%
7618 }%
7619 \fi
7620 \Hy@DisableOption{hyperfootnotes}
7621 \</package>
7622 \< *check>
7623 \checklatex
7624 \checkcommand\def\@xfootnotenext[#1]{%

```

```

7625 \begingroup
7626   \csname c@\@mpfn\endcsname #1\relax
7627   \unrestored@protected@xdef\@thefnmark{\thempfn}%
7628 \endgroup
7629 \@footnotetext
7630 }
7631 \checkcommand\def\@xfootnotemark[#1]{%
7632 \begingroup
7633   \c@footnote #1\relax
7634   \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7635 \endgroup
7636 \@footnotemark
7637 }
7638 \checkcommand\def\@footnotemark{%
7639 \leavevmode
7640 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7641 \@makefnmark
7642 \ifhmode\spacefactor\@x@sf\fi
7643 \relax
7644 }
7645 \</check>
7646 \<*/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.

```

7647 \def\caption{%
7648 \ifx\@captive\@undefined
7649   \@latex@error{\noexpand\caption outside float}\@ehd
7650   \expandafter\@gobble
7651 \else
7652   \H@refstepcounter\@captive
7653   \let\Hy@tempa\@caption
7654   \@ifundefined{float@caption}{%
7655   }{%
7656     \expandafter\ifx\csname @float@c@\@captive\endcsname
7657       \float@caption
7658       \let\Hy@tempa\Hy@float@caption
7659     \fi
7660   }%
7661   \expandafter\@firstofone
7662 \fi
7663 {\@dblarg{\Hy@tempa\@captive}}%
7664 }
7665 \long\def\@caption#1[#2]#3{%
7666 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7667   \csname iftrue\endcsname
7668   \global\let\@currentHref\hc@currentHref
7669 \else
7670   \hyper@makecurrent{\@captive}%
7671 \fi
7672 \@ifundefined{NR@getttitle}{%
7673   \def\@currentlabelname{#2}%
7674 }{%
7675   \NR@getttitle{#2}%

```

```

7676 }%
7677 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7678 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7679 }%
7680 \begingroup
7681 \@@parboxrestore
7682 \if@minipage
7683 \@@setminipage
7684 \fi
7685 \normalsize
7686 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7687 \csname iftrue\endcsname
7688 \global\@capstartfalse
7689 \@@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7690 \else
7691 \@@makecaption{\csname fnum@#1\endcsname}{%
7692 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7693 \ifHy@nesting
7694 \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
7695 \else
7696 \Hy@raisedlink{%
7697 \expandafter\hyper@@anchor\expandafter{%
7698 \@currentHref
7699 }{\relax}%
7700 }%
7701 #3%
7702 \fi
7703 }%
7704 \fi
7705 \par
7706 \endgroup
7707 }

```

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’.

```

7708 \let\Hy@float@caption\@caption
7709 \newcommand{\HyNew@float@makebox}[1]{%
7710 \HyOrg@float@makebox{%
7711 #1\relax
7712 \ifx\Hy@float@currentHref\@undefined
7713 \else
7714 \expandafter\hyper@@anchor\expandafter{%
7715 \Hy@float@currentHref
7716 }{\relax}%
7717 \global\let\Hy@float@currentHref\@undefined
7718 \fi
7719 }%
7720 }%
7721 \ifpackageloaded{float}{%
7722 \def\Hy@float@caption{%
7723 \ifx\Hy@float@currentHref\@undefined
7724 \hyper@makecurrent{\@cuptype}%
7725 \global\let\Hy@float@currentHref\@currentHref

```



```

7726 \else
7727 \let\@currentHref\Hy@float@currentHref
7728 \fi
7729 \float@caption
7730 }%
7731 \let\HyOrg@float@makebox\float@makebox
7732 \let\float@makebox\HyNew@float@makebox
7733 }{}

7734 \</package>
7735 \< *check>
7736 \checklatex[1999/06/01 - 2000/06/01]
7737 \checkcommand\def\caption{%
7738 \ifx\@capttype\@undefined
7739 \< @latex@error{\noexpand\caption outside float}\@ehd
7740 \expandafter\@gobble
7741 \else
7742 \refstepcounter\@capttype
7743 \expandafter\@firstofone
7744 \fi
7745 {\< @dblarg{\< @caption\@capttype}}}%
7746 }
7747 \checkcommand\long\def\< @caption#1[#2]#3{%
7748 \par
7749 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7750 \protect\< numberline{\csname the#1\endcsname}{\< ignorespaces #2}%
7751 }%
7752 \begingroup
7753 \< @parboxrestore
7754 \if@minipage
7755 \< @setminipage
7756 \fi
7757 \< normalsize
7758 \< @makecaption{\csname fnum@#1\endcsname}{\< ignorespaces #3}\par
7759 \endgroup
7760 }
7761 \< /check>
7762 \< *package>

```

## 38 Bibliographic references

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

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

```

7763 \def\hyper@natlinkstart#1{%
7764 \Hy@backout{#1}%
7765 \hyper@linkstart{cite}{cite.#1}%
7766 \def\hyper@nat@current{#1}%
7767 }
7768 \def\hyper@natlinkend{%
7769 \hyper@linkend

```

```

7770 }
7771 \def\hyper@natlinkbreak#1#2{%
7772   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7773 }
7774 \def\hyper@natanchorstart#1{%
7775   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7776 }
7777 \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.

```

7778 \ltx@ifundefined{NAT@parse}{%
7779   \providecommand*\@extra@binfo{%
7780     \providecommand*\@extra@b@citeb{%
7781       \def\bibcite#1#2{%
7782         \@newl@bel{b}{#1\@extra@binfo}{%
7783           \hyper@link{cite}{cite.#1\@extra@b@citeb}{#2}%
7784         }%
7785       }%
7786     \gdef\@extra@binfo{%

```

Package `babel` redefines `\bibcite` with macro `\bbl@cite@choice`. It needs to be overwritten to avoid the warning “Label(s) may have changed.”.

```

7787 \let\Hy@bibcite\bibcite
7788 \begingroup
7789   \@ifundefined{bbl@cite@choice}{%
7790     \g@addto@macro\bbl@cite@choice{%
7791       \let\bibcite\Hy@bibcite
7792     }%
7793   }%
7794 \endgroup

```

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

```

7795 \providecommand*\@BIBLABEL{\@biblabel}%
7796 \def\@bibitem[#1]#2{%
7797   \@skiphyperreftrue
7798   \H@item[%
7799     \ifx\Hy@raisedlink\@empty
7800       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7801       \@BIBLABEL{#1}%
7802       \hyper@anchorend
7803     \else
7804       \Hy@raisedlink{%
7805         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7806       }%
7807     \@BIBLABEL{#1}%
7808   \fi
7809   \hfill
7810 ]%
7811   \@skiphyperreffalse
7812   \if@filesw
7813     \begingroup
7814       \let\protect\noexpand
7815       \immediate\write\@auxout{%
7816         \string\bibcite{#2}{#1}%
7817       }%

```

```

7818 \endgroup
7819 \fi
7820 \ignorespaces
7821 }%

```

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

```

7822 \def\@bibitem#1{%
7823 \@skiphyperreftrue\H@item\@skiphyperreffalse
7824 \Hy@raisedlink{%
7825 \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7826 }%
7827 \if@filesw
7828 \begingroup
7829 \let\protect\noexpand
7830 \immediate\write\@auxout{%
7831 \string\bibcite{#1}{\the\value{\@listctr}}}%
7832 }%
7833 \endgroup
7834 \fi
7835 \ignorespaces
7836 }%
7837 }{}

7838 \</package>
7839 \< *check>
7840 \checklatex
7841 \checkcommand\def\@bibitem[#1]#2{%
7842 \item[\@biblabel{#1}\hfill]%
7843 \if@filesw
7844 {%
7845 \let\protect\noexpand
7846 \immediate\write\@auxout{%
7847 \string\bibcite{#2}{#1}%
7848 }%
7849 }%
7850 \fi
7851 \ignorespaces
7852 }
7853 \checkcommand\def\@bibitem#1{%
7854 \item
7855 \if@filesw
7856 \immediate\write\@auxout{%
7857 \string\bibcite{#1}{\the\value{\@listctr}}}%
7858 }%
7859 \fi
7860 \ignorespaces
7861 }
7862 \</check>
7863 \< *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.

```

7864 \@ifclassloaded{revtex}{%
7865 \Hy@Info{*** compatibility with revtex **** }%
7866 \def\revtex@checking#1#2{%
7867 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname

```

```

7868 \expandafter\def\csname b@#1\endcsname{#2}%
7869 \SetMaxRnhefLabel{#1}%
7870 \expandafter\let\csname b@#1\endcsname\T@temp
7871 }%

```

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

```

7872 \ifundefined{@CITE}{\def\CITE{\@cite}}}%
7873 \providecommand*\@extra@b@citeb{}%
7874 \def\CITEX[#1]#2{%
7875 \let\@citea\@empty
7876 \leavevmode
7877 \unskip
7878 $~{%
7879 \scriptstyle
7880 \@CITE{%
7881 \@for\@citeb:=#2\do{%
7882 \@citea
7883 \def\@citea{,\penalty\@m\ }%
7884 \edef\@citeb{\expandafter\@firstofone\@citeb}%
7885 \if@filesw
7886 \immediate\write\@auxout{\string\citation{\@citeb}}%
7887 \fi
7888 \ifundefined{b@\@citeb\extra@b@citeb}{%
7889 \mbox{\reset@font\bfseries ?}%
7890 \G@refundefinedtrue
7891 \@latex@warning{%
7892 Citation '\@citeb' on page \thepage \space undefined%
7893 }%
7894 }{%
7895 {\csname b@\@citeb\extra@b@citeb\endcsname}%
7896 }%
7897 }%
7898 }{#1}%
7899 }$%
7900 }%

```

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.

```

7901 \def\citex[#1]#2{%
7902 \let\@citea\@empty
7903 \@cite{%
7904 \@for\@citeb:=#2\do{%
7905 \@citea
7906 \def\@citea{,\penalty\@m\ }%
7907 \edef\@citeb{\expandafter\@firstofone\@citeb}%
7908 \if@filesw
7909 \immediate\write\@auxout{\string\citation{\@citeb}}%
7910 \fi
7911 \ifundefined{b@\@citeb\extra@b@citeb}{%
7912 \mbox{\reset@font\bfseries ?}%
7913 \G@refundefinedtrue
7914 \@latex@warning{%
7915 Citation '\@citeb' on page \thepage \space undefined%
7916 }%
7917 }{%
7918 \hbox{\csname b@\@citeb\extra@b@citeb\endcsname}%
7919 }%

```

```

7920 }%
7921 }{#1}%
7922 }%
7923 }{}

```

### 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.

```

7924 \@ifpackageloaded{harvard}{%
7925   \Hy@AtBeginDocument{%
7926     \Hy@Info{*** compatibility with harvard **** }%
7927     \Hy@raiselinksfalse
7928     \def\harvardcite#1#2#3#4{%
7929       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{#1}{#2}}%
7930       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{#1}{#3}}%
7931       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{#1}{#4}}%
7932       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7933     }%
7934     \def\HAR@citetoaux#1{%
7935       \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7936       \ifHy@backref
7937         \ifx\@empty\@currentlabel
7938         \else
7939           \@bsphack
7940           \if@filesw
7941             \protected@write\@auxout{}{%
7942               \string\@writefile{brf}{%
7943                 \string\backcite{#1}{%
7944                   {thepage}{\@currentlabel}{\@currentHref}%
7945                 }%
7946               }%
7947             }%
7948           \fi
7949           \@esphack
7950         \fi
7951       \fi
7952     }%
7953     \def\harvarditem{%
7954       \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
7955     }%
7956     \def\@harvarditem[#1]#2#3#4#5\par{%
7957       \item[]%
7958       \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7959       \if@filesw
7960         \begingroup
7961         \def\protect##1{\string ##1\space}%
7962         \ifthenelse{\equal{#1}{\null}}{%
7963           {\def\next{{#4}{#2}{#3}}}%
7964           {\def\next{{#4}{#2}{#1}{#3}}}%
7965         \immediate\write\@auxout{\string\harvardcite\codeof\next}%

```

```

7966 \endgroup
7967 \fi
7968 \protect\hspace*{-\labelwidth}%
7969 \protect\hspace*{-\labelsep}%
7970 \ignorespaces
7971 #5%
7972 \ifHy@backref
7973 \newblock
7974 \backref{\csname br@#4\endcsname}%
7975 \fi
7976 \par
7977 }%

```

\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:

```

7978 \long\def\HAR@checkcitations#1#2#3#4{%
7979 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#2}}%
7980 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7981 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#3}}%
7982 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7983 \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#4}}%
7984 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
7985 \else
7986 \@tempswatrue
7987 \fi
7988 \else
7989 \@tempswatrue
7990 \fi
7991 \else
7992 \@tempswatrue
7993 \fi
7994 }%
7995 }%

7996 {}

```

## 38.2 Package chicago

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

```

7997 \@ifpackageloaded{chicago}{%

```

\citeN

```

7998 \def\citeN{%
7999 \def\@citeseppen{-1000}%
8000 \def\@cite##1##2{##1}%
8001 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
8002 \@citedata@opt
8003 }%

```

\shortciteN

```

8004 \def\shortciteN{%
8005 \def\@citeseppen{-1000}%
8006 \def\@cite##1##2{##1}%
8007 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
8008 \@citedata@opt
8009 }%

```

\@citedata@opt

```
8010 \def\@citedata@opt{%
8011   \let\@cite@opt\@empty
8012   \@ifnextchar [{%
8013     \@tempswatrue
8014     \@citedatax@opt
8015   }{%
8016     \@tempswafalse
8017     \@citedatax[]%
8018   }%
8019 }%
```

\@citedatax@opt

```
8020 \def\@citedatax@opt[#1]{%
8021   \def\@cite@opt{, #1}%
8022   \@citedatax[{#1}]%
8023 }%

8024 }{}
```

## 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.

```
8025 \ltx@ifclassloaded{slides}{%
8026   \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
8027   \def\Hy@PageAnchorSlidesPlain{%
8028     \advance\c@page\ltx@one
8029     \edef\Hy@TempPageAnchor{%
8030       \noexpand\hyper@@anchor{%
8031         page.\the\c@slide.\the\c@overlay.\the\c@note%
8032         \ifnum\c@page=\ltx@one
8033           \else
8034             .\the\c@page
8035         \fi
8036       }%
8037     }%
8038     \advance\c@page-\ltx@one
8039   }%
8040   \def\Hy@PageAnchorSlide{%
8041     \advance\c@page\ltx@one
8042     \ifnum\c@page>\ltx@one
8043       \ltx@ifundefined{theHpage}{%
8044         \protected@edef\Hy@TheSlideOptionalPage{%
8045           \Hy@SlidesFormatOptionalPage{thepage}%
8046         }%
8047       }{%
8048         \protected@edef\Hy@TheSlideOptionalPage{%
8049           \Hy@SlidesFormatOptionalPage{theHpage}%
8050         }%
8051       }%
8052     \else
```

```

8053 \def\Hy@TheSlideOptionalPage{}%
8054 \fi
8055 \advance\c@page-\ltx@one
8056 \pdfstringdef\@the@H@page{%
8057 \csname
8058 the%
8059 \ltx@ifundefined{theH\Hy@SlidesPage}{H}%
8060 \Hy@SlidesPage
8061 \endcsname
8062 \Hy@TheSlideOptionalPage
8063 }%
8064 \ltx@gobblethree
8065 }%
8066 \def\Hy@SlidesPage{slide}%
8067 \g@addto@macro\slide{%
8068 \def\Hy@SlidesPage{slide}%
8069 }%
8070 \g@addto@macro\overlay{%
8071 \def\Hy@SlidesPage{overlay}%
8072 }%
8073 \g@addto@macro\note{%
8074 \def\Hy@SlidesPage{note}%
8075 }%
8076 }{%
8077 \def\Hy@PageAnchorSlidesPlain{}%
8078 \def\Hy@PageAnchorSlide{}%
8079 }
8080 \def\Hy@EveryPageAnchor{%
8081 \Hy@DistillerDestFix
8082 \ifHy@pageanchor
8083 \ifHy@hypertexnames
8084 \ifHy@plainpages
8085 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
8086 \Hy@PageAnchorSlidesPlain
8087 \else
8088 \begingroup
8089 \let\@number\@firstofone
8090 \Hy@unicodetofalse
8091 \Hy@PageAnchorSlide
8092 \pdfstringdef\@the@H@page{\thepage}%
8093 \endgroup
8094 \edef\unescapestring\@the@H@page{\@the@H@page}%
8095 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
8096 \fi
8097 \else
8098 \Hy@GlobalStepCount\Hy@pagecounter
8099 \def\Hy@TempPageAnchor{%
8100 \hyper@@anchor{page.\the\Hy@pagecounter}%
8101 }%
8102 \fi
8103 \vbox to 0pt{%
8104 \kern\voffset
8105 \kern\topmargin
8106 \kern-1bp\relax
8107 \hbox to 0pt{%
8108 \kern\hoffset
8109 \kern\ifodd\value{page}%

```



```

8110         \oddsidemargin
8111         \else
8112         \evensidemargin
8113     \fi
8114     \kern-1bp\relax
8115     \Hy@TempPageAnchor\relax
8116     \hss
8117 }%
8118 \vss
8119 }%
8120 \fi
8121 }
8122 \g@addto@macro\Hy@EveryPageBoxHook{%
8123 \Hy@EveryPageAnchor
8124 }

```

## 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.

```

8125 \def\addcontentsline#1#2#3{% toc extension, type, tag
8126 \begingroup
8127 \let\label\@gobble
8128 \ifx\@currentHref\@empty
8129 \Hy@Warning{%
8130 No destination for bookmark of \string\addcontentsline,%
8131 \MessageBreak destination is added%
8132 }%
8133 \phantomsection
8134 \fi
8135 \expandafter\ifx\csname toplevel@#2\endcsname\relax
8136 \begingroup
8137 \def\Hy@tempa{#1}%
8138 \ifx\Hy@tempa\Hy@bookmarkstype
8139 \Hy@WarningNoLine{%
8140 bookmark level for unknown #2 defaults to 0%
8141 }%
8142 \else
8143 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
8144 \fi
8145 \endgroup
8146 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
8147 \fi
8148 \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%
8149 \Hy@writebookmark{\csname the#2\endcsname}%
8150 {#3}%
8151 {\@currentHref}%
8152 {\Hy@toplevel}%
8153 {#1}%
8154 \ifHy@verbose
8155 \begingroup
8156 \def\Hy@tempa{#3}%
8157 \@onelevel@sanitize\Hy@tempa
8158 \let\temp@online\on@line
8159 \let\on@line\@empty

```

```

8160 \Hy@Info{%
8161   bookmark\temp@online:\MessageBreak
8162   thecounter {\csname the#2\endcsname}\MessageBreak
8163   text {\Hy@tempa}\MessageBreak
8164   reference {\@currentHref}\MessageBreak
8165   toplevel {\Hy@toclevel}\MessageBreak
8166   type {#1}%
8167 }%
8168 \endgroup
8169 \fi
8170 \addtocontents{#1}{%
8171   \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}%
8172 }%
8173 \endgroup
8174 }
8175 \def\contentsline#1#2#3#4{%
8176   \ifx\#4\%
8177     \csname l@#1\endcsname{#2}{#3}%
8178   \else
8179     \ifcase\Hy@linktoc % none
8180       \csname l@#1\endcsname{#2}{#3}%
8181     \or % section
8182       \csname l@#1\endcsname{%
8183         \hyper@linkstart{link}{#4}{#2}\hyper@linkend
8184       }{#3}%
8185     \or % page
8186       \csname l@#1\endcsname{{#2}}{%
8187         \hyper@linkstart{link}{#4}{#3}\hyper@linkend
8188       }%
8189     \else % all
8190       \csname l@#1\endcsname{%
8191         \hyper@linkstart{link}{#4}{#2}\hyper@linkend
8192       }{%
8193         \hyper@linkstart{link}{#4}{#3}\hyper@linkend
8194       }%
8195     \fi
8196   \fi
8197 }
8198 \end{package}
8199 \end{check}
8200 \checklatex
8201 \checkcommand\def\addcontentsline#1#2#3{%
8202   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
8203 }
8204 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
8205 \end{check}
8206 \end{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.

```

8207 \let\H@definecounter\@definecounter
8208 \def\@definecounter#1{%
8209   \H@definecounter{#1}%
8210   \expandafter\gdef\csname theH#1\endcsname{\arabic{#1}}%

```

```
8211 }
```

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.

```
8212 \let\H@newctr\@newctr
8213 \def\@newctr#1[#2]{%
8214   \H@newctr#1[#2]}%
8215 \expandafter\gdef\csname theH#1\endcsname{%
8216   \csname the\@ifundefined{theH#2}{H}#2\endcsname.\arabic{#1}%
8217 }%
8218 }
```

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

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

Version 6.77p uses a patch by Ross Moore.

```
8219 \@ifpackageloaded{amsmath}{%
8220   \def\Hy@make@anchor{%
8221     \Hy@MakeCurrentHrefAuto{AMS}%
8222     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
8223   }%
8224   \def\Hy@make@df@tag@@#1{%
8225     \gdef\df@tag{%
8226       \maketag@@@{\Hy@make@anchor#1}%
8227       \def\@currentlabel{#1}%
8228     }%
8229   }%
8230   \def\Hy@make@df@tag@@@#1{%
8231     \gdef\df@tag{%
8232       \tagform@{\Hy@make@anchor#1}%
8233       \toks@{\xp{p@equation{#1}}}%
8234       \edef\@currentlabel{\the\toks@}%
8235     }%
8236   }%
8237   \let\HyOrg@make@df@tag@@\make@df@tag@@
8238   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
8239   \let\make@df@tag@@\Hy@make@df@tag@@
8240   \let\make@df@tag@@@\Hy@make@df@tag@@@
8241 }{}
```

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

```
8242 \@ifpackagewith{hyperref}{pdftex}{%
8243   \let\H@seteqlabel\@seteqlabel
8244   \def\@seteqlabel#1{%
8245     \H@seteqlabel{#1}%
8246     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
8247     \Hy@raisedlink{%
8248       \hyper@anchorstart{\@currentHref}\hyper@anchorend
8249     }%
8250   }%
8251 }
```

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.

```
8252 \let\HyOrg@addtoreset\@addtoreset
8253 \def\@addtoreset#1#2{%
8254   \HyOrg@addtoreset{#1}{#2}%
8255   \expandafter\xdef\csname theH#1\endcsname{%
8256     \expandafter\noexpand
8257       \csname the\@ifundefined{theH#2}{H#2}\endcsname
8258       .\noexpand\the\noexpand\value{#1}%
8259   }%
8260 }
```

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

```
8261 \</package>
8262 \*check>
8263 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
8264 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
8265   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8266     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8267       \@addtoreset{#2}{#3}%
8268       \@xp\xdef\csname the#2\endcsname{%
8269         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8270       }%
8271     }%
8272   }%
8273 }%
8274 \</check>
8275 \*package>
8276 \@ifpackageloaded{amsmath}{%
8277   \@ifpackagelater{amsmath}[1999/12/14]{%
8278     \renewcommand*\numberwithin[3][\arabic]{%
8279       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8280         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8281           \HyOrg@addtoreset{#2}{#3}%
8282           \@xp\xdef\csname the#2\endcsname{%
8283             \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8284           }%
8285           \@xp\xdef\csname theH#2\endcsname{%
8286             \@xp\@nx
8287               \csname the\@ifundefined{theH#3}{H#3}\endcsname
8288               .\@nx#1{#2}%
8289           }%
8290         }%
8291       }%
8292     }%
8293   }%
8294 }
```

```

8290     }%
8291     }%
8292     }%
8293   }{%
8294     \Hy@WarningNoLine{%
8295       \string\numberwithin\space of package ‘amsmath’ %
8296       only fixed\MessageBreak
8297       for version 2000/06/06 v2.12 or newer%
8298     }%
8299   }%
8300 }{}

```

## 43 Included figures

Simply intercept the low level graphics package macro.

```

8301 \ifHy@hyperfigures
8302 \let\Hy@Gin@setfile\Gin@setfile
8303 \def\Gin@setfile#1#2#3{%
8304   \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
8305 }%
8306 \fi
8307 \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.

```

8308 \ifHy@hyperindex
8309 \def\HyInd@ParenLeft{({}%
8310 \def\HyInd@ParenRight{)}}%
8311 \def\hyperindexformat#1#2{%
8312   \let\HyOrg@hyperpage\hyperpage
8313   \let\hyperpage\@firstofone
8314   #1{\HyOrg@hyperpage{#2}}%
8315   \let\hyperpage\HyOrg@hyperpage
8316 }%
8317 \Hy@nextfalse
8318 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
8319 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
8320 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
8321 \begingroup
8322 \lccode‘\|=\expandafter‘\HyInd@EncapChar\relax
8323 \lccode‘\/=‘\\\relax
8324 \lowercase{\endgroup
8325 \ifHy@next
8326   \let\HyInd@org@wrindex\@wrindex
8327   \def\@wrindex#1#2{\HyInd@@wrindex{#1}{#2|\\\}}%

```

```

8328 \def\HyInd@@wrindex#1#2|#3|#4\\{%
8329 \ifx\\#3\\%
8330 \HyInd@org@wrindex{#1}{#2|hyperpage}%
8331 \else
8332 \HyInd@@@wrindex{#1}{#2}#3\\%
8333 \fi
8334 }%
8335 \def\HyInd@@@wrindex#1#2#3#4\\{%
8336 \def\Hy@temp@A{#3}%
8337 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8338 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8339 \relax
8340 \HyInd@org@wrindex{#1}{%
8341 #2|hyperindexformat{/#3#4}%
8342 }%
8343 \else
8344 \ifx\\#4\\%
8345 \ifx\Hy@temp@A\HyInd@ParenRight
8346 \HyInd@org@wrindex{#1}{#2|#3}%
8347 \else
8348 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
8349 \fi
8350 \else
8351 \HyInd@org@wrindex{#1}{%
8352 #2|#3hyperindexformat{/#4}%
8353 }%
8354 \fi
8355 \fi
8356 }%
8357 \else
8358 \def\@wrindex#1{\@wrindex#1||\}%
8359 \def\@wrindex#1|#2|#3\\{%
8360 \if@filesw
8361 \ifx\\#2\\%
8362 \protected@write\@indexfile{}{%
8363 \string\indexentry{#1|hyperpage}{\thepage}%
8364 }%
8365 \else
8366 \HyInd@@@wrindex{#1}#2\\%
8367 \fi
8368 \fi
8369 \endgroup
8370 \@esphack
8371 }%
8372 \def\HyInd@@@wrindex#1#2#3\\{%
8373 \def\Hy@temp@A{#2}%
8374 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8375 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8376 \relax
8377 \protected@write\@indexfile{}{%
8378 \string\indexentry{%
8379 #1|hyperindexformat{/#2#3}%
8380 }{\thepage}%
8381 }%
8382 \else
8383 \ifx\\#3\\%
8384 \ifx\Hy@temp@A\HyInd@ParenRight

```

```

8385         \protected@write\@indexfile{}\{%
8386         \string\indexentry{#1|#2}{\thepage}%
8387     }%
8388     \else
8389         \protected@write\@indexfile{}\{%
8390         \string\indexentry{#1|#2hyperpage}{\thepage}%
8391     }%
8392     \fi
8393     \else
8394         \protected@write\@indexfile{}\{%
8395         \string\indexentry{%
8396         #1|#2hyperindexformat{/#3}%
8397         }{\thepage}%
8398     }%
8399     \fi
8400     \fi
8401 }%
8402 \fi
8403 }%
8404 \fi
8405 \Hy@DisableOption{hyperindex}
8406 \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.

```

8407 \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.

```

8408 \def\hyperpage#1{%
8409   \HyInd@hyperpage#1\nohyperpage{}\@nil
8410 }
8411 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8412   \HyInd@@hyperpage{#1}%
8413   #2%
8414   \def\Hy@temp{#3}%
8415   \ifx\Hy@temp\@empty
8416   \else
8417     \ltx@ReturnAfterFi{%
8418       \HyInd@hyperpage#3\@nil
8419     }%
8420   \fi
8421 }
8422 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8423 \def\@hyperpage#1--#2--#3\{%
8424   \ifx\#2\%
8425     \@commahyperpage{#1}%
8426   \else
8427     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8428   \fi
8429 }
8430 \def\@commahyperpage#1{\@commahyperpage#1, \}
8431 \def\@commahyperpage#1, #2,#3\{%
8432   \ifx\#2\%
8433     \HyInd@pagelink{#1}%
8434   \else
8435     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%

```

```

8436 \fi
8437 }

```

The argument of `\hyperpage` can be empty. And the line breaking algorithm of `Makeindex` can introduce spaces. So we have to remove them.

```

8438 \def\HyInd@pagelink#1{%
8439   \begingroup
8440   \toks@={}%
8441   \HyInd@removespaces#1 \@nil
8442 \endgroup
8443 }
8444 \def\HyInd@removespaces#1 #2\@nil{%
8445   \toks@=\expandafter{\the\toks@#1}%
8446   \ifx\#2\%
8447     \edef\x{\the\toks@}%
8448     \ifx\x\@empty
8449       \else
8450         \hyperlink{page.\the\toks@}{\the\toks@}%
8451       \fi
8452     \else
8453       \ltx@ReturnAfterFi{%
8454         \HyInd@removespaces#2\@nil
8455       }%
8456     \fi
8457 }

```

## 45 Compatibility with foiltex

```

8458 \@ifclassloaded{foils}{%
8459   \providecommand*\ext@table{lot}%
8460   \providecommand*\ext@figure{lof}%
8461 }{}

```

## 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)).

```

8462 \@ifclassloaded{seminar}{%
8463   \Hy@seminarslidestrue
8464   \providecommand\theHslide{\arabic{slide}}%
8465 }{%
8466   \Hy@seminarslidesfalse
8467 }
8468 \@ifpackageloaded{slidesec}{%
8469   \providecommand\theHslidesection {\arabic{slidesection}}%
8470   \providecommand\theHslidesubsection{%
8471     \theHslidesection.\arabic{slidesubsection}%
8472   }%
8473   \def\slide@heading[#1]#2{%
8474     \H@refstepcounter{slidesection}%
8475     \@addtoreset{slidesubsection}{slidesection}%
8476     \addtocontents{los}{%
8477       \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
8478       {\@SCTR}{\slideheading.\theslidesection}%
8479     }%
8480   \def\Hy@tempa{#2}%

```



```

8481 \ifx\Hy@tempa\@empty
8482 \else
8483 {%
8484 \edef\@currentlabel{%
8485 \csname p@slidesection\endcsname\theslidesection
8486 }%
8487 \makeslideheading{#2}%
8488 }%
8489 \fi
8490 \gdef\theslideheading{#1}%
8491 \gdef\theslidesubheading{}%
8492 \ifHy@bookmarksnumbered
8493 \def\Hy@slidetitle{\theslidesection\space #1}%
8494 \else
8495 \def\Hy@slidetitle{#1}%
8496 \fi
8497 \ifHy@hypertextnames
8498 \ifHy@naturalnames
8499 \hyper@@anchor{slideheading.\theslidesection}{\relax}%
8500 \Hy@writebookmark
8501 {\theslidesection}%
8502 {\Hy@slidetitle}%
8503 {slideheading.\theslidesection}%
8504 {1}%
8505 {toc}%
8506 \else
8507 \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
8508 \Hy@writebookmark
8509 {\theslidesection}%
8510 {\Hy@slidetitle}%
8511 {slideheading.\theHslidesection}%
8512 {1}%
8513 {toc}%
8514 \fi
8515 \else
8516 \Hy@GlobalStepCount\Hy@linkcounter
8517 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8518 \Hy@writebookmark
8519 {\theslidesection}%
8520 {\Hy@slidetitle}%
8521 {slideheading.\the\Hy@linkcounter}%
8522 {1}%
8523 {toc}%
8524 \fi
8525 }%
8526 \def\slide@subheading[#1]#2{%
8527 \H@refstepcounter{slidesubsection}%
8528 \addtocontents{los}{%
8529 \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
8530 {\@SCTR}{slideheading.\theslidesubsection}%
8531 }%
8532 \def\Hy@tempa{#2}%
8533 \ifx\Hy@tempa\@empty
8534 \else
8535 {%
8536 \edef\@currentlabel{%
8537 \csname p@slidesubsection\endcsname\theslidesubsection

```

```

8538     }%
8539     \makeslidesubheading{#2}%
8540 }%
8541 \fi
8542 \gdef\theslidesubheading{#1}%
8543 \ifHy@bookmarksnumbered
8544     \def\Hy@slidetitle{\theslidesubsection\space #1}%
8545 \else
8546     \def\Hy@slidetitle{#1}%
8547 \fi
8548 \ifHy@hypertextnames
8549     \ifHy@naturalnames
8550         \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
8551         \Hy@writebookmark
8552             {\theslidesubsection}%
8553             {\Hy@slidetitle}%
8554             {slideheading.\theslidesubsection}%
8555             {2}%
8556             {toc}%
8557     \else
8558         \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
8559         \Hy@writebookmark
8560             {\theslidesubsection}%
8561             {\Hy@slidetitle}%
8562             {slideheading.\theHslidesubsection}%
8563             {2}%
8564             {toc}%
8565     \fi
8566 \else
8567     \Hy@GlobalStepCount\Hy@linkcounter
8568     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8569     \Hy@writebookmark
8570         {\theslidesubsection}%
8571         {\Hy@slidetitle}%
8572         {slideheading.\the\Hy@linkcounter}%
8573         {1}%
8574         {toc}%
8575 \fi
8576 }%
8577 \providecommand*\listslidenamelist{List of Slides}%
8578 \def\listofslides{%
8579     \section*{%
8580         \listslidenamelist
8581         \@mkboth{%
8582             \expandafter\MakeUppercase\listslidenamelist
8583         }{%
8584             \expandafter\MakeUppercase\listslidenamelist
8585         }%
8586     }%
8587     \def\l@slide##1##2##3##4{%
8588         \slide@undottedcline{%
8589             \slidenumberline{##3}{\hyperlink{##4}{##2}}%
8590         }%
8591     }%
8592     \let\l@subslide\l@slide
8593     \@startlos
8594 }%

```

```

8595 \def\slide@contents{%
8596   \def\l@slide##1##2##3##4{%
8597     \slide@cline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
8598   }%
8599   \let\l@subslide\@gobblefour
8600   \@startlos
8601 }%
8602 \def\Slide@contents{%
8603   \def\l@slide##1##2##3##4{%
8604     \ifcase\lslide@flag
8605       \message{##1 ** \the\c@slidesection}%
8606       \ifnum##1>\c@slidesection
8607         \def\lslide@flag{1}%
8608         {%
8609           \large
8610           \slide@cline{%
8611             \slidenumberline{$\Rightarrow\bullet$}%
8612             {\hyperlink{##4}{##2}}%
8613           }{##3}%
8614         }%
8615       \else
8616         {%
8617           \large
8618           \slide@cline{%
8619             \slidenumberline{$\surd\;\bullet$}%
8620             {\hyperlink{##4}{##2}}%
8621           }{##3}%
8622         }%
8623       \fi
8624     \or
8625       \def\lslide@flag{2}%
8626       {%
8627         \large
8628         \slide@cline{%
8629           \slidenumberline{$\bullet$}%
8630           {\hyperlink{##4}{##2}}%
8631         }{##3}%
8632       }%
8633     \or
8634       {%
8635         \large
8636         \slide@cline{%
8637           \slidenumberline{$\bullet$}%
8638           {\hyperlink{##4}{##2}}%
8639         }{##3}%
8640       }%
8641     \fi
8642   }%
8643   \def\l@subslide##1##2##3##4{%
8644     \ifnum\lslide@flag=1 %
8645       \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}%
8646     \fi
8647   }%
8648   \def\lslide@flag{0}%
8649   \@startlos
8650 }%
8651 }{}

```

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.)

```

8652 \ifHy@texht
8653 \expandafter\endinput
8654 \fi
8655 \let\real@setref\@setref
8656 \def\@setref#1#2#3{% csname, extract group, refname
8657 \ifx#1\relax
8658 \protect\G@refundefinedtrue
8659 \nfss@text{\reset@font\bfseries ??}%
8660 \@latex@warning{%
8661 Reference ‘#3’ on page \thepage \space undefined%
8662 }%
8663 \else
8664 \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
8665 \fi
8666 }

```

`\Hy@setref@link` extracts the reference information entries, because `\hyper@link` does not expand arguments for the automatic link type detection.

```

8667 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8668 \begingroup
8669 \toks0={\hyper@link{#5}{#4}}%
8670 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8671 \edef\x{\endgroup
8672 \the\toks0 {\the\toks1 }%
8673 }%
8674 \x
8675 }
8676 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8677 \ifx#1\relax
8678 \protect\G@refundefinedtrue
8679 \nfss@text{\reset@font\bfseries ??}%
8680 \@latex@warning{%
8681 Reference ‘#3’ on page \thepage \space undefined%
8682 }%
8683 \else
8684 \protect\hyper@link
8685 {\expandafter\@fifthoffive#1}%
8686 {page.\expandafter\@secondoffive#1}%
8687 {\expandafter\@secondoffive#1}%
8688 \fi
8689 }

8690 \</package>
8691 \<*check>
8692 \checklatex
8693 \checkcommand\def\@setref#1#2#3{%
8694 \ifx#1\relax
8695 \protect\G@refundefinedtrue
8696 \nfss@text{\reset@font\bfseries ??}%
8697 \@latex@warning{%
8698 Reference ‘#3’ on page \thepage\space undefined%
8699 }%
8700 \else
8701 \expandafter#2#1\null
8702 \fi

```

```

8703 }
8704 </check>
8705 <*package>

```

Now some extended referencing. `\ref*` and `\pageref*` are not linked, and `\autoref` prefixes with a tag based on the type.

```

8706 \def\HyRef@StarSetRef#1{%
8707   \begingroup
8708   \Hy@safe@activestrue
8709   \edef\x{#1}%
8710   \@onelevel@sanitize\x
8711   \edef\x{\endgroup
8712     \noexpand\HyRef@@StarSetRef
8713     \expandafter\noexpand\csname r@\x\endcsname{\x}%
8714   }%
8715   \x
8716 }
8717 \def\HyRef@@StarSetRef#1#2#3{%
8718   \ifx#1\@undefined
8719     \let#1\relax
8720   \fi
8721   \real@setref#1#3{#2}%
8722 }
8723 \def\@refstar#1{%
8724   \HyRef@StarSetRef{#1}\@firstoffive
8725 }
8726 \def\@pagerefstar#1{%
8727   \HyRef@StarSetRef{#1}\@secondoffive
8728 }
8729 \def\@namerefstar#1{%
8730   \HyRef@StarSetRef{#1}\@thirdoffive
8731 }
8732 \Hy@AtBeginDocument{%
8733   \@ifpackageloaded{varioref}{%
8734     \def\@Refstar#1{%
8735       \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8736     }%
8737     \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8738       \MakeUppercase#1%
8739     }%
8740     \DeclareRobustCommand*\@Ref*{%
8741       \@ifstar\@Refstar\HyRef@Ref
8742     }%
8743     \def\HyRef@Ref#1{%
8744       \hyperref[{#1}]{\@Ref*{#1}}%
8745     }%
8746     \def\Vr@f#1{%
8747       \leavevmode\unskip\vref@space
8748       \hyperref[{#1}]{%
8749         \@Ref*{#1}%
8750       }%
8751       \let\vref@space\nobreakspace
8752       \@vpageref[\unskip]{#1}%
8753     }%
8754     \def\vr@f#1{%
8755       \leavevmode\unskip\vref@space
8756       \begingroup
8757       \let\T@pageref\@pagerefstar

```

```

8758     \hyperref[#1]{%
8759     \ref*{#1}%
8760     \vpageref[unskip]{#1}%
8761     }%
8762   \endgroup
8763 }%
8764 }{}%
8765 }
8766 \DeclareRobustCommand*{\autopageref}{%
8767   \@ifstar{%
8768     \HyRef@autopagerefname\pageref*%
8769   }\HyRef@autopageref
8770 }
8771 \def\HyRef@autopageref#1{%
8772   \hyperref[#1]{\HyRef@autopagerefname\pageref*{#1}}%
8773 }
8774 \def\HyRef@autopagerefname{%
8775   \ltx@ifundefined{pageautorefname}{%
8776     \ltx@ifundefined{pagename}{%
8777       \Hy@Warning{No autoref name for 'page'}%
8778     }{%
8779       \pagename\nobreakspace
8780     }%
8781   }{%
8782     \pageautorefname\nobreakspace
8783   }%
8784 }

```

\leavevmode is added to make package wrapfigure happy, if \autoref starts a paragraph.

```

8785 \DeclareRobustCommand*{\autoref}{%
8786   \leavevmode
8787   \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}%
8788 }
8789 \def\HyRef@autoref#1#2{%
8790   \begingroup
8791     \Hy@safe@activetrue
8792     \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
8793   \endgroup
8794 }
8795 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8796   \HyRef@ShowKeysRef{#2}%
8797   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
8798     \edef\HyRef@thisref{%
8799       \expandafter\@fourthoffive#1\@empty\@empty\@empty
8800     }%
8801     \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8802     \Hy@safe@activesfalse
8803     #3{%
8804       \expandafter\@fifthoffive#1\@empty\@empty\@empty
8805     }{%
8806       \expandafter\@fourthoffive#1\@empty\@empty\@empty
8807     }{%
8808       \HyRef@currentHtag
8809       \expandafter\@firstoffive#1\@empty\@empty\@empty
8810       \null
8811     }%
8812   \else

```

```

8813 \protect\G@refundefinedtrue
8814 \nfss@text{\reset@font\bfseries ??}%
8815 \@latex@warning{%
8816   Reference ‘#2’ on page \thepage\space undefined%
8817 }%
8818 \fi
8819 }
8820 \def\HyRef@testreftype#1.#2\\{%
8821 \ltx@ifundefined{#1autorefname}{%
8822 \ltx@ifundefined{#1name}{%
8823 \HyRef@StripStar#1\\*\\@nil{#1}%
8824 \ltx@ifundefined{\HyRef@name autorefname}{%
8825 \ltx@ifundefined{\HyRef@name name}{%
8826 \def\HyRef@currentHtag{}%
8827 \Hy@Warning{No autoref name for ‘#1’}%
8828 }{%
8829 \edef\HyRef@currentHtag{%
8830 \expandafter\noexpand\csname\HyRef@name name\endcsname
8831 \noexpand~%
8832 }%
8833 }%
8834 }{%
8835 \edef\HyRef@currentHtag{%
8836 \expandafter\noexpand
8837 \csname\HyRef@name autorefname\endcsname
8838 \noexpand~%
8839 }%
8840 }%
8841 }{%
8842 \edef\HyRef@currentHtag{%
8843 \expandafter\noexpand\csname#1name\endcsname
8844 \noexpand~%
8845 }%
8846 }%
8847 }{%
8848 \edef\HyRef@currentHtag{%
8849 \expandafter\noexpand\csname#1autorefname\endcsname
8850 \noexpand~%
8851 }%
8852 }%
8853 }
8854 \def\HyRef@StripStar#1*\\#2\@nil#3{%
8855 \def\HyRef@name{#2}%
8856 \ifx\HyRef@name\HyRef@CaseStar
8857 \def\HyRef@name{#1}%
8858 \else
8859 \def\HyRef@name{#3}%
8860 \fi
8861 }
8862 \def\HyRef@CaseStar{*\\}
8863 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

8864 \let\HyRef@ShowKeysRef\@gobble
8865 \def\HyRef@ShowKeysInit{%
8866 \begingroup\expandafter\expandafter\expandafter\endgroup

```

```

8867 \expandafter\ifx\csname SK@@label\endcsname\relax
8868 \else
8869 \ifx\SK@ref\@empty
8870 \else
8871 \def\HyRef@ShowKeysRef{%
8872 \SK@\SK@@ref
8873 }%
8874 \fi
8875 \fi
8876 }
8877 \@ifpackageloaded{showkeys}{%
8878 \HyRef@ShowKeysInit
8879 }{%
8880 \Hy@AtBeginDocument{%
8881 \@ifpackageloaded{showkeys}{%
8882 \HyRef@ShowKeysInit
8883 }{}%
8884 }%
8885 }

```

Defaults for the names that `\autoref` uses.

```

8886 \providecommand*\AMSautorefname{\equationautorefname}
8887 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
8888 \providecommand*\Itemautorefname{\itemautorefname}
8889 \providecommand*\itemautorefname{item}
8890 \providecommand*\equationautorefname{Equation}
8891 \providecommand*\footnoteautorefname{footnote}
8892 \providecommand*\itemautorefname{item}
8893 \providecommand*\figureautorefname{Figure}
8894 \providecommand*\tableautorefname{Table}
8895 \providecommand*\partautorefname{Part}
8896 \providecommand*\appendixautorefname{Appendix}
8897 \providecommand*\chapterautorefname{chapter}
8898 \providecommand*\sectionautorefname{section}
8899 \providecommand*\subsectionautorefname{subsection}
8900 \providecommand*\subsubsectionautorefname{subsubsection}
8901 \providecommand*\paragraphautorefname{paragraph}
8902 \providecommand*\subparagraphautorefname{subparagraph}
8903 \providecommand*\FancyVerbLineautorefname{line}
8904 \providecommand*\theoremautorefname{Theorem}
8905 \providecommand*\pageautorefname{page}
8906 \endpackage

```

## 47 Configuration files

### 47.1 PS/PDF strings

Some drivers write PS or PDF strings. These strings are delimited by parentheses, therefore a lonely unmatched parenthesis must be avoided to avoid PS or PDF syntax errors. Also the backslash character itself has to be protected.

`\Hy@pstringdef` Therefore such strings should be passed through `\Hy@pstringdef`. The first argument holds a macro for the result, the second argument is the string that needs protecting. Since version 1.30.0 pdfTeX offers `\pdfescapestring`.

```

8907 \ifx\pdfescapestring\@undefined
8908 \begingroup\expandafter\expandafter\expandafter\endgroup

```



```

8909 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
8910   \begingroup
8911     \catcode'\|=0 %
8912     \@makeother\| %
8913   |@firstofone{|endgroup
8914   |def|Hy@pstringdef#1#2{%
8915     |begingroup
8916     |edef~{|string~}%
8917     |xdef|Hy@gtemp{#2}%
8918     |endgroup
8919     |let#1|Hy@gtemp
8920     |@onelevel@sanitize#1%
8921     |edef#1{|expandafter|Hy@ExchangeBackslash#1\|@nil}%
8922     |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
8923     |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
8924   }%
8925   |def|Hy@ExchangeBackslash#1\#2|@nil{%
8926     #1%
8927     |ifx|\#2|\| %
8928     |else
8929       \| %
8930       |ltx@ReturnAfterFi{%
8931         |Hy@ExchangeBackslash#2|@nil
8932       }%
8933     |fi
8934   }%
8935 }%
8936 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
8937   #1%
8938   \ifx\#2\| %
8939   \else
8940     \@backslashchar(%
8941     \ltx@ReturnAfterFi{%
8942       \Hy@ExchangeLeftParenthesis#2\@nil
8943     }%
8944   \fi
8945 }%
8946 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8947   #1%
8948   \ifx\#2\| %
8949   \else
8950     \@backslashchar)%
8951     \ltx@ReturnAfterFi{%
8952       \Hy@ExchangeRightParenthesis#2\@nil
8953     }%
8954   \fi
8955 }%
8956 \else
8957 \def\Hy@pstringdef#1#2{%
8958   \begingroup
8959   \edef~{\string~}%
8960   \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8961   \endgroup
8962   \let#1\Hy@gtemp
8963 }%
8964 \fi
8965 </pdfTeX> dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

## 47.2 pdftex

```
8966 \providecommand*\XR@ext}{pdf}
8967 \Hy@setbreaklinks{true}
8968 \def\HyPat@ObjRef{%
8970   [0-9]*[1-9][0-9]* 0 R%
8971 }
```

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

```
8972 \let\Hy@pdfminorversion\relax
8973 \begingroup\expandafter\expandafter\expandafter\endgroup
8974 \expandafter\ifx\csname pdfminorversion\endcsname\relax
8975 \begingroup\expandafter\expandafter\expandafter\endgroup
8976 \expandafter\ifx\csname pdfoptionpdfminorversion\endcsname\relax
8977 \else
8978   \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
8979 \fi
8980 \else
8981   \def\Hy@pdfminorversion{\pdfminorversion}%
8982 \fi
8983 \@ifundefined{Hy@pdfminorversion}{%
8984   \PackageInfo{hyperref}{%
8985     PDF version is not set, because pdfTeX is too old (<1.10a)%
8986   }%
8987 }{%
8988   \ifHy@ocgcolorlinks
8989     \ifnum\Hy@pdfminorversion<5 %
8990       \kvsetkeys{Hyp}{pdfversion=1.5}%
8991     \fi
8992   \fi
8993   \ifHy@setpdfversion
8994     \ifnum\Hy@pdfversion<5 %
8995       \ltx@ifundefined{pdfobjcompresslevel}{%
8996         }{%
8997           \ifHy@verbose
8998             \Hy@InfoNoLine{%
8999               PDF object streams are disabled, because they are%
9000               \MessageBreak
9001               not supported in requested PDF version %
9002               1.\Hy@pdfversion
9003             }%
9004           \fi
9005           \pdfobjcompresslevel=\ltx@zero
9006         }%
9007       \fi
9008     \ifnum\Hy@pdfminorversion=\Hy@pdfversion\relax
9009     \else
9010       \let\Hy@temp\ltx@empty
9011       \def\Hy@temp@A#1#2{%
9012         \ifnum#1>\ltx@zero
9013           \edef\Hy@temp{%
```

```

9014      \Hy@temp
9015      \space\space
9016      \the#1\space #2%
9017      \ifnum#1=\ltx@one\else s\fi
9018      \MessageBreak
9019  }%
9020  \fi
9021 }%
9022 \Hy@temp@A\pdfastobj{PDF object}%
9023 \Hy@temp@A\pdfastxform{formXObject}%
9024 \Hy@temp@A\pdfastximage{imageXObject}%
9025 \Hy@temp@A\pdfastannot{annotation}%
9026 \ltx@ifundefined{pdfastlink}{%
9027   {%
9028     \Hy@temp@A\pdfastlink{link}%
9029   }%
9030 \ifx\Hy@temp\ltx@empty
9031   \Hy@pdfminorversion=\Hy@pdfversion\relax
9032 \else
9033   \let\Hy@temp@A\ltx@empty
9034   \ifnum\Hy@pdfversion=4 %
9035     \ifFileExists{pdf14.sty}{%
9036       \def\Hy@temp@A{%
9037         \MessageBreak
9038         Or \string\RequirePackage{pdf14} can be used%
9039         \MessageBreak
9040         before \string\documentclass\space as shortcut%
9041       }%
9042     }{}%
9043   \fi
9044   \Hy@WarningNoLine{%
9045     The PDF version number could not be set,\MessageBreak
9046     because some PDF objects are already written:%
9047     \MessageBreak
9048     \Hy@temp
9049     The version should be set as early as possible:%
9050     \MessageBreak
9051     \space\space
9052     \expandafter\string\Hy@pdfminorversion=\Hy@pdfversion
9053     \string\relax
9054     \ifnum\Hy@pdfversion<5 %
9055       \ltx@ifundefined{pdfobjcompresslevel}{%
9056         {%
9057           \MessageBreak
9058           \space\space
9059           \string\pdfobjcompresslevel=0\string\relax
9060         }%
9061       \fi
9062       \Hy@temp@A
9063     }%
9064   \fi
9065 \fi
9066 \PackageInfo{hyperref}{%
9067   \expandafter\string\Hy@pdfminorversion
9068   :=\number\Hy@pdfversion\space
9069 }%
9070 \fi

```

```

9071 \edef\Hy@pdfversion{\number\Hy@pdfminorversion}%
9072 }
9073 \Hy@DisableOption{pdfversion}%

9074 \ifHy@ocgcolorlinks
9075 \pdf@ifdraftmode{}{%
9076 \immediate\pdfobj{%
9077 <<%
9078 /Type/OCG%
9079 /Name(View)%
9080 /Usage<<%
9081 /Print<<%
9082 /PrintState/OFF%
9083 >>%
9084 /View<<%
9085 /ViewState/ON%
9086 >>%
9087 >>%
9088 >>%
9089 }%
9090 \edef\OBJ@OCG@view{\the\pdfastobj\space 0 R}%
9091 \immediate\pdfobj{%
9092 <<%
9093 /Type/OCG%
9094 /Name(Print)%
9095 /Usage<<%
9096 /Print<<%
9097 /PrintState/ON%
9098 >>%
9099 /View<<%
9100 /ViewState/OFF%
9101 >>%
9102 >>%
9103 >>%
9104 }%
9105 \edef\OBJ@OCG@print{\the\pdfastobj\space 0 R}%
9106 \immediate\pdfobj{%
9107 [%
9108 \OBJ@OCG@view\space\OBJ@OCG@print
9109 ]%
9110 }%
9111 \edef\OBJ@OCGs{\the\pdfastobj\space 0 R}%
9112 \pdfcatalog{%
9113 /OCProperties<<%
9114 /OCGs \OBJ@OCGs
9115 /D<<%
9116 /OFF[\OBJ@OCG@print]%
9117 /AS[%
9118 <<%
9119 /Event/View%
9120 /OCGs \OBJ@OCGs
9121 /Category[/View]%
9122 >>%
9123 <<%
9124 /Event/Print%
9125 /OCGs \OBJ@OCGs
9126 /Category[/Print]%
9127 >>%

```

```

9128         <<%
9129         /Event/Export%
9130         /OCGs \OBJ@OCGs
9131         /Category[/Print]%
9132         >>%
9133     ]%
9134     >>%
9135     >>%
9136 }%
9137 \begingroup
9138 \edef\x{\endgroup
9139 \pdfpageresources{%
9140 /Properties<<%
9141 /OCView \OBJ@OCG@view
9142 /OCPrint \OBJ@OCG@print
9143 >>%
9144 }%
9145 }%
9146 \x
9147 }%
9148 \Hy@AtBeginDocument{%
9149 \def\Hy@colorlink#1{%
9150 \begingroup
9151 \ifHy@ocgcolorlinks
9152 \def\Hy@ocgcolor{#1}%
9153 \setbox0=\hbox\bgroup\color@begingroup
9154 \else
9155 \HyColor@UseColor#1%
9156 \fi
9157 }%
9158 \def\Hy@endcolorlink{%
9159 \ifHy@ocgcolorlinks
9160 \color@endgroup\egroup
9161 \mbox{%
9162 \pdfliteral page{/OC/OCPrint BDC}%
9163 \rlap{\copy0}%
9164 \pdfliteral page{EMC/OC/OCView BDC}%
9165 \begingroup
9166 \expandafter\HyColor@UseColor\Hy@ocgcolor
9167 \box0 %
9168 \endgroup
9169 \pdfliteral page{EMC}%
9170 }%
9171 \fi
9172 \endgroup
9173 }%
9174 }%
9175 \else
9176 \Hy@DisableOption{ocgcolorlinks}%
9177 \fi

```

First, allow for some changes and additions to pdftex syntax:

```

9178 \def\setpdfinkmargin#1{\pdfinkmargin#1}
9179 \ifx\pdfstartlink\@undefined% less than version 14
9180 \let\pdfstartlink\pdfannotlink
9181 \let\pdfinkmargin\@tempdima
9182 \let\pdfxform\pdfform
9183 \let\pdflastxform\pdflastform

```

```

9184 \let\pdfrefxform\pdfrefform
9185 \else
9186 \pdfinkmargin1pt %
9187 \fi

```

First set up the default linking

```
9188 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

9189 \Hy@WrapperDef\new@pdfink#1{%
9190 \ifhmode
9191 \@savs\spacefactor
9192 \fi
9193 \Hy@SaveLastskip
9194 \Hy@VerboseAnchor{#1}%
9195 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9196 \Hy@DestName\Hy@pstringDest\@pdfview
9197 \Hy@RestoreLastskip
9198 \ifhmode
9199 \spacefactor\@savs
9200 \fi
9201 }
9202 \let\pdf@endanchor\@empty

```

`\Hy@DestName` Wrap the call of `\pdfdest` name in `\Hy@DestName`. Then it can easier be caught by package `hypdestopt`.

```

9203 \def\Hy@DestName#1#2{%
9204 \pdfdest name{#1}#2\relax
9205 }

```

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.

```

9206 \providecommand*\@pdfborder{0 0 1}
9207 \providecommand*\@pdfborderstyle{}
9208 \def\Hy@undefinedname{UNDEFINED}
9209 \def\find@pdfink#1#2{%
9210 \leavevmode
9211 \protected@edef\Hy@testname{#2}%
9212 \ifx\Hy@testname\@empty
9213 \Hy@Warning{%
9214 Empty destination name,\MessageBreak
9215 using '\Hy@undefinedname'%
9216 }%
9217 \let\Hy@testname\Hy@undefinedname
9218 \else
9219 \Hy@pstringdef\Hy@testname{%
9220 \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
9221 }%
9222 \fi
9223 \Hy@StartlinkName{%
9224 \ifHy@pdfa /F 4\fi
9225 \Hy@setpdfborder
9226 \ifx\@pdfhighlight\@empty
9227 \else
9228 /H\@pdfhighlight
9229 \fi

```

```

9230 \ifx\CurrentBorderColor\relax
9231 \else
9232 /C[\CurrentBorderColor]%
9233 \fi
9234 }\Hy@testname
9235 \expandafter\Hy@colorlink\csname @#1color\endcsname
9236 }
9237 \def\Hy@StartlinkName#1#2{%
9238 \pdfstartlink attr{#1}goto name{#2}\relax
9239 }
9240 \def\close@pdfink{%
9241 \Hy@endcolorlink
9242 \Hy@VerboseLinkStop
9243 \pdfendlink
9244 }
9245 \def\hyper@anchor#1{%
9246 \new@pdfink{#1}\anchor@spot\pdf@endanchor
9247 }
9248 \def\hyper@anchorstart#1{%
9249 \new@pdfink{#1}%
9250 \Hy@activeanchortrue
9251 }
9252 \def\hyper@anchorend{%
9253 \pdf@endanchor
9254 \Hy@activeanchorfalse
9255 }
9256 \def\hyper@linkstart#1#2{%
9257 \Hy@VerboseLinkStart{#1}{#2}%
9258 \ltx@ifundefined{@#1bordercolor}{%
9259 \let\CurrentBorderColor\relax
9260 }{%
9261 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9262 }%
9263 \find@pdfink{#1}{#2}%
9264 }
9265 \def\hyper@linkend{\close@pdfink}
9266 \def\hyper@link#1#2#3{%
9267 \Hy@VerboseLinkStart{#1}{#2}%
9268 \ltx@ifundefined{@#1bordercolor}{%
9269 \let\CurrentBorderColor\relax
9270 }{%
9271 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9272 }%
9273 \find@pdfink{#1}{#2}#3\Hy@xspace@end
9274 \close@pdfink
9275 }
9276 \let\CurrentBorderColor\@linkbordercolor
9277 \def\hyper@linkurl#1#2{%
9278 \begingroup
9279 \Hy@pstringdef\Hy@pstringURI{#2}%
9280 \hyper@chars
9281 \leavevmode
9282 \pdfstartlink
9283 attr{%
9284 \Hy@setpdfborder
9285 \ifx\@pdfhighlight\@empty
9286 \else

```

```

9287      /H\@pdfhighlight
9288      \fi
9289      \ifx\@urlbordercolor\relax
9290      \else
9291      /C[\@urlbordercolor]%
9292      \fi
9293      }%
9294      user{%
9295      /Subtype/Link%
9296      \ifHy@pdfa /F 4\fi
9297      /A<<%
9298      /Type/Action%
9299      /S/URI%
9300      /URI(\Hy@pstringURI)%
9301      \ifHy@href@ismap
9302      /IsMap true%
9303      \fi
9304      \Hy@href@nextactionraw
9305      >>%
9306      }%
9307      \relax
9308      \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9309      \close@pdflink
9310      \endgroup
9311      }
9312      \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
9313      \begingroup
9314      \def\Hy@pstringF{#2}%
9315      \Hy@CleanupFile\Hy@pstringF
9316      \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9317      \Hy@pstringdef\Hy@pstringD{#3}%
9318      \Hy@MakeRemoteAction
9319      \leavevmode
9320      \pdfstartlink
9321      attr{%
9322      \Hy@setpdfborder
9323      \ifx\@pdfhighlight\@empty
9324      \else
9325      /H\@pdfhighlight
9326      \fi
9327      \ifx\@filebordercolor\relax
9328      \else
9329      /C[\@filebordercolor]%
9330      \fi
9331      }%
9332      user {%
9333      /Subtype/Link%
9334      \ifHy@pdfa /F 4\fi
9335      /A<<%
9336      /F(\Hy@pstringF)%
9337      /S/GoToR%
9338      \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}

9339      \ifx\|#3\|
9340      /D[\Hy@href@page\@pdfremotestartview]%
9341      \else
9342      /D(\Hy@pstringD)%
9343      \fi
9344      \Hy@href@nextactionraw
9345      >>%
9346      }%
9347      \relax
9348      \Hy@colorlink\@filecolor#1\Hy@xspace@end
9349      \close@pdflink
9350      \endgroup
9351 }
9352 \def\@hyper@launch run:#1\|#2#3{% filename, anchor text linkname
9353 \begingroup
9354 \Hy@pstringdef\Hy@pstringF{#1}%
9355 \Hy@pstringdef\Hy@pstringP{#3}%
9356 \leavevmode
9357 \pdfstartlink
9358 attr{%
9359 \Hy@setpdfborder
9360 \ifx\@pdfhighlight\@empty
9361 \else
9362 /H\@pdfhighlight
9363 \fi
9364 \ifx\@runbordercolor\relax
9365 \else
9366 /C[\@runbordercolor]%
9367 \fi
9368 }%
9369 user {%
9370 /Subtype/Link%
9371 \ifHy@pdfa /F 4\fi
9372 /A<<%
9373 /F(\Hy@pstringF)%
9374 /S/Launch%
9375 \Hy@SetNewWindow
9376 \ifx\|#3\|
9377 \else
9378 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9379 \fi
9380 \Hy@href@nextactionraw
9381 >>%
9382 }%
9383 \relax
9384 \Hy@colorlink\@runcolor#2\Hy@xspace@end
9385 \close@pdflink
9386 \endgroup
9387 }

```

\@pdfproducer

```

9388 \ifx\@pdfproducer\relax
9389 \begingroup\expandafter\expandafter\expandafter\endgroup
9390 \expandafter\ifx\csname luatexversion\endcsname\relax
9391 \def\@pdfproducer{pdfTeX}%
9392 \ifx\eTeXversion\@undefined
9393 \else
9394 \ifx\eTeXversion\relax
9395 \else
9396 \ifnum\eTeXversion>0 %
9397 \def\@pdfproducer{pdfTeX}%
9398 \fi
9399 \fi
9400 \fi
9401 \ifx\pdfTeXversion\@undefined
9402 \else
9403 \ifnum\pdfTeXversion<100 %
9404 \edef\@pdfproducer{%
9405 \@pdfproducer
9406 \the\pdfTeXversion.\pdfTeXrevision
9407 }%
9408 \else
9409 \ifnum\pdfTeXversion<130 %
9410 \edef\@pdfproducer{%
9411 \@pdfproducer-%
9412 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9413 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil
9414 \pdfTeXrevision
9415 }%
9416 \else
9417 \ifnum\pdfTeXversion<140 %
9418 \else
9419 \def\@pdfproducer{pdfTeX}%
9420 \fi
9421 \edef\@pdfproducer{%
9422 \@pdfproducer-%
9423 \expandafter\@car\the\pdfTeXversion\@empty\@nil.%
9424 \expandafter\@cdr\the\pdfTeXversion\@empty\@nil.%
9425 \pdfTeXrevision
9426 }%
9427 \fi
9428 \fi
9429 \fi
9430 \else
9431 \begingroup
9432 \count@=\luatexversion
9433 \divide\count@ by 100 %
9434 \edef\x{\the\count@}%
9435 \count@=-\x\relax
9436 \multiply\count@ by 100 %
9437 \advance\count@ by \luatexversion
9438 \edef\x{\endgroup
9439 \def\noexpand\@pdfproducer{%
9440 LuaTeX-\x.\the\count@.\luatexrevision
9441 }%
9442 }%
9443 \x
9444 \fi

```

```

9445 \fi

\PDF@SetupDox
9446 \def\PDF@SetupDoc{%
9447 \ifx\@pdfpagescrop\@empty
9448 \else
9449 \edef\process@me{%
9450 \pdfpagesattr={%
9451 /CropBox[\@pdfpagescrop]%
9452 \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
9453 \else
9454 ^^J\the\pdfpagesattr
9455 \fi
9456 }%
9457 }%
9458 \process@me
9459 \fi
9460 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9461 \pdfcatalog{%
9462 /PageMode/\@pdfpagemode
9463 \ifx\@baseurl\@empty
9464 \else
9465 /URI<</Base(\Hy@pstringB)>>%
9466 \fi
9467 }%
9468 \ifx\@pdfstartpage\@empty
9469 \else
9470 \ifx\@pdfstartview\@empty
9471 \else
9472 openaction goto page\@pdfstartpage{\@pdfstartview}%
9473 \fi
9474 \fi
9475 \edef\Hy@temp{%
9476 \ifHy@pdftoolbar\else /HideToolbar true\fi
9477 \ifHy@pdfmenubar\else /HideMenubar true\fi
9478 \ifHy@pdfwindowui\else /HideWindowUI true\fi
9479 \ifHy@pdffitwindow /FitWindow true\fi
9480 \ifHy@pdfcenterwindow /CenterWindow true\fi
9481 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9482 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9483 \Hy@UseNameKey{Direction}\@pdfdirection
9484 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9485 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9486 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9487 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9488 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9489 \Hy@UseNameKey{Duplex}\@pdfduplex
9490 \ifx\@pdfpicktraybypdfsize\@empty
9491 \else
9492 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9493 \fi
9494 \ifx\@pdfprintpagerange\@empty
9495 \else
9496 /PrintPageRange[\@pdfprintpagerange]%
9497 \fi
9498 \ifx\@pdfnumcopies\@empty
9499 \else
9500 /NumCopies \@pdfnumcopies

```

```

9501   \fi
9502 }%
9503 \pdfcatalog{%
9504   \ifx\Hy@temp\@empty
9505   \else
9506     /ViewerPreferences<<\Hy@temp>>%
9507   \fi
9508   \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9509   \ifx\@pdflang\@empty
9510   \else
9511     /Lang(\@pdflang)%
9512   \fi
9513 }%
9514 }

```

\PDF@FinishDoc

```

9515 \def\PDF@FinishDoc{%
9516   \pdf@ifdraftmode{ }{%
9517     \Hy@UseMaketitleInfos
9518     \HyInfo@GenerateAddons
9519     \pdfinfo{%
9520       /Author(\@pdfauthor)%
9521       /Title(\@pdftitle)%
9522       /Subject(\@pdfsubject)%
9523       /Creator(\@pdfcreator)%
9524       \ifx\@pdfcreationdate\@empty
9525       \else
9526         /CreationDate(\@pdfcreationdate)%
9527       \fi
9528       \ifx\@pdfmoddate\@empty
9529       \else
9530         /ModDate(\@pdfmoddate)%
9531       \fi
9532       \ifx\@pdfproducer\relax
9533       \else
9534         /Producer(\@pdfproducer)%
9535       \fi
9536       /Keywords(\@pdfkeywords)%
9537       \ifx\@pdftrapped\@empty
9538       \else
9539         /Trapped/\@pdftrapped
9540       \fi
9541       \HyInfo@Addons
9542     }%
9543   }%
9544   \Hy@DisableOption{pdfauthor}%
9545   \Hy@DisableOption{pdftitle}%
9546   \Hy@DisableOption{pdfsubject}%
9547   \Hy@DisableOption{pdfcreator}%
9548   \Hy@DisableOption{pdfcreationdate}%
9549   \Hy@DisableOption{pdfmoddate}%
9550   \Hy@DisableOption{pdfproducer}%
9551   \Hy@DisableOption{pdfkeywords}%
9552   \Hy@DisableOption{pdftrapped}%
9553   \Hy@DisableOption{pdfinfo}%
9554 }

```

\hyper@pagetransition \@pdfpagetransition is initialized with \relax. So it indicates, if option pdfpage-

transition is used. First previous /Trans entries are removed. If a new /Trans key exists, it is appended to \pdfpageattr.

```

9555 \def\hyper@pagetransition{%
9556   \ifx\@pdfpagetransition\relax
9557   \else
9558     \expandafter\Hy@RemoveTransPageAttr
9559     \the\pdfpageattr^^J/Trans{}}>>\END
9560   \ifx\@pdfpagetransition\@empty
9561   \else
9562     \edef\@processme{%
9563       \global\pdfpageattr{%
9564         \the\pdfpageattr
9565         ^^J/Trans << /S /\@pdfpagetransition\space >>%
9566       }%
9567     }%
9568     \@processme
9569   \fi
9570 \fi
9571 }
```

**\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.

```

9572 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9573   \ifx\#2\%
9574     \global\pdfpageattr{#1}%
9575   \else
9576     \Hy@RemoveTransPageAttr#1#4\END
9577   \fi
9578 }
```

**\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.

```

9579 \def\hyper@pageduration{%
9580   \ifx\@pdfpageduration\relax
9581   \else
9582     \expandafter
9583     \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{}} \END
9584   \ifx\@pdfpageduration\@empty
9585   \else
9586     \edef\@processme{%
9587       \global\pdfpageattr{%
9588         \the\pdfpageattr
9589         ^^J/Dur \@pdfpageduration\space
9590       }%
9591     }%
9592     \@processme
9593   \fi
9594 \fi
9595 }
```

**\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.

```

9596 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9597   \ifx\|#2\|
9598     \global\pdfpageattr{#1}%
9599   \else
9600     \Hy@RemoveDurPageAttr#1#4\END
9601   \fi
9602 }
```

`\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).

```

9603 \def\hyper@pagehidden{%
9604   \ifHy@useHidKey
9605     \expandafter
9606     \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
9607   \ifHy@pdfpagehidden
9608     \edef\@processme{%
9609       \global\pdfpageattr{%
9610         \the\pdfpageattr
9611         ^^J/Hid true % SPACE
9612       }%
9613     }%
9614     \@processme
9615   \fi
9616 \fi
9617 }
```

`\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.

```

9618 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
9619   \ifx\|#2\|
9620     \global\pdfpageattr{#1}%
9621   \else
9622     \Hy@RemoveHidPageAttr#1#4\END
9623   \fi
9624 }
```

```

9625 \pdf@ifdraftmode{}{%
9626   \g@addto@macro\Hy@EveryPageHook{%
9627     \hyper@pagetransition
9628     \hyper@pageduration
9629     \hyper@pagehidden
9630   }%
9631 }
```

Also XeTeX support `\pdfpagewidth` and `\pdfpageheight`, but it does not provide `\pdfhorigin` and `\pdfvorigin`.

```

9632 </pdfTeX>
9633 < *pdfTeX | xetex >
9634 \Hy@AtBeginDocument{%
9635   \ifHy@setpagesize
9636     \expandafter\@firstofone
9637   \else
```

```

9638 \expandafter\@gobble
9639 \fi
9640 {%
9641 \ifclassloaded{seminar}{%
9642 (*pdftex)
9643 \setlength{\pdfhorigin}{1truein}%
9644 \setlength{\pdfvorigin}{1truein}%
9645 \}
9646 \ifportrait
9647 \ifdim\paperwidth=\z@
9648 \else
9649 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9650 \fi
9651 \ifdim\paperheight=\z@
9652 \else
9653 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9654 \fi
9655 \else
9656 \ifdim\paperheight=\z@
9657 \else
9658 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9659 \fi
9660 \ifdim\paperwidth=\z@
9661 \else
9662 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9663 \fi
9664 \fi
9665 }{%
9666 \ltx@ifundefined{stockwidth}{%
9667 \ifdim\paperwidth>\z@
9668 \setlength{\pdfpagewidth}{\paperwidth}%
9669 \fi
9670 \ifdim\paperheight>\z@
9671 \setlength{\pdfpageheight}{\paperheight}%
9672 \fi
9673 }{%
9674 \ifdim\stockwidth>\z@
9675 \setlength{\pdfpagewidth}{\stockwidth}%
9676 \fi
9677 \ifdim\stockheight>\z@
9678 \setlength{\pdfpageheight}{\stockheight}%
9679 \fi
9680 }%
9681 }%
9682 }%
9683 \Hy@DisableOption{setpagesize}%
9684 }
9685 \}

```

```

9695     \else
9696       /H\@pdfhighlight
9697     \fi
9698     \ifx\@menubordercolor\relax
9699     \else
9700       /C[\@menubordercolor]%
9701     \fi
9702   }%
9703   user{%
9704     /Subtype/Link%
9705     \ifHy@pdfa /F 4\fi
9706     /A<<%
9707     /S/Named%
9708     /N/\Hy@temp@menu
9709     \Hy@href@nextactionraw
9710     >>%
9711   }%
9712   \relax
9713   \Hy@colorlink\@menucolor#2%
9714   \close@pdflink
9715 }%
9716 }

```

#### 47.2.1 Fix for problem with different nesting levels

`\AtBeginShipoutFirst` adds an additional box layer around the first output page. This disturbs pdf<sub>T</sub>E<sub>X</sub>'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 pdf<sub>T</sub>E<sub>X</sub>—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.

```

9717 \def\Hy@FixNotFirstPage{%
9718   \gdef\Hy@FixNotFirstPage{%
9719     \setbox\AtBeginShipoutBox=\hbox{%
9720       \copy\AtBeginShipoutBox
9721     }%
9722   }%
9723 }
9724 \ltx@ifpackagelater{atbegshi}{2011/10/05}{%
9725 }{%
9726   \AtBeginShipout{\Hy@FixNotFirstPage}%
9727 }
9728 \</pdfTeX>

```

### 47.3 hypertex

The Hyper<sub>T</sub>E<sub>X</sub> specification (this is borrowed from an article by Arthur Smith) says that conformant viewers/translators must recognize the following set of `\special` commands:

**href:** `html:<a href = "href_string">`

**name:** `html:<a name = "name_string">`



**end:** `html:</a>`

**image:** `html:<img src = "href_string">`

**base\_name:** `html:<base href = "href_string">`

The *href*, *name* and *end* commands are used to do the basic hypertext operations of establishing links between sections of documents. The *image* command is intended (as with current html viewers) to place an image of arbitrary graphical format on the page in the current location. The *base\_name* command is used to communicate to the *dvi* viewer the full (URL) location of the current document so that files specified by relative URL's may be retrieved correctly.

The *href* and *name* commands must be paired with an *end* command later in the  $\TeX$  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.

```
9729 \*hypertext
9730 \providecommand*\XR@ext{}{dvi}
9731 \let\PDF@FinishDoc\ltx@empty
9732 \def\PDF@SetupDoc{%
9733   \ifx\@baseurl\@empty
9734     \else
9735       \special{html:<base href="\@baseurl">}%
9736     \fi
9737 }
9738 \Hy@WrapperDef\hyper@anchor#1{%
9739   \Hy@SaveLastskip
9740   \Hy@VerboseAnchor{#1}%
9741   \begingroup
9742     \let\protect=\string
9743     \hyper@chars
9744     \special{html:<a name=%
9745       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9746   \endgroup
9747   \Hy@activeanchortrue
9748   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9749   \special{html:</a>}%
9750   \Hy@activeanchorfalse
9751   \Hy@RestoreLastskip
9752 }
9753 \Hy@WrapperDef\hyper@anchorstart#1{%
9754   \Hy@SaveLastskip
9755   \Hy@VerboseAnchor{#1}%
9756   \begingroup
9757     \hyper@chars
9758     \special{html:<a name=%
9759       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9760   \endgroup
```

```

9761 \Hy@activeanchortrue
9762 }
9763 \def\hyper@anchorend{%
9764 \special{html:</a>}}%
9765 \Hy@activeanchorfalse
9766 \Hy@RestoreLastskip
9767 }
9768 \def\@urltype{url}
9769 \def\hyper@linkstart#1#2{%
9770 \Hy@VerboseLinkStart{#1}{#2}%
9771 \expandafter\Hy@colorlink\csname @#1color\endcsname
9772 \def\Hy@tempa{#1}%
9773 \ifx\Hy@tempa\@urltype
9774 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9775 \else
9776 \begingroup
9777 \hyper@chars
9778 \special{html:<a href=%
9779 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}}%
9780 \endgroup
9781 \fi
9782 }
9783 \def\hyper@linkend{%
9784 \special{html:</a>}}%
9785 \Hy@endcolorlink
9786 }
9787 \def\hyper@linkfile#1#2#3{%
9788 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9789 }
9790 \def\hyper@linkurl#1#2{%

```

If we want to raise up the final link `\special`, we need to get its height; ask me why L<sup>A</sup>T<sub>E</sub>X constructs make this totally foul up, and make us revert to basic T<sub>E</sub>X. I do not know.

```

9791 \leavevmode
9792 \ifHy@raiselinks
9793 \Hy@SaveSpaceFactor
9794 \Hy@SaveSavedSpaceFactor
9795 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9796 \Hy@RestoreSavedSpaceFactor
9797 \@linkdim\dp\@tempboxa
9798 \lower\@linkdim\hbox{%
9799 \hyper@chars
9800 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9801 }%
9802 \Hy@colorlink\@urlcolor
9803 \Hy@RestoreSpaceFactor
9804 #1%
9805 \Hy@SaveSpaceFactor
9806 \@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).

```

9807 \advance\@linkdim by -6.5\p@
9808 \raise\@linkdim\hbox{\special{html:</a>}}}%
9809 \Hy@endcolorlink
9810 \Hy@RestoreSpaceFactor

```

```

9811 \else
9812 \begingroup
9813 \hyper@chars
9814 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9815 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9816 \special{html:</a>}%
9817 \Hy@endcolorlink
9818 \endgroup
9819 \fi
9820 }

```

Very poor implementation of `\hyper@link` without considering `#1`.

```

9821 \def\hyper@link#1#2#3{%
9822 \Hy@VerboseLinkStart{#1}{#2}%
9823 \hyper@linkurl{#3}{\# \Hy@HyperDestNameFilter{#2}}%
9824 }

9825 \def\hyper@image#1#2{%
9826 \begingroup
9827 \hyper@chars
9828 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9829 \endgroup
9830 }
9831 </hypertex>
9832 <*dviwindo>

```

## 47.4 dviwindo

[This was developed by David Carlisle]. Within a file `dviwindo` hyperlinking is used, for external URL's a call to `\wwwbrowser` is made. (You can define this command before or after loading the `hyperref` package if the default `c:/netscape/netscape` is not suitable) `Dviwindo` could in fact handle external links to `dvi` files on the same machine without calling a web browser, but that would mean parsing the URL to recognise such, and this is currently not done.

This was more or less blindly copied from the `hypertex` cfg. For `dviwindo`,  $\text{\LaTeX}$  must specify the size of the active area for links. For some hooks this information is available but for some, the start and end of the link are specified separately in which case a fixed size area of 10000000sp wide by `\baselineskip` high is used.

```

9833 \providecommand*\XR@ext}{dvi}
9834 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9835 \Hy@WrapperDef\hyper@anchor#1{%
9836 \Hy@SaveLastskip
9837 \Hy@VerboseAnchor{#1}%
9838 \begingroup
9839 \let\protect=\string
9840 \special{mark: #1}%
9841 \endgroup
9842 \Hy@activeanchortrue
9843 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9844 \Hy@activeanchorfalse
9845 \Hy@RestoreLastskip
9846 }
9847 \Hy@WrapperDef\hyper@anchorstart#1{%
9848 \Hy@SaveLastskip
9849 \Hy@VerboseAnchor{#1}%
9850 \special{mark: #1}%

```

```

9851 \Hy@activeanchortrue
9852 }
9853 \def\hyper@anchorend{%
9854 \Hy@activeanchorfalse
9855 \Hy@RestoreLastskip
9856 }
9857 \def\hyper@linkstart#1#2{%
9858 \Hy@VerboseLinkStart{#1}{#2}%
9859 \expandafter\Hy@colorlink\csname @#1color\endcsname
9860 \special{button: %
9861 10000000 %
9862 \number\baselineskip\space
9863 #2%
9864 }%
9865 }
9866 \def\hyper@linkend{%
9867 \Hy@endcolorlink
9868 }
9869 \def\hyper@link#1#2#3{%
9870 \Hy@VerboseLinkStart{#1}{#2}%
9871 \leavevmode
9872 \ifHy@raiselinks
9873 \Hy@SaveSpaceFactor
9874 \Hy@SaveSavedSpaceFactor
9875 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
9876 \Hy@RestoreSavedSpaceFactor
9877 \@linkdim\dp\@tempboxa
9878 \lower\@linkdim\hbox{%
9879 \special{button: %
9880 \number\wd\@tempboxa\space
9881 \number\ht\@tempboxa\space
9882 #2%
9883 }%
9884 \expandafter\Hy@colorlink\csname @#1color\endcsname
9885 \Hy@RestoreSpaceFactor
9886 #3\Hy@xspace@end
9887 \Hy@SaveSpaceFactor
9888 \Hy@endcolorlink
9889 }%
9890 \@linkdim\ht\@tempboxa
9891 \advance\@linkdim by -6.5\p@
9892 \raise\@linkdim\hbox{}%
9893 \Hy@RestoreSpaceFactor
9894 \else
9895 \special{button: %
9896 \number\wd\@tempboxa\space
9897 \number\ht\@tempboxa\space
9898 #2%
9899 }%
9900 \expandafter\Hy@colorlink\csname @#1color\endcsname
9901 #3\Hy@xspace@end
9902 \Hy@endcolorlink
9903 \fi
9904 }
9905 \def\hyper@linkurl#1#2{%
9906 \begingroup
9907 \hyper@chars

```

```

9908 \leavevmode
9909 \ifHy@raiselinks
9910 \Hy@SaveSpaceFactor
9911 \Hy@SaveSavedSpaceFactor
9912 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9913 \Hy@RestoreSavedSpaceFactor
9914 \@linkdim\dp\@tempboxa
9915 \lower\@linkdim\hbox{%
9916 \special{button: %
9917 \number\wd\@tempboxa\space
9918 \number\ht\@tempboxa\space
9919 launch: \wwwbrowser\space
9920 #2%
9921 }%
9922 \Hy@colorlink\@urlcolor
9923 \Hy@RestoreSpaceFactor
9924 #1\Hy@xspace@end
9925 \Hy@SaveSpaceFactor
9926 \Hy@endcolorlink
9927 }%
9928 \@linkdim\ht\@tempboxa
9929 \advance\@linkdim by -6.5\p@
9930 \raise\@linkdim\hbox{}}%
9931 \Hy@RestoreSpaceFactor
9932 \else
9933 \special{button: %
9934 \number\wd\@tempboxa\space
9935 \number\ht\@tempboxa\space
9936 launch: \wwwbrowser\space
9937 #2%
9938 }%
9939 \Hy@colorlink\@urlcolor
9940 #1\Hy@xspace@end
9941 \Hy@endcolorlink
9942 \fi
9943 \endgroup
9944 }
9945 \def\hyper@linkfile#1#2#3{%
9946 \begingroup
9947 \hyper@chars
9948 \leavevmode
9949 \ifHy@raiselinks
9950 \Hy@SaveSpaceFactor
9951 \Hy@SaveSavedSpaceFactor
9952 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9953 \Hy@RestoreSavedSpaceFactor
9954 \@linkdim\dp\@tempboxa
9955 \lower\@linkdim\hbox{%
9956 \special{button: %
9957 \number\wd\@tempboxa\space
9958 \number\ht\@tempboxa\space
9959 #3,%
9960 file: #2%
9961 }%
9962 \Hy@colorlink\@filecolor
9963 \Hy@RestoreSpaceFactor
9964 #1\Hy@xspace@end

```

```

9965      \Hy@SaveSpaceFactor
9966      \Hy@endcolorlink
9967    }%
9968    \@linkdim\ht\@tempboxa
9969    \advance\@linkdim by -6.5\p@
9970    \raise\@linkdim\hbox{}%
9971    \Hy@RestoreSpaceFactor
9972  \else
9973    \special{button: %
9974      \number\wd\@tempboxa\space
9975      \number\ht\@tempboxa\space
9976      #3,%
9977      file: #2%
9978    }%
9979    \Hy@colorlink\@filecolor
9980    #1\Hy@xspace@end
9981    \Hy@endcolorlink
9982  \fi
9983 \endgroup
9984 }
9985 \ifx\@pdfproducer\relax
9986 \def\@pdfproducer{dviwindo + Distiller}%
9987 \fi
9988 \HyInfo@AddonUnsupportedtrue
9989 \def\PDF@FinishDoc{%
9990 \Hy@UseMaketitleInfos
9991 \HyInfo@TrappedUnsupported
9992 \special{PDF: Keywords \@pdfkeywords}%
9993 \special{PDF: Title \@pdftitle}%
9994 \special{PDF: Creator \@pdfcreator}%
9995 \ifx\@pdfcreationdate\@empty
9996 \else
9997 \special{PDF: CreationDate \@pdfcreationdate}%
9998 \fi
9999 \ifx\@pdfmoddate\@empty
10000 \else
10001 \special{PDF: ModDate \@pdfmoddate}%
10002 \fi
10003 \special{PDF: Author \@pdfauthor}%
10004 \ifx\@pdfproducer\relax
10005 \else
10006 \special{PDF: Producer \@pdfproducer}%
10007 \fi
10008 \special{PDF: Subject \@pdfsubject}%
10009 \Hy@DisableOption{pdfauthor}%
10010 \Hy@DisableOption{pdftitle}%
10011 \Hy@DisableOption{pdfsubject}%
10012 \Hy@DisableOption{pdfcreator}%
10013 \Hy@DisableOption{pdfcreationdate}%
10014 \Hy@DisableOption{pdfmoddate}%
10015 \Hy@DisableOption{pdfproducer}%
10016 \Hy@DisableOption{pdfkeywords}%
10017 \Hy@DisableOption{pdftrapped}%
10018 \Hy@DisableOption{pdfinfo}%
10019 }
10020 \def\PDF@SetupDoc{%
10021 \ifx\@baseurl\@empty

```

```

10022 \else
10023   \special{PDF: Base \@baseurl}%
10024 \fi
10025 \ifx\@pdfpagescrop\@empty\else
10026   \special{PDF: BBox \@pdfpagescrop}%
10027 \fi
10028 \def\Hy@temp{}%
10029 \ifx\@pdfstartpage\@empty
10030 \else
10031   \ifx\@pdfstartview\@empty
10032   \else
10033     \edef\Hy@temp{%
10034       ,Page=\@pdfstartpage
10035       ,View=\@pdfstartview
10036     }%
10037   \fi
10038 \fi
10039 \edef\Hy@temp{%
10040   \noexpand\pdfmark{%
10041     pdfmark=/DOCVIEW,%
10042     PageMode=/\@pdfpagemode
10043   }\Hy@temp
10044 }%
10045 }%
10046 \Hy@temp
10047 \ifx\@pdfpagescrop\@empty
10048 \else
10049   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10050 \fi
10051 \edef\Hy@temp{%
10052   \ifHy@pdftoolbar\else /HideToolbar true\fi
10053   \ifHy@pdfmenubar\else /HideMenubar true\fi
10054   \ifHy@pdfwindowui\else /HideWindowUI true\fi
10055   \ifHy@pdfwindow /FitWindow true\fi
10056   \ifHy@pdfcenterwindow /CenterWindow true\fi
10057   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10058   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10059   \Hy@UseNameKey{Direction}\@pdfdirection
10060   \Hy@UseNameKey{ViewArea}\@pdfviewarea
10061   \Hy@UseNameKey{ViewClip}\@pdfviewclip
10062   \Hy@UseNameKey{PrintArea}\@pdfprintarea
10063   \Hy@UseNameKey{PrintClip}\@pdfprintclip
10064   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10065   \Hy@UseNameKey{Duplex}\@pdfduplex
10066   \ifx\@pdfpicktraybypdfsize\@empty
10067   \else
10068     /PickTrayByPDFSize \@pdfpicktraybypdfsize
10069   \fi
10070   \ifx\@pdfprintpagerange\@empty
10071   \else
10072     /PrintPageRange[\@pdfprintpagerange]%
10073   \fi
10074   \ifx\@pdfnumcopies\@empty
10075   \else
10076     /NumCopies \@pdfnumcopies
10077   \fi
10078 }%

```

```

10079 \pdfmark{pdfmark=/PUT,%
10080   Raw={%
10081     \string{Catalog\string}<<%
10082     \ifx\Hy@temp\@empty
10083       \else
10084         /ViewerPreferences<<\Hy@temp>>%
10085       \fi
10086       \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10087       \ifx\@pdflang\@empty
10088       \else
10089         /Lang(\@pdflang)%
10090       \fi
10091     >>%
10092   }%
10093 }%
10094 }
10095 </dviwindo>
10096 <*dvipdfm | xetex>

```

## 47.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```

10097 \providecommand*{\XR@ext}{pdf}
10098 \Hy@setbreaklinks{true}
10099 \def\HyPat@ObjRef{%
10100   @[\ ]+%
10101 }
10102 \newsavebox{\pdfm@box}
10103 \def\@pdfm@mark#1{\special{pdf:#1}}
10104 \Hy@WrapperDef\@pdfm@dest#1{%
10105   \Hy@SaveLastskip
10106   \Hy@VerboseAnchor{#1}%
10107   \begingroup
10108     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10109     \def\x{XYZ}%
10110     \ifx\x\@pdfview
10111       \def\x{XYZ @xpos @ypos null}%
10112     \else
10113       \def\x{FitH}%
10114       \ifx\x\@pdfview
10115         \def\x{FitH @ypos}%
10116       \else
10117         \def\x{FitBH}%
10118         \ifx\x\@pdfview
10119           \def\x{FitBH @ypos}%
10120         \else
10121           \def\x{FitV}%
10122           \ifx\x\@pdfview
10123             \def\x{FitV @xpos}%
10124           \else
10125             \def\x{FitBV}%
10126             \ifx\x\@pdfview
10127               \def\x{FitBV @xpos}%
10128             \else
10129               \def\x{Fit}%
10130             \ifx\x\@pdfview
10131               \let\x\@pdfview

```



```

10132         \else
10133         \def\x{FitB}%
10134         \ifx\x\@pdfview
10135         \let\x\@pdfview
10136         \else
10137         \def\x{FitR}%
10138         \ifx\x\@pdfview
10139         \Hy@Warning{'pdfview=FitR' is not supported}%
10140         \def\x{XYZ @xpos @ypos null}%
10141         \else
10142         \@onelevel@sanitize\@pdfview
10143         \Hy@Warning{%
10144         Unknown value '\@pdfview' for pdfview%
10145         }%
10146         \def\x{XYZ @xpos @ypos null}%
10147         \fi
10148         \fi
10149         \fi
10150         \fi
10151         \fi
10152         \fi
10153         \fi
10154         \fi
10155         \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
10156     \endgroup
10157     \Hy@RestoreLastskip
10158 }
10159 \providecommand*\@pdfview{XYZ}
10160 \providecommand*\@pdfborder{0 0 1}
10161 \providecommand*\@pdfborderstyle{}
10162 \def\hyper@anchor#1{%
10163     \@pdfm@dest{#1}%
10164 }
10165 \def\hyper@anchorstart#1{%
10166     \Hy@activeanchortrue
10167     \@pdfm@dest{#1}%
10168 }
10169 \def\hyper@anchorend{%
10170     \Hy@activeanchorfalse
10171 }
10172 \newcounter{Hy@AnnotLevel}
10173 \ifHy@ocgcolorlinks
10174     \def\OBJ@OCG@view{@OCG@view}%
10175     \@pdfm@mark{%
10176         obj \OBJ@OCG@view <<%
10177         /Type/OCG%
10178         /Name(View)%
10179         /Usage<<%
10180         /Print<<%
10181         /PrintState/OFF%
10182         >>%
10183         /View<<%
10184         /ViewState/ON%
10185         >>%
10186         >>%
10187         >>%
10188     }%

```

```

10189 \@pdfm@mark{close \OBJ@OCG@view}%
10190 \def\OBJ@OCG@print{@OCG@print}%
10191 \@pdfm@mark{%
10192   obj \OBJ@OCG@print <<%
10193     /Type/OCG%
10194     /Name(Print)%
10195     /Usage<<%
10196     /Print<<%
10197     /PrintState/ON%
10198     >>%
10199     /View<<%
10200     /ViewState/OFF%
10201     >>%
10202     >>%
10203     >>%
10204   }%
10205 \@pdfm@mark{close \OBJ@OCG@print}%
10206 \def\OBJ@OCGs{@OCGs}%
10207 \@pdfm@mark{%
10208   obj \OBJ@OCGs [%
10209     \OBJ@OCG@view\space\OBJ@OCG@print
10210   ]%
10211 }%
10212 \@pdfm@mark{close \OBJ@OCGs}%
10213 \@pdfm@mark{%
10214   put @catalog <<%
10215     /OCProperties<<%
10216     /OCGs \OBJ@OCGs
10217     /D<<%
10218     /OFF[\OBJ@OCG@print]%
10219     /AS[%
10220       <<%
10221         /Event/View%
10222         /OCGs \OBJ@OCGs
10223         /Category[/View]%
10224       >>%
10225       <<%
10226         /Event/Print%
10227         /OCGs \OBJ@OCGs
10228         /Category[/Print]%
10229       >>%
10230       <<%
10231         /Event/Export%
10232         /OCGs \OBJ@OCGs
10233         /Category[/Print]%
10234       >>%
10235     ]%
10236     >>%
10237     >>%
10238     >>%
10239   }%
10240 \AtBeginShipout{%
10241   \setbox\AtBeginShipoutBox=\hbox{%
10242     \copy\AtBeginShipoutBox
10243   \@pdfm@mark{%
10244     put @resources <<%
10245     /Properties<<%

```

```

10246         /OCView \OBJ@OCG@view
10247         /OCPrint \OBJ@OCG@print
10248     >>%
10249     >>%
10250 }%
10251 }%
10252 }%
10253 \Hy@AtBeginDocument{%
10254     \def\Hy@colorlink#1{%
10255         \begingroup
10256         \ifHy@ocgcolorlinks
10257             \def\Hy@ocgcolor{#1}%
10258             \setbox0=\hbox\bgroup\color@begingroup
10259         \else
10260             \HyColor@UseColor#1%
10261         \fi
10262     }%
10263     \def\Hy@endcolorlink{%
10264         \ifHy@ocgcolorlinks
10265             \color@endgroup\egroup
10266             \mbox{%
10267                 \@pdfm@mark{content /OC/OCPrint BDC}%
10268                 \rlap{\copy0}%
10269                 \@pdfm@mark{content EMC/OC/OCView BDC}%
10270             \begingroup
10271                 \expandafter\HyColor@UseColor\Hy@ocgcolor
10272                 \box0 %
10273             \endgroup
10274             \@pdfm@mark{content EMC}%
10275         }%
10276     \fi
10277     \endgroup
10278 }%
10279 }%
10280 \else
10281     \Hy@DisableOption{ocgcolorlinks}%
10282 \fi

10283 \def\Hy@BeginAnnot#1{%
10284     \stepcounter{Hy@AnnotLevel}%
10285     \ifnum\value{Hy@AnnotLevel}=\@ne
10286         #1%
10287     \fi
10288 }
10289 \def\Hy@endAnnot{%
10290     \ifnum\value{Hy@AnnotLevel}=\@ne
10291         \Hy@endcolorlink
10292         \@pdfm@mark{eann}%
10293     \fi
10294     \addtocounter{Hy@AnnotLevel}\m@ne
10295 }

10296 \def\Hy@undefinedname{UNDEFINED}
10297 \def\hyper@linkstart#1#2{%
10298     \Hy@VerboseLinkStart{#1}{#2}%
10299     \leavevmode
10300     \Hy@BeginAnnot{%
10301         \protected@edef\Hy@testname{#2}%
10302         \ifx\Hy@testname\@empty

```

```

10303 \Hy@Warning{%
10304   Empty destination name,\MessageBreak
10305   using '\Hy@undefinedname'%
10306 }%
10307 \let\Hy@testname\Hy@undefinedname
10308 \else
10309 \Hy@pstringdef\Hy@testname{%
10310 \expandafter\HyperDestNameFilter\expandafter{%
10311 \Hy@testname
10312 }%
10313 }%
10314 \fi
10315 \@pdfm@mark{%
10316   bann<<%
10317   /Type/Annot%
10318   /Subtype/Link%
10319   \ifHy@pdfa /F 4\fi
10320   \Hy@setpdfborder
10321   \expandafter\ifx\csname @#1bordercolor\endcsname\relax
10322   \else
10323     /C[\csname @#1bordercolor\endcsname]%
10324   \fi
10325   /A<<%
10326   /S/GoTo%
10327   /D(\Hy@testname)%
10328   \Hy@href@nextactionraw
10329   >>%
10330   >>%
10331   }%
10332   \expandafter\Hy@colorlink\csname @#1color\endcsname
10333 }%
10334 }
10335 \def\hyper@linkend{\Hy@EndAnnot}%
10336 \def\hyper@link#1#2#3{%
10337 \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
10338 }
10339 \def\hyper@linkfile#1#2#3{%
10340 \leavevmode
10341 \Hy@BeginAnnot{%
10342 \def\Hy@pstringF{#2}%
10343 \Hy@CleanupFile\Hy@pstringF
10344 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
10345 \Hy@pstringdef\Hy@pstringD{#3}%
10346 \Hy@MakeRemoteAction
10347 \@pdfm@mark{%
10348   bann<<%
10349   /Type/Annot%
10350   /Subtype/Link%
10351   \ifHy@pdfa /F 4\fi
10352   \Hy@setpdfborder
10353   \ifx\@filebordercolor\relax
10354   \else
10355     /C[\@filebordercolor]%
10356   \fi
10357   /A<<%
10358   /S/GoToR%
10359   /F(\Hy@pstringF)%

```

```

10360      /D%
10361      \ifx\|#3\|%
10362      [\Hy@href@page\@pdfremotestartview]%
10363      \else
10364      (\Hy@pstringD)%
10365      \fi
10366      \Hy@SetNewWindow
10367      \Hy@href@nextactionraw
10368      >>%
10369      >>%
10370      }%
10371      \Hy@colorlink\@filecolor
10372      }%
10373      #1\Hy@xspace@end
10374      \Hy@EndAnnot
10375  }
10376  \def\@hyper@launch run:#1\|#2#3{% filename, anchor text linkname
10377  \leavevmode
10378  \Hy@BeginAnnot{%
10379  \Hy@pstringdef\Hy@pstringF{#1}%
10380  \Hy@pstringdef\Hy@pstringP{#3}%
10381  \@pdfm@mark{%
10382  bann<<%
10383  /Type/Annot%
10384  /Subtype/Link%
10385  \ifHy@pdfa /F 4\fi
10386  \Hy@setpdfborder
10387  \ifx\@runbordercolor\relax
10388  \else
10389  /C[\@runbordercolor]%
10390  \fi
10391  /A<<%
10392  /F(\Hy@pstringF)%
10393  /S/Launch%
10394  \Hy@SetNewWindow
10395  \ifx\|#3\|%
10396  \else
10397  /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10398  \fi
10399  \Hy@href@nextactionraw
10400  >>%
10401  >>%
10402  }%
10403  \Hy@colorlink\@runcolor
10404  }%
10405  #2\Hy@xspace@end
10406  \Hy@EndAnnot
10407  }
10408  \def\hyper@linkurl#1#2{%
10409  \leavevmode
10410  \Hy@BeginAnnot{%
10411  \Hy@pstringdef\Hy@pstringURI{#2}%
10412  \@pdfm@mark{%
10413  bann<<%
10414  /Type/Annot%
10415  /Subtype/Link%
10416  \ifHy@pdfa /F 4\fi

```

```

10417 \Hy@setpdfborder
10418 \ifx\@urlbordercolor\relax
10419 \else
10420 /C[\@urlbordercolor]%
10421 \fi
10422 /A<<%
10423 /S/URI%
10424 /URI(\Hy@pstringURI)%
10425 \ifHy@href@ismap
10426 /IsMap true%
10427 \fi
10428 \Hy@href@nextactionraw
10429 >>%
10430 >>%
10431 }%
10432 \Hy@colorlink\@urlcolor
10433 }%
10434 #1\Hy@xspace@end
10435 \Hy@EndAnnot
10436 }
10437 \def\Acrobatmenu#1#2{%
10438 \Hy@Acrobatmenu{#1}{#2}{%
10439 \Hy@BeginAnnot{%
10440 \EdefEscapeName\Hy@temp@menu{#1}%
10441 \@pdfm@mark{%
10442 bann<<%
10443 /Type/Annot%
10444 /Subtype/Link%
10445 \ifHy@pdfa /F 4\fi
10446 \Hy@setpdfborder
10447 \ifx\@menubordercolor\relax
10448 \else
10449 /C[\@menubordercolor]%
10450 \fi
10451 /A<<%
10452 /S/Named%
10453 /N/\Hy@temp@menu
10454 \Hy@href@nextactionraw
10455 >>%
10456 >>%
10457 }%
10458 \Hy@colorlink\@menucolor
10459 }%
10460 #2\Hy@xspace@end
10461 \Hy@EndAnnot
10462 }%
10463 }
10464 \ifx\@pdfproducer\relax
10465 \def\@pdfproducer{dvipdfm}%

```

Detect XeTeX. However, but xdvipdfmx will overwrite it in the final PDF file.

```

10466 \begingroup\expandafter\expandafter\expandafter\endgroup
10467 \expandafter\ifx\csname XeTeXversion\endcsname\relax
10468 \else
10469 \edef\@pdfproducer{XeTeX \the\XeTeXversion\XeTeXrevision}%
10470 \fi
10471 \fi
10472 \def\PDF@FinishDoc{%

```

```

10473 \Hy@UseMaketitleInfos
10474 \HyInfo@GenerateAddons
10475 \@pdfm@mark{%
10476   docinfo<<%
10477     /Title(\@pdftitle)%
10478     /Subject(\@pdfsubject)%
10479     /Creator(\@pdfcreator)%
10480     \ifx\@pdfcreationdate\@empty
10481     \else
10482       /CreationDate(\@pdfcreationdate)%
10483     \fi
10484     \ifx\@pdfmoddate\@empty
10485     \else
10486       /ModDate(\@pdfmoddate)%
10487     \fi
10488     /Author(\@pdfauthor)%
10489     \ifx\@pdfproducer\relax
10490     \else
10491       /Producer(\@pdfproducer)%
10492     \fi
10493     /Keywords(\@pdfkeywords)%
10494     \ifx\@pdftrapped\@empty
10495     \else
10496       /Trapped/\@pdftrapped
10497     \fi
10498     \HyInfo@Addons
10499   >>%
10500 }%
10501 \Hy@DisableOption{pdfauthor}%
10502 \Hy@DisableOption{pdftitle}%
10503 \Hy@DisableOption{pdfsubject}%
10504 \Hy@DisableOption{pdfcreator}%
10505 \Hy@DisableOption{pdfcreationdate}%
10506 \Hy@DisableOption{pdfmoddate}%
10507 \Hy@DisableOption{pdfproducer}%
10508 \Hy@DisableOption{pdfkeywords}%
10509 \Hy@DisableOption{pdftrapped}%
10510 \Hy@DisableOption{pdfinfo}%
10511 }
10512 \def\PDF@SetupDoc{%
10513   \edef\Hy@temp{%
10514     \ifHy@pdftoolbar\else /HideToolbar true\fi
10515     \ifHy@pdfmenubar\else /HideMenubar true\fi
10516     \ifHy@pdfwindowui\else /HideWindowUI true\fi
10517     \ifHy@pdffitwindow /FitWindow true\fi
10518     \ifHy@pdfcenterwindow /CenterWindow true\fi
10519     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10520     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10521     \Hy@UseNameKey{Direction}\@pdfdirection
10522     \Hy@UseNameKey{ViewArea}\@pdfviewarea
10523     \Hy@UseNameKey{ViewClip}\@pdfviewclip
10524     \Hy@UseNameKey{PrintArea}\@pdfprintarea
10525     \Hy@UseNameKey{PrintClip}\@pdfprintclip
10526     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10527     \Hy@UseNameKey{Duplex}\@pdfduplex
10528     \ifx\@pdfpicktraybypdfsize\@empty
10529     \else

```

```

10530 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10531 \fi
10532 \ifx\@pdfprintpagerange\@empty
10533 \else
10534 /PrintPageRange[\@pdfprintpagerange]%
10535 \fi
10536 \ifx\@pdfnumcopies\@empty
10537 \else
10538 /NumCopies \@pdfnumcopies
10539 \fi
10540 }%
10541 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10542 \@pdfm@mark{%
10543 docview<<%
10544 \ifx\@pdfstartpage\@empty
10545 \else
10546 \ifx\@pdfstartview\@empty
10547 \else
10548 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10549 \fi
10550 \fi
10551 \ifx\@baseurl\@empty
10552 \else
10553 /URI<</Base(\Hy@pstringB)>>%
10554 \fi
10555 /PageMode/\@pdfpagemode
10556 \ifx\Hy@temp\@empty
10557 \else
10558 /ViewerPreferences<<\Hy@temp>>%
10559 \fi
10560 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10561 \ifx\@pdflang\@empty
10562 \else
10563 /Lang(\@pdflang)%
10564 \fi
10565 >>%
10566 }%
10567 \ifx\@pdfpagescrop\@empty
10568 \else
10569 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
10570 \fi
10571 }
10572 </dvi pdfm | xetex>
10573 <*dvi pdfm | xetex>

```

\hyper@pagetransition

```

10574 \def\hyper@pagetransition{%
10575 \ifx\@pdfpagetransition\relax
10576 \else
10577 \ifx\@pdfpagetransition\@empty
10578 \else
10579 \special{pdf:put @thispage %
10580 <</Trans<</S/\@pdfpagetransition>>>>%
10581 }%
10582 \fi
10583 \fi
10584 }

```



\hyper@pageduration

```

10585 \def\hyper@pageduration{%
10586   \ifx\@pdfpageduration\relax
10587   \else
10588     \ifx\@pdfpageduration\@empty
10589     \else
10590       \special{pdf:put @thispage %
10591         <</Dur \@pdfpageduration>>%
10592       }%
10593     \fi
10594   \fi
10595 }
```

\hyper@pagehidden

```

10596 \def\hyper@pagehidden{%
10597   \ifHy@useHidKey
10598   \special{pdf:put @thispage %
10599     <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
10600   }%
10601 \fi
10602 }

10603 \g@addto@macro\Hy@EveryPageBoxHook{%
10604   \hyper@pagetransition
10605   \hyper@pageduration
10606   \hyper@pagehidden
10607 }

10608 </dvipdfm | xetex>
```

XeTeX uses pdfTeX's method \pdfpagewidth and \pdfpageheight for setting the paper size.

```

10609 < *dvipdfm>
10610 \AtBeginShipoutFirst{%
10611   \ifHy@setpagesize
10612   \begingroup
10613     \@ifundefined{stockwidth}{%
10614       \ifdim\paperwidth>\z@
10615       \ifdim\paperheight>\z@
10616         \special{papersize=\the\paperwidth,\the\paperheight}%
10617       \fi
10618     \fi
10619   }{%
10620     \ifdim\stockwidth>\z@
10621     \ifdim\stockheight>\z@
10622       \special{papersize=\the\stockwidth,\the\stockheight}%
10623     \fi
10624   \fi
10625 }%
10626 \endgroup
10627 \fi
10628 \Hy@DisableOption{setpagesize}%
10629 }
10630 </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.

```
10631 <*vtexhtml>
10632 \providecommand*\XR@ext\{htm}
10633 \RequirePackage{vtexhtml}
10634 \newif\if@Localurl
10635 \let\PDF@FinishDoc\ltx@empty
10636 \def\PDF@SetupDoc{%
10637   \ifx\@baseurl\@empty
10638   \else
10639     \special{!direct <base href="\@baseurl">}%
10640   \fi
10641 }
10642 \def\@urltype{url}
10643 \def\hyper@link#1#2#3{%
10644   \Hy@VerboseLinkStart{#1}{#2}%
10645   \leavevmode
10646   \special{!direct <a href=%
10647     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10648   #3\Hy@xspace@end
10649   \special{!direct </a>}%
10650 }
10651 \def\hyper@linkurl#1#2{%
10652   \begingroup
10653     \hyper@chars
10654     \leavevmode
10655     \MathBSuppress=1\relax
10656     \special{!direct <a href=%
10657       \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10658     #1\Hy@xspace@end
10659     \MathBSuppress=0\relax
10660     \special{!direct </a>}%
10661   \endgroup
10662 }
10663 \def\hyper@linkfile#1#2#3{%
10664   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\###3\fi}%
10665 }
10666 \def\hyper@linkstart#1#2{%
10667   \Hy@VerboseLinkStart{#1}{#2}%
10668   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
10669     \@Localurltrue
10670     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10671   \else
10672     \@Localurlfalse
10673     \begingroup
10674       \hyper@chars
10675       \special{!aref \HyperDestNameFilter{#2}}%
10676     \endgroup
10677   \fi
10678 }
10679 \def\hyper@linkend{%
10680   \if@Localurl
10681     \special{!endaref}%
10682   \else
10683     \special{!direct </a>}%
```

```

10684 \fi
10685 }
10686 \Hy@WrapperDef\hyper@anchorstart#1{%
10687 \Hy@SaveLastskip
10688 \Hy@VerboseAnchor{#1}%
10689 \begingroup
10690 \hyper@chars
10691 \special{!aname #1}%
10692 \special{!direct <a name=%
10693 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
10694 \endgroup
10695 \Hy@activeanchortrue
10696 }
10697 \def\hyper@anchorend{%
10698 \special{!direct </a>}}%
10699 \Hy@activeanchorfalse
10700 \Hy@RestoreLastskip
10701 }
10702 \Hy@WrapperDef\hyper@anchor#1{%
10703 \Hy@SaveLastskip
10704 \Hy@VerboseAnchor{#1}%
10705 \begingroup
10706 \let\protect=\string
10707 \hyper@chars
10708 \leavevmode
10709 \special{!aname #1}%
10710 \special{!direct <a name=%
10711 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
10712 \endgroup
10713 \Hy@activeanchortrue
10714 \bgroup\anchor@spot\egroup
10715 \special{!direct </a>}}%
10716 \Hy@activeanchorfalse
10717 \Hy@RestoreLastskip
10718 }
10719 \def\@Form[#1]{%
10720 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10721 }
10722 \let\@endForm\ltx@empty
10723 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10724 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10725 }
10726 \def\@TextField[#1]#2{% parameters, label
10727 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10728 }
10729 \def\@CheckBox[#1]#2{% parameters, label
10730 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
10731 }
10732 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10733 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10734 }
10735 \def\@PushButton[#1]#2{% parameters, label
10736 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10737 }
10738 \def\@Reset[#1]#2{%
10739 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10740 }

```

```

10741 \def\@Submit[#1]#2{%
10742   \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10743 }
10744 \</vtexhtml>
10745 \<*/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.

```

10746 \ifx\mediaheight\@undefined
10747 \else
10748   \ifx\mediaheight\relax
10749   \else
10750     \ifHy@setpagesize
10751       \providecommand*\VTeXInitMediaSize{%
10752         \ltx@ifundefined{stockwidth}{%
10753           \ifdim\paperheight>0pt %
10754             \setlength\mediaheight\paperheight
10755           \fi
10756           \ifdim\paperheight>0pt %
10757             \setlength\mediawidth\paperwidth
10758           \fi
10759         }{%
10760           \ifdim\stockheight>0pt %
10761             \setlength\mediaheight\stockheight
10762           \fi
10763           \ifdim\stockwidth>0pt %
10764             \setlength\mediawidth\stockwidth
10765           \fi
10766         }%
10767       }%
10768       \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10769     \fi
10770   \Hy@DisableOption{setpagesize}%
10771 \fi
10772 \fi

```

Older versions of VTeX require `xyz` in lower case.

```

10773 \providecommand*\@pdfview{xyz}
10774 \providecommand*\@pdfborder{0 0 1}
10775 \providecommand*\@pdfborderstyle{}
10776 \let\CurrentBorderColor\@linkbordercolor
10777 \Hy@WrapperDef\hyper@anchor#1{%
10778   \Hy@SaveLastskip
10779   \Hy@VerboseAnchor{#1}%
10780   \begingroup
10781     \let\protect=\string
10782     \hyper@chars
10783     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10784   \endgroup
10785   \Hy@activeanchortrue
10786   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10787   \Hy@activeanchorfalse
10788   \Hy@RestoreLastskip
10789 }
10790 \Hy@WrapperDef\hyper@anchorstart#1{%
10791   \Hy@SaveLastskip
10792   \Hy@VerboseAnchor{#1}%

```

```

10793 \begingroup
10794 \hyper@chars
10795 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10796 \endgroup
10797 \Hy@activeanchortrue
10798 }
10799 \def\hyper@anchorend{%
10800 \Hy@activeanchorfalse
10801 \Hy@RestoreLastskip
10802 }
10803 \def\@urltype{url}
10804 \def\Hy@undefinedname{UNDEFINED}
10805 \def\hyper@linkstart#1#2{%
10806 \Hy@VerboseLinkStart{#1}{#2}%
10807 \Hy@pstringdef\Hy@pstringURI{#2}%
10808 \expandafter\Hy@colorlink\csname @#1color\endcsname
10809 \ltx@ifundefined{@#1bordercolor}{%
10810 \let\CurrentBorderColor\relax
10811 }{%
10812 \edef\CurrentBorderColor{%
10813 \csname @#1bordercolor\endcsname
10814 }%
10815 }%
10816 \def\Hy@tempa{#1}%
10817 \ifx\Hy@tempa\@urltype
10818 \special{!%
10819 aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10820 \ifHy@href@ismap
10821 /IsMap true%
10822 \fi
10823 \Hy@href@nextactionraw
10824 >;%
10825 a=<%
10826 \ifHy@pdfa /F 4\fi
10827 \Hy@setpdfborder
10828 \ifx\CurrentBorderColor\relax
10829 \else
10830 /C [\CurrentBorderColor]%
10831 \fi
10832 >%
10833 }%
10834 \else
10835 \protected@edef\Hy@testname{#2}%
10836 \ifx\Hy@testname\@empty
10837 \Hy@Warning{%
10838 Empty destination name,\MessageBreak
10839 using '\Hy@undefinedname'%
10840 }%
10841 \let\Hy@testname\Hy@undefinedname
10842 \fi
10843 \special{!%
10844 aref \expandafter\HyperDestNameFilter
10845 \expandafter{\Hy@testname};%
10846 a=<%
10847 \ifHy@pdfa /F 4\fi
10848 \Hy@setpdfborder
10849 \ifx\CurrentBorderColor\relax

```

```

10850     \else
10851     /C [\CurrentBorderColor]%
10852     \fi
10853     >%
10854     }%
10855     \fi
10856 }
10857 \def\hyper@linkend{%
10858 \special{!endaref}%
10859 \Hy@endcolorlink
10860 }
10861 \def\hyper@linkfile#1#2#3{%
10862 \leavevmode
10863 \def\Hy@pstringF{#2}%
10864 \Hy@CleanupFile\Hy@pstringF
10865 \special{!%
10866   aref <%
10867   \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi\fi
10868   f=\Hy@pstringF>#3;%
10869   a=<%
10870   \ifHy@pdfa /F 4\fi
10871   \Hy@setpdfborder
10872   \ifx\@filebordercolor\relax
10873   \else
10874   /C [\@filebordercolor]%
10875   \fi
10876   >%
10877   }%
10878   \Hy@colorlink\@filecolor
10879   #1\Hy@xspace@end
10880   \Hy@endcolorlink
10881   \special{!endaref}%
10882 }
10883 \def\hyper@linkurl#1#2{%
10884 \begingroup
10885 \Hy@pstringdef\Hy@pstringURI{#2}%
10886 \hyper@chars
10887 \leavevmode
10888 \special{!%
10889   aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10890   \ifHy@href@ismap
10891   /IsMap true%
10892   \fi
10893   \Hy@href@nextactionraw
10894   >;%
10895   a=<%
10896   \ifHy@pdfa /F 4\fi
10897   \Hy@setpdfborder
10898   \ifx\@urlbordercolor\relax
10899   \else
10900   /C [\@urlbordercolor]%
10901   \fi
10902   >%
10903   }%
10904   \Hy@colorlink\@urlcolor
10905   #1\Hy@xspace@end
10906   \Hy@endcolorlink

```

```

10907 \special{!endaref}%
10908 \endgroup
10909 }
10910 \def\hyper@link#1#2#3{%
10911 \Hy@VerboseLinkStart{#1}{#2}%
10912 \ltx@ifundefined{@#1bordercolor}{%
10913 \let\CurrentBorderColor\relax
10914 }{%
10915 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
10916 }%
10917 \leavevmode
10918 \protected@edef\Hy@testname{#2}%
10919 \ifx\Hy@testname\@empty
10920 \Hy@Warning{%
10921 Empty destination name,\MessageBreak
10922 using '\Hy@undefinedname'%
10923 }%
10924 \let\Hy@testname\Hy@undefinedname
10925 \fi
10926 \special{!%
10927 aref \expandafter\HyperDestNameFilter
10928 \expandafter{\Hy@testname};%
10929 a=<%
10930 \ifHy@pdfa /F 4\fi
10931 \Hy@setpdfborder
10932 \ifx\CurrentBorderColor\relax
10933 \else
10934 /C [\CurrentBorderColor]%
10935 \fi
10936 >%
10937 }%
10938 \expandafter
10939 \Hy@colorlink\csname @#1color\endcsname
10940 #3\Hy@xspace@end
10941 \Hy@endcolorlink
10942 \special{!endaref}%
10943 }
10944 \def\hyper@image#1#2{%
10945 \hyper@linkurl{#2}{#1}%
10946 }
10947 \def\@hyper@launch run:#1\#2#3{%
10948 \Hy@pstringdef\Hy@pstringF{#1}%
10949 \Hy@pstringdef\Hy@pstringP{#3}%
10950 \leavevmode
10951 \special{!aref %
10952 <u=%
10953 /Type/Action%
10954 /S/Launch%
10955 /F(\Hy@pstringF)%
10956 \Hy@SetNewWindow
10957 \ifx\#3\%
10958 \else
10959 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10960 \fi
10961 \Hy@href@nextactionraw
10962 >,%
10963 a=<%

```

```

10964 \ifHy@pdfa /F 4\fi
10965 \Hy@setpdfborder
10966 \ifx\@runbordercolor\relax
10967 \else
10968 /C[\@runbordercolor]%
10969 \fi
10970 >%
10971 }%
10972 \Hy@colorlink\@runcolor
10973 #2\Hy@xspace@end
10974 \Hy@endcolorlink
10975 \special{!endaref}%
10976 }
10977 \def\Acrobatmenu#1#2{%
10978 \EdefEscapeName\Hy@temp@menu{#1}%
10979 \Hy@Acrobatmenu{#1}{#2}{%
10980 \special{!%
10981 aref <u=/S /Named /N /\Hy@temp@menu>;%
10982 a=<%
10983 \ifHy@pdfa /F 4\fi
10984 \Hy@setpdfborder
10985 \ifx\@menubordercolor\relax
10986 \else
10987 /C[\@menubordercolor]%
10988 \fi
10989 >%
10990 }%
10991 \Hy@colorlink\@menucolor
10992 #2\Hy@xspace@end
10993 \Hy@endcolorlink
10994 \special{!endaref}%
10995 }%
10996 }

```

The following code (transition effects) is made by Alex Kostin.

The code below makes sense for V<sub>T</sub>E<sub>X</sub> 7.02 or later.

Please never use \@ifundefined{V<sub>T</sub>E<sub>X</sub>version}{..}{..} *globally*.

```

10997 \ifnum\Hy@VTeXversion<702 %
10998 \else
10999 \def\hyper@pagetransition{%
11000 \ifx\@pdfpagetransition\relax
11001 \else
11002 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```

11003 \else
11004 \hvtex@parse@trans\@pdfpagetransition
11005 \fi
11006 \fi
11007 }%

```

I have to write an “honest” parser to convert raw PDF code into V<sub>T</sub>E<sub>X</sub> \special. (AVK)

Syntax of V<sub>T</sub>E<sub>X</sub> \special{!trans <transition\_effect>}:

```

<transition_effect> ::= <transition_style>[,<transition_duration>]
<transition_style> ::= <Blinds_effect> | <Box_effect> |
                     <Dissolve_effect> | <Glitter_effect> |

```



```

<Split_effect> | <Wipe_effect>
<Blinds_effect> ::= B[<effect_dimension>]
<Box_effect> ::= X[<effect_motion>]
<Dissolve_effect> ::= D
<Glitter_effect> ::= G[<effect_direction>]
<Split_effect> ::= S[<effect_motion>][<effect_dimension>]
<Wipe_effect> ::= W[<effect_direction>]
<Replace_effect> ::= R
<effect_direction> ::= <number>
<effect_dimension> ::= H | V
<effect_motion> ::= I | O
<transition_duration> ::= <number>

```

Transition codes:

```

11008 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
11009 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
11010 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
11011 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
11012 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
11013 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
11014 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

11015 \def\hvtex@par@dimension{/Dm}%
11016 \def\hvtex@par@direction{/Di}%
11017 \def\hvtex@par@duration{/D}%
11018 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

11019 \def\hvtex@gettoken{%
11020   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
11021 }%

```

Notice that tokens in the input buffer must be space delimited.

```

11022 \def\hvtex@gettoken@#1 #2\@nil{%
11023   \edef\hvtex@token{#1}%
11024   \edef\hvtex@buffer{#2}%
11025 }%
11026 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

11027 \let\hvtex@trans@code\@empty
11028 \let\hvtex@param@dimension\@empty
11029 \let\hvtex@param@direction\@empty
11030 \let\hvtex@param@duration\@empty
11031 \let\hvtex@param@motion\@empty
11032 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

11033 \hvtex@gettoken
11034 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

11035 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

11036   \else
11037     \hvtex@gettoken
11038   \fi
11039 \fi
11040 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```
11041 \hvtex@trans@params
11042 }%
```

Reentrant macro to parse optional parameters.

```
11043 \def\hvtex@trans@params{%
11044 \ifx\hvtex@buffer\@empty
11045 \else
11046 \hvtex@gettoken
11047 \let\hvtex@trans@par\hvtex@token
11048 \ifx\hvtex@buffer\@empty
11049 \else
11050 \hvtex@gettoken
11051 \ifx\hvtex@trans@par\hvtex@par@duration
```

/D is the effect duration in seconds. V<sub>TEX</sub> special takes it in milliseconds.

```
11052 \let\hvtex@param@duration\hvtex@token
11053 \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
11054 \expandafter\edef\expandafter\hvtex@param@motion
11055 \expandafter{\expandafter\@gobble\hvtex@token}%
11056 \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
11057 \expandafter\edef\expandafter\hvtex@param@dimension
11058 \expandafter{\expandafter\@gobble\hvtex@token}%
11059 \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).

```
11060 \let\hvtex@param@direction\hvtex@token
11061 \fi\fi\fi\fi
11062 \fi
11063 \fi
11064 \ifx\hvtex@buffer\@empty
11065 \let\next\hvtex@produce@trans
11066 \else
11067 \let\next\hvtex@trans@params
11068 \fi
11069 \next
11070 }%
```

Merge <transition\_effect> and issue the special when possible. Too lazy to validate optional parameters.

```
11071 \def\hvtex@produce@trans{%
11072 \let\vtex@trans@special\@empty
11073 \if S\hvtex@trans@code
11074 \edef\vtex@trans@special{\hvtex@trans@code
11075 \hvtex@param@dimension\hvtex@param@motion}%
11076 \else\if B\hvtex@trans@code
11077 \edef\vtex@trans@special{%
11078 \hvtex@trans@code\hvtex@param@dimension
11079 }%
11080 \else\if X\hvtex@trans@code
11081 \edef\vtex@trans@special{%
11082 \hvtex@trans@code\hvtex@param@motion
11083 }%
11084 \else\if W\hvtex@trans@code
```

```

11085 \edef\vtex@trans@special{%
11086   \hvtex@trans@code\hvtex@param@direction
11087 }%
11088 \else\if D\hvtex@trans@code
11089   \let\vtex@trans@special\hvtex@trans@code
11090 \else\if R\hvtex@trans@code
11091   \let\vtex@trans@special\hvtex@trans@code
11092 \else\if G\hvtex@trans@code
11093   \edef\vtex@trans@special{%
11094     \hvtex@trans@code\hvtex@param@direction
11095   }%
11096 \fi\fi\fi\fi\fi\fi
11097 \ifx\vtex@trans@special\@empty
11098   \else
11099     \ifx\hvtex@param@duration\@empty
11100     \else
11101       \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

11102   \multiply\dimen@\@m
11103   \edef\vtex@trans@special{%
11104     \vtex@trans@special,\strip@pt\dimen@
11105   }%
11106 \fi

```

And all the mess is just for this.

```

11107   \special{!trans \vtex@trans@special}%
11108 \fi
11109 }%
11110 \def\hyper@pageduration{%
11111   \ifx\@pdfpageduration\relax
11112   \else
11113     \ifx\@pdfpageduration\@empty
11114       \special{!duration-}%
11115     \else
11116       \special{!duration \@pdfpageduration}%
11117     \fi
11118   \fi
11119 }%
11120 \def\hyper@pagehidden{%
11121   \ifHy@useHidKey
11122     \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
11123   \fi
11124 }%
11125 \g@addto@macro\Hy@EveryPageBoxHook{%
11126   \hyper@pagetransition
11127   \hyper@pageduration
11128   \hyper@pagehidden
11129 }%
11130 \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
11131 \ifx\@pdfproducer\relax
11132 \def\@pdfproducer{VTeX}%
11133 \ifnum\Hy@VTeXversion>\z@
11134 \count@\VTeXversion
11135 \divide\count@ 100 %
11136 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
11137 \multiply\count@ -100 %
11138 \advance\count@\VTeXversion
11139 \edef\@pdfproducer{%
11140 \@pdfproducer
11141 .\ifnum\count@<10 0\fi\the\count@
11142 \ifx\VTeXOS\@undefined\else
11143 \ifnum\VTeXOS>0 %
11144 \ifnum\VTeXOS<6 %
11145 \space(%
11146 \ifcase\VTeXOS
11147 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
11148 \fi
11149 )%
11150 \fi
11151 \fi
11152 \fi
11153 ,\space
11154 \ifnum\OpMode=\@one PDF\else PS\fi
11155 \space backend%
11156 \ifx\gexmode\@undefined\else
11157 \ifnum\gexmode>\z@\space with GeX\fi
11158 \fi
11159 }%
11160 \fi
11161 \fi

```

Current `!pdfinfo` key syntax:

Key	Field	Type
<b>a</b>	<b>Author</b>	String
<b>b</b>	<b>CropBox</b>	String
<b>c</b>	<b>Creator</b>	String
<b>k</b>	<b>Keywords</b>	String
<b>l</b>	<b>PageLayout</b>	PS
<b>p</b>	<b>PageMode</b>	PS
<b>r</b>	<b>Producer</b>	String
<b>s</b>	<b>Subject</b>	String
<b>t</b>	<b>Title</b>	String
<b>u</b>	<b>URI</b>	PS
<b>v</b>	<b>ViewPreferences</b>	PS

Note: PS objects that are dicts are in <<.>>> (yuck; no choice).

```

11162 \def\PDF@SetupDoc{%
11163 \ifx\@pdfpagescrop\@empty
11164 \else
11165 \special{!pdfinfo b=<\@pdfpagescrop>}%
11166 \fi

```

```

11167 \ifx\@pdfstartpage\@empty
11168 \else
11169 \ifx\@pdfstartview\@empty
11170 \else
11171 \special{!onopen Page\@pdfstartpage}%
11172 \fi
11173 \fi
11174 \special{!pdfinfo p=</\@pdfpagemode>}%
11175 \ifx\@baseurl\@empty
11176 \else
11177 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
11178 \fi
11179 \special{!pdfinfo v=<<<%
11180 \ifHy@pdftoolbar\else /HideToolbar true\fi
11181 \ifHy@pdfmenubar\else /HideMenubar true\fi
11182 \ifHy@pdfwindowui\else /HideWindowUI true\fi
11183 \ifHy@pdfwindow /FitWindow true\fi
11184 \ifHy@pdfcenterwindow /CenterWindow true\fi
11185 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11186 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11187 \Hy@UseNameKey{Direction}\@pdfdirection
11188 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11189 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11190 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11191 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11192 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11193 \Hy@UseNameKey{Duplex}\@pdfduplex
11194 \ifx\@pdfpicktraybypdfsize\@empty
11195 \else
11196 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11197 \fi
11198 \ifx\@pdfprintpagerange\@empty
11199 \else
11200 /PrintPageRange[\@pdfprintpagerange]%
11201 \fi
11202 \ifx\@pdfnumcopies\@empty
11203 \else
11204 /NumCopies \@pdfnumcopies
11205 \fi
11206 >>>}%
11207 \ifx\@pdfpagelayout\@empty
11208 \else
11209 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
11210 \fi
11211 }%
11212 \HyInfo@AddonUnsupportedtrue
11213 \define@key{Hyp}{pdfcreationdate}{%
11214 \Hy@Warning{%
11215 VTeX does not support pdfcreationdate.\MessageBreak
11216 Therefore its setting is ignored%
11217 }%
11218 }
11219 \define@key{Hyp}{pdfmoddate}{%
11220 \Hy@Warning{%
11221 VTeX does not support pdfmoddate.\MessageBreak
11222 Therefore its setting is ignored%
11223 }%

```

```

11224 }
11225 \def\PDF@FinishDoc{%
11226   \Hy@UseMaketitleInfos
11227   \HyInfo@TrappedUnsupported
11228   \special{!pdfinfo a=<\@pdfauthor>}%
11229   \special{!pdfinfo t=<\@pdftitle>}%
11230   \special{!pdfinfo s=<\@pdfsubject>}%
11231   \special{!pdfinfo c=<\@pdfcreator>}%
11232   \ifx\@pdfproducer\relax
11233   \else
11234     \special{!pdfinfo r=<\@pdfproducer>}%
11235   \fi
11236   \special{!pdfinfo k=<\@pdfkeywords>}%
11237   \Hy@DisableOption{pdfauthor}%
11238   \Hy@DisableOption{pdftitle}%
11239   \Hy@DisableOption{pdfsubject}%
11240   \Hy@DisableOption{pdfcreator}%
11241   \Hy@DisableOption{pdfcreationdate}%
11242   \Hy@DisableOption{pdfmoddate}%
11243   \Hy@DisableOption{pdfproducer}%
11244   \Hy@DisableOption{pdfkeywords}%
11245   \Hy@DisableOption{pdftrapped}%
11246   \Hy@DisableOption{pdfinfo}%
11247 }
11248 </vtex>

```

## 47.7 Fix for Adobe bug number 466320

If a destination occurs at the very begin of a page, the destination is moved to the previous page by Adobe Distiller 5. As workaround Adobe suggests:

```

/showpage {
  //showpage
  clippath stroke erasepage
} bind def

```

But unfortunately this fix generates an empty page at the end of the document. Therefore another fix is used by writing some clipped text.

```

11249 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
11250 <package>\providecommand*{\Hy@DistillerDestFix}{%
11251 <*pdfmark | dviwindo>
11252 \def\Hy@DistillerDestFix{%
11253   \begingroup
11254     \let\x\literalps@out

```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```

11255   \ifnum \@ifundefined{OpMode}{0}{%
11256     \@ifundefined{gexmode}{0}{%
11257       \ifnum\gexmode>0 \OpMode\else 0\fi
11258     }>1 %
11259   \def\x##1{%
11260     \immediate\special{!=##1}%
11261   }%
11262   \fi
11263   \x{%
11264     /product where{%
11265       pop %

```

```

11266     product(Distiller)search{%
11267     pop pop pop %
11268     version(.)search{%
11269     exch pop exch pop%
11270     (3011)eq{%
11271     gsave %
11272     newpath 0 0 moveto closepath clip%
11273     /Courier findfont 10 scalefont setfont %
11274     72 72 moveto(.).show %
11275     grestore%
11276     }if%
11277     }{pop}ifelse%
11278     }{pop}ifelse%
11279     }if%
11280     }%
11281 \endgroup
11282 }
11283 </pdfmark | dviwindo>

```

## 47.8 Direct pdfmark support

Drivers that load pdfmark.def have to provide the correct macro definitions of

```

\@pdfproducer    for document information
\literalps@out   PostScript output
\headerps@out    PostScript output that goes in the header area

```

and the correct definitions of the following PostScript procedures:

```

H.S      start of anchor, link or rect
#1 H.A   end of anchor, argument=baselineskip in pt
#1 H.L   end of link, argument=baselineskip in pt
H.R      end of rect
H.B      raw rect code

```

```

11284 (*pdfmark)
11285 \Hy@breaklinks@unsupported
11286 \def\HyPat@ObjRef{%
11287   \[{}]+}%
11288 }
11289 \Hy@WrapperDef\hyper@anchor#1{%
11290   \Hy@SaveLastskip
11291   \Hy@VerboseAnchor{#1}%
11292   \begingroup
11293     \pdfmark[\anchor@spot]{%
11294       pdfmark=/DEST,%
11295       linktype=anchor,%
11296       View=/\@pdfview \@pdfviewparams,%
11297       DestAnchor={#1}%
11298     }%
11299   \endgroup
11300   \Hy@RestoreLastskip
11301 }
11302 \ltx@ifundefined{hyper@anchorstart}{\endinput}{}
11303 \Hy@WrapperDef\hyper@anchorstart#1{%
11304   \Hy@SaveLastskip
11305   \Hy@VerboseAnchor{#1}%
11306   \literalps@out{H.S}%

```

```

11307 \Hy@AllowHyphens
11308 \xdef\hyper@currentanchor{#1}%
11309 \Hy@activeanchortrue
11310 }
11311 \def\hyper@anchorend{%
11312 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
11313 \pdfmark{%
11314 pdfmark=/DEST,%
11315 linktype=anchor,%
11316 View=/\@pdfview \@pdfviewparams,%
11317 DestAnchor=\hyper@currentanchor,%
11318 }%
11319 \Hy@activeanchorfalse
11320 \Hy@RestoreLastskip
11321 }
11322 \def\hyper@linkstart#1#2{%
11323 \Hy@VerboseLinkStart{#1}{#2}%
11324 \ifHy@breaklinks
11325 \else
11326 \leavevmode
11327 \ifmmode
11328 \def\Hy@LinkMath{$}%
11329 \else
11330 \let\Hy@LinkMath\ltx@empty
11331 \fi
11332 \Hy@SaveSpaceFactor
11333 \hbox\bgroup
11334 \Hy@RestoreSpaceFactor
11335 \Hy@LinkMath
11336 \fi
11337 \expandafter\Hy@colorlink\csname @#1color\endcsname
11338 \literalps@out{H.S}%
11339 \Hy@AllowHyphens
11340 \xdef\hyper@currentanchor{#2}%
11341 \gdef\hyper@currentlinktype{#1}%
11342 }
11343 \def\hyper@linkend{%
11344 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
11345 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
11346 \let\Hy@tempcolor\relax
11347 }{%
11348 \edef\Hy@tempcolor{%
11349 \csname @\hyper@currentlinktype bordercolor\endcsname
11350 }%
11351 }%
11352 \pdfmark{%
11353 pdfmark=/ANN,%
11354 linktype=link,%
11355 Subtype=/Link,%
11356 PDFAFlags=4,%
11357 Dest=\hyper@currentanchor,%
11358 AcroHighlight=\@pdfhighlight,%
11359 Border=\@pdfborder,%
11360 BorderStyle=\@pdfborderstyle,%
11361 Color=\Hy@tempcolor,%
11362 Raw=H.B%
11363 }%

```



```

11364 \Hy@endcolorlink
11365 \ifHy@breaklinks
11366 \else
11367 \Hy@LinkMath
11368 \Hy@SaveSpaceFactor
11369 \egroup
11370 \Hy@RestoreSpaceFactor
11371 \fi
11372 }

```

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.

```

11373 \begingroup
11374 \catcode'P=12 %
11375 \catcode'T=12 %
11376 \lowercase{\endgroup
11377 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
11378 }
11379 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

11380 \def\hyper@pagetransition{%
11381 \ifx\@pdfpagetransition\relax
11382 \else
11383 \ifx\@pdfpagetransition\@empty
11384 % 1. Does an old entry have to be deleted?
11385 % 2. If 1=yes, how to delete?
11386 \else
11387 \pdfmark{%
11388 pdfmark=/PUT,%
11389 Raw={%
11390 \string{ThisPage\string}%
11391 <</Trans << /S /\@pdfpagetransition\space >> >>%
11392 }%
11393 }%
11394 \fi
11395 \fi
11396 }

```

`\hyper@pageduration`

```

11397 \def\hyper@pageduration{%
11398 \ifx\@pdfpageduration\relax
11399 \else
11400 \ifx\@pdfpageduration\@empty
11401 % 1. Does an old entry have to be deleted?
11402 % 2. If 1=yes, how to delete?
11403 \else
11404 \pdfmark{%
11405 pdfmark=/PUT,%
11406 Raw={%
11407 \string{ThisPage\string}%
11408 <</Dur \@pdfpageduration>>>%
11409 }%
11410 }%
11411 \fi
11412 \fi
11413 }

```

\hyper@pagehidden

```
11414 \def\hyper@pagehidden{%
11415   \ifHy@useHidKey
11416     \pdfmark{%
11417       pdfmark=/PUT,%
11418       Raw={%
11419         \string{ThisPage\string}%
11420         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
11421       }%
11422     }%
11423   \fi
11424 }

11425 \g@addto@macro\Hy@EveryPageBoxHook{%
11426   \hyper@pagetransition
11427   \hyper@pageduration
11428   \hyper@pagehidden
11429 }

11430 \def\hyper@image#1#2{%
11431   \hyper@linkurl{#2}{#1}%
11432 }
11433 \def\Hy@undefinedname{UNDEFINED}
11434 \def\hyper@link#1#2#3{%
11435   \Hy@VerboseLinkStart{#1}{#2}%
11436   \ltx@ifundefined{@#1bordercolor}{%
11437     \let\Hy@tempcolor\relax
11438   }{%
11439     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11440   }%
11441   \begingroup
11442     \protected@edef\Hy@testname{#2}%
11443     \ifx\Hy@testname\@empty
11444       \Hy@Warning{%
11445         Empty destination name,\MessageBreak
11446         using '\Hy@undefinedname'%
11447       }%
11448       \let\Hy@testname\Hy@undefinedname
11449     \fi
11450     \pdfmark[{#3}]{%
11451       Color=\Hy@tempcolor,%
11452       linktype={#1},%
11453       AcroHighlight=\@pdfhighlight,%
11454       Border=\@pdfborder,%
11455       BorderStyle=\@pdfborderstyle,%
11456       pdfmark=/ANN,%
11457       Subtype=/Link,%
11458       PDFAFlags=4,%
11459       Dest=\Hy@testname
11460     }%
11461   \endgroup
11462 }
11463 \newtoks\pdf@docset
11464 \def\PDF@FinishDoc{%
11465   \Hy@UseMaketitleInfos
11466   \Hy@Info@GenerateAddons
11467   \let\Hy@temp\@empty
11468   \ifx\@pdfcreationdate\@empty
```

```

11469 \else
11470   \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11471 \fi
11472 \ifx\@pdfmoddate\@empty
11473 \else
11474   \expandafter\def\expandafter\Hy@temp\expandafter{%
11475     \Hy@temp
11476     ModDate=\@pdfmoddate,%
11477   }%
11478 \fi
11479 \ifx\@pdfproducer\relax
11480 \else
11481   \expandafter\def\expandafter\Hy@temp\expandafter{%
11482     \Hy@temp
11483     Producer=\@pdfproducer,%
11484   }%
11485 \fi
11486 \expandafter
11487 \pdfmark\expandafter{%
11488   \Hy@temp
11489   pdfmark=/DOCINFO,%
11490   Title=\@pdftitle,%
11491   Subject=\@pdfsubject,%
11492   Creator=\@pdfcreator,%
11493   Author=\@pdfauthor,%
11494   Keywords=\@pdfkeywords,%
11495   Trapped=\@pdftrapped
11496 }%
11497 \ifx\HyInfo@Addons\@empty
11498 \else
11499   \pdfmark{%
11500     pdfmark=/DOCINFO,%
11501     Raw={\HyInfo@Addons}%
11502   }%
11503 \fi
11504 \Hy@DisableOption{pdfauthor}%
11505 \Hy@DisableOption{pdftitle}%
11506 \Hy@DisableOption{pdfsubject}%
11507 \Hy@DisableOption{pdfcreator}%
11508 \Hy@DisableOption{pdfcreationdate}%
11509 \Hy@DisableOption{pdfmoddate}%
11510 \Hy@DisableOption{pdfproducer}%
11511 \Hy@DisableOption{pdfkeywords}%
11512 \Hy@DisableOption{pdftrapped}%
11513 \Hy@DisableOption{pdfinfo}%
11514 }
11515 \def\PDF@SetupDoc{%
11516   \def\Hy@temp{}%
11517   \ifx\@pdfstartpage\@empty
11518   \else
11519     \ifx\@pdfstartview\@empty
11520     \else
11521       \edef\Hy@temp{%
11522         ,Page=\@pdfstartpage
11523         ,View=\@pdfstartview
11524       }%
11525     \fi

```

```

11526 \fi
11527 \edef\Hy@temp{%
11528   \noexpand\pdfmark{%
11529     pdfmark=/DOCVIEW,%
11530     PageMode=/\@pdfpagemode
11531     \Hy@temp
11532   }%
11533 }%
11534 \Hy@temp
11535 \ifx\@pdfpagescrop\@empty
11536 \else
11537   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11538 \fi
11539 \edef\Hy@temp{%
11540   \ifHy@pdftoolbar\else /HideToolbar true\fi
11541   \ifHy@pdfmenubar\else /HideMenubar true\fi
11542   \ifHy@pdfwindowui\else /HideWindowUI true\fi
11543   \ifHy@pdfwindow /FitWindow true\fi
11544   \ifHy@pdfcenterwindow /CenterWindow true\fi
11545   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11546   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11547   \Hy@UseNameKey{Direction}\@pdfdirection
11548   \Hy@UseNameKey{ViewArea}\@pdfviewarea
11549   \Hy@UseNameKey{ViewClip}\@pdfviewclip
11550   \Hy@UseNameKey{PrintArea}\@pdfprintarea
11551   \Hy@UseNameKey{PrintClip}\@pdfprintclip
11552   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11553   \Hy@UseNameKey{Duplex}\@pdfduplex
11554   \ifx\@pdfpicktraybypdfsize\@empty
11555   \else
11556     /PickTrayByPDFSize \@pdfpicktraybypdfsize
11557   \fi
11558   \ifx\@pdfprintpagerange\@empty
11559   \else
11560     /PrintPageRange[\@pdfprintpagerange]%
11561   \fi
11562   \ifx\@pdfnumcopies\@empty
11563   \else
11564     /NumCopies \@pdfnumcopies
11565   \fi
11566 }%
11567 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11568 \pdfmark{%
11569   pdfmark=/PUT,%
11570   Raw={%
11571     \string{Catalog\string}<<%
11572     \ifx\Hy@temp\@empty
11573     \else
11574       /ViewerPreferences<<\Hy@temp>>%
11575     \fi
11576     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11577     \ifx\@pdflang\@empty
11578     \else
11579       /Lang(\@pdflang)%
11580     \fi
11581     \ifx\@baseurl\@empty
11582     \else

```

```

11583      /URI<</Base(\Hy@pstringB)>>%
11584      \fi
11585      >>%
11586    }%
11587  }%
11588 }
11589 </pdfmark>
11590 <*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.

```

11591 \newif\ifHy@pdfmarkerror
11592 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
11593 \def\pdfmark@[#1]#2{%
11594   \Hy@pdfmarkerrorfalse
11595   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11596   \@processme
11597   \let\pdf@type\relax
11598   \kvsetkeys{PDF}{#2}%
11599   \ifHy@pdfmarkerror
11600   \else
11601     \ifx\pdf@type\relax
11602       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11603       \ifx\\#1\\%
11604         \else
11605           \pdf@rect{#1}%
11606         \fi
11607       \else
11608         \ifx\\#1\\%
11609           \literalps@out{%
11610             [\the\pdf@toks\space\pdf@type\space pdfmark%
11611             ]%
11612           \else
11613             \ltx@ifundefined{@\pdf@linktype color}{%
11614               \Hy@colorlink\@linkcolor
11615             }{%
11616               \expandafter\Hy@colorlink
11617               \csname @\pdf@linktype color\endcsname
11618             }%
11619             \pdf@rect{#1}%
11620             \literalps@out{%
11621               [\the\pdf@toks\space\pdf@type\space pdfmark%
11622               ]%
11623               \Hy@endcolorlink
11624             }%
11625           \fi
11626         \fi
11627       }

```

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}
```

```
11628 \newsavebox{\pdf@box}  
11629 \providecommand*\Hy@setouterhbox{\sbox}  
11630 \providecommand*\Hy@breaklinksunhbox{\unhbox}  
11631 \def\Hy@DEST{/DEST}  
11632 \def\pdf@rect#1{%  
11633   \begingroup  
11634     \chardef\x=1 %  
11635     \def\Hy@temp{#1}%  
11636     \ifx\Hy@temp\ltx@empty  
11637       \chardef\x=0 %  
11638     \else  
11639       \def\y{\anchor@spot}%  
11640       \ifx\Hy@temp\y  
11641         \def\y{\relax}%  
11642       \ifx\anchor@spot\y  
11643         \chardef\x=0 %  
11644       \fi  
11645     \fi  
11646   \fi  
11647   \expandafter\endgroup  
11648   \ifcase\x  
11649     \literalps@out{H.S}%  
11650     \literalps@out{H.R}%  
11651   \else  
11652     \leavevmode  
11653     \Hy@SaveSpaceFactor  
11654     \ifmmode  
11655       \def\Hy@LinkMath{$}%  
11656     \else  
11657       \let\Hy@LinkMath\ltx@empty  
11658     \fi  
11659     \ifHy@breaklinks  
11660       \Hy@setouterhbox\pdf@box{%  
11661         \Hy@RestoreSpaceFactor  
11662         \Hy@LinkMath  
11663         \Hy@AllowHyphens#1\Hy@xspace@end  
11664         \Hy@LinkMath  
11665         \Hy@SaveSpaceFactor  
11666       }%  
11667     \else  
11668       \sbox\pdf@box{%  
11669         \Hy@RestoreSpaceFactor  
11670         \Hy@LinkMath  
11671         #1\Hy@xspace@end  
11672         \Hy@LinkMath  
11673         \Hy@SaveSpaceFactor  
11674       }%  
11675     \fi  
11676     \dimen@ht\pdf@box  
11677     \ifdim\dp\pdf@box=\z@
```

```

11678 \literalps@out{H.S}%
11679 \else
11680 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11681 \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...).

```

11682 \ifHy@breaklinks
11683 \ifhmode
11684 \Hy@breaklinksunhbox\pdf@box
11685 \else
11686 \box\pdf@box
11687 \fi
11688 \else
11689 \expandafter\box\pdf@box
11690 \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

```

```

11691 \ifdim\dimen@=\z@
11692 \literalps@out{H.R}%
11693 \else
11694 \raise\dimen@\hbox{\literalps@out{H.R}}%
11695 \fi
11696 \Hy@RestoreSpaceFactor
11697 \fi
11698 \ifx\pdf@type\Hy@DEST
11699 \else
11700 \pdf@addtoksx{H.B}%
11701 \fi
11702 }

```

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.

```

11703 \newtoks\pdf@toks
11704 \newtoks\pdf@defaulttoks
11705 \pdf@defaulttoks={}%
11706 \def\pdf@addtoks#1#2{%
11707 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
11708 \@processme
11709 }
11710 \def\pdf@addtoksx#1{%
11711 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11712 \@processme
11713 }
11714 \def\PDFdefaults#1{%
11715 \pdf@defaulttoks={#1}%
11716 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

11717 % what is the type of pdfmark?
11718 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11719 % what is the link type?
11720 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}

```

```

11721 \def\pdf@linktype{link}
11722 % parameter is a stream of PDF
11723 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11724 % parameter is a name
11725 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11726 % parameter is a array
11727 \define@key{PDF}{Border}{%
11728   \edef\Hy@temp{#1}%
11729   \ifx\Hy@temp\@empty
11730     \else
11731       \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
11732     \fi
11733 }
11734 \let\Hy@BorderArrayPatch\@empty
11735 % parameter is a dictionary
11736 \define@key{PDF}{BorderStyle}{%
11737   \edef\Hy@temp{#1}%
11738   \ifx\Hy@temp\@empty
11739     \else
11740       \pdf@addtoks{<<#1>>}{BS}%
11741     \fi
11742 }
11743 % parameter is a array
11744 \define@key{PDF}{Color}{%
11745   \ifx\relax#1\relax
11746     \else
11747       \pdf@addtoks{[#1]}{Color}% hash-ok
11748     \fi
11749 }
11750 % parameter is a string
11751 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11752 % parameter is a integer
11753 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11754 % parameter is a array
11755 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
11756 % parameter is a string
11757 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
11758 % parameter is a string or file
11759 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11760 % parameter is a destination
11761 \define@key{PDF}{Dest}{%
11762   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11763   \ifx\Hy@pstringDest\@empty
11764     \Hy@pdfmarkerrortrue
11765     \Hy@Warning{Destination with empty name ignored}%
11766   \else
11767     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11768   \fi
11769 }
11770 \define@key{PDF}{DestAnchor}{%
11771   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11772   \ifx\Hy@pstringDest\@empty
11773     \Hy@pdfmarkerrortrue
11774     \Hy@Warning{Destination with empty name ignored}%
11775   \else
11776     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11777   \fi

```



```

11778 }
11779 % parameter is a string
11780 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11781 % parameter is a string
11782 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
11783 % parameter is a int
11784 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11785 \define@key{PDF}{PDFAFlags}{%
11786   \ifHy@pdfa
11787     \pdf@addtoks{#1}{F}%
11788   \fi
11789 }
11790 % parameter is a name
11791 \define@key{PDF}{AcroHighlight}{%
11792   \begingroup
11793     \edef\x{#1}%
11794     \expandafter\endgroup\ifx\x\@empty
11795     \else
11796       \pdf@addtoks{#1}{H}%
11797     \fi
11798 }
11799 % parameter is a string
11800 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
11801 % parameter is a string
11802 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
11803 % parameter is a string
11804 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11805 % parameter is a string
11806 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
11807 % parameter is a Boolean
11808 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11809 % parameter is a integer or name
11810 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11811 % parameter is a name
11812 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11813 % parameter is a string
11814 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
11815 % parameter is a array
11816 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
11817 % parameter is a integer
11818 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
11819 % parameter is a name
11820 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
11821 % parameter is a string
11822 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
11823 % parameter is a string
11824 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
11825 % parameter is a string
11826 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
11827 % parameter is an array
11828 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
11829 % parameter is a string
11830 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

These are the keys used in the DOCINFO section.
11831 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
11832 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
11833 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}

```

```

11834 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11835 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
11836 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
11837 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
11838 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11839 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
11840 \define@key{PDF}{URI}{\pdf@addtoks{(#1)}{URI}}
11841 \define@key{PDF}{Trapped}{%
11842   \edef\Hy@temp{#1}%
11843   \ifx\Hy@temp\@empty
11844   \else
11845     \pdf@addtoks{/#1}{Trapped}%
11846   \fi
11847 }
11848
11849 </pdfmarkbase>
11850 <*pdfmark>
11851 \def\Acrobatmenu#1#2{%
11852   \EdefEscapeName\Hy@temp@menu{#1}%
11853   \Hy@Acrobatmenu{#1}{#2}{%
11854     \pdfmark[{#2}]{%
11855       linktype=menu,%
11856       pdfmark=/ANN,%
11857       AcroHighlight=\@pdfhighlight,%
11858       Border=\@pdfborder,%
11859       BorderStyle=\@pdfborderstyle,%
11860       Color=\@menubordercolor,%
11861       Action={<</Subtype/Named/N/\Hy@temp@menu>>},%
11862       Subtype=/Link,%
11863       PDFAFlags=4%
11864     }%
11865   }%
11866 }

```

And now for some useful examples:

```

11867 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}}
11868 \def\PDFNextPage@[#1]#2{%
11869   \pdfmark[{#2}]{%
11870     #1,%
11871     Border=\@pdfborder,%
11872     BorderStyle=\@pdfborderstyle,%
11873     Color=.2 .1 .5,%
11874     pdfmark=/ANN,%
11875     Subtype=/Link,%
11876     PDFAFlags=4,%
11877     Page=/Next%
11878   }%
11879 }
11880 \def\PDFPreviousPage{%
11881   \@ifnextchar{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
11882 }
11883 \def\PDFPreviousPage@[#1]#2{%
11884   \pdfmark[{#2}]{%
11885     #1,%
11886     Border=\@pdfborder,%
11887     BorderStyle=\@pdfborderstyle,%
11888     Color=.4 .4 .1,%
11889     pdfmark=/ANN,%

```

```

11890 Subtype=/Link,%
11891 PDFAFlags=4,%
11892 Page=/Prev%
11893 }%
11894 }
11895 \def\PDFOpen#1{%
11896 \pdfmark{#1,pdfmark=/DOCVIEW}%
11897 }

```

This will only work if you use Distiller 2.1 or higher.

```

11898 \def\hyper@linkurl#1#2{%
11899 \begingroup
11900 \Hy@pstringdef\Hy@pstringURI{#2}%
11901 \hyper@chars
11902 \leavevmode
11903 \pdfmark[{#1}]{%
11904 pdfmark=/ANN,%
11905 linktype=url,%
11906 AcroHighlight=\@pdfhighlight,%
11907 Border=\@pdfborder,%
11908 BorderStyle=\@pdfborderstyle,%
11909 Color=\@urlbordercolor,%
11910 Action={<<%
11911 /Subtype/URI%
11912 /URI(\Hy@pstringURI)%
11913 \ifHy@href@ismap
11914 /IsMap true%
11915 \fi
11916 >>},%
11917 Subtype=/Link,%
11918 PDFAFlags=4%
11919 }%
11920 \endgroup
11921 }
11922 \def\hyper@linkfile#1#2#3{%
11923 \begingroup
11924 \def\Hy@pstringF{#2}%
11925 \Hy@CleanupFile\Hy@pstringF
11926 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11927 \Hy@pstringdef\Hy@pstringD{#3}%
11928 \Hy@MakeRemoteAction
11929 \leavevmode
11930 \pdfmark[{#1}]{%
11931 pdfmark=/ANN,%
11932 Subtype=/Link,%
11933 PDFAFlags=4,%
11934 AcroHighlight=\@pdfhighlight,%
11935 Border=\@pdfborder,%
11936 BorderStyle=\@pdfborderstyle,%
11937 linktype=file,%
11938 Color=\@filebordercolor,%
11939 Action={%
11940 <<%
11941 /S/GoToR%
11942 \Hy@SetNewWindow
11943 /F(\Hy@pstringF)%
11944 /D%
11945 \ifx\#3\%

```

```

11946      [\Hy@href@page\@pdfremotestartview]%
11947      \else
11948      (\Hy@pstringD)cvn%
11949      \fi
11950      \Hy@href@nextactionraw
11951      >>%
11952    }%
11953  }%
11954  \endgroup
11955 }
11956 \def\@hyper@launch run:#1\|#2#3{%
11957   \begingroup
11958     \Hy@pstringdef\Hy@pstringF{#1}%
11959     \Hy@pstringdef\Hy@pstringP{#3}%
11960     \leavevmode
11961     \pdfmark[{#2}]{%
11962       pdfmark=/ANN,%
11963       Subtype=/Link,%
11964       PDFAFlags=4,%
11965       AcroHighlight=\@pdfhighlight,%
11966       Border=\@pdfborder,%
11967       BorderStyle=\@pdfborderstyle,%
11968       linktype=run,%
11969       Color=\@runbordercolor,%
11970       Action={%
11971         <<%
11972           /S/Launch%
11973           \Hy@SetNewWindow
11974           /F(\Hy@pstringF)%
11975           \ifx\|#3\|
11976           \else
11977             /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
11978           \fi
11979           \Hy@href@nextactionraw
11980         >>%
11981       }%
11982     }%
11983   \endgroup
11984 }
11985 \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.

```

11986 (*dvips)
11987 \providecommand*\XR@ext\{pdf}
11988 \let\Hy@raisedlink\ltx@empty
11989 \def\literals@out#1{\special{ps:SDict begin #1 end}}%
11990 \def\headers@out#1{\special{! #1}}%
11991 \input{pdfmark.def}%
11992 \ifx\@pdfproducer\relax

```

```

11993 \def\pdfproducer{dvips + Distiller}%
11994 \fi
11995 \providecommand*\pdfborder{0 0 1}
11996 \providecommand*\pdfborderstyle{}
11997 \providecommand*\pdfview{XYZ}
11998 \providecommand*\pdfviewparams{ H.V}
11999 \def\Hy@BorderArrayPatch{BorderArrayPatch}

12000 \g@addto@macro\Hy@FirstPageHook{%
12001 \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.

```

12002 /DvipsToPDF{72.27 mul Resolution div} def%
12003 /PDFToDvips{72.27 div Resolution mul} def%
12004 /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.

```

12005 /BorderArrayPatch{%
12006   [exch{%
12007     dup dup type/integertype eq exch type/realtype eq or%
12008     {BPToDvips}if%
12009   }forall]%
12010 }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.

```

12011 /HyperBorder {1 PDFToDvips} def%
12012 /H.V {pdf@hoff pdf@voff null} def%
12013 /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

```

12014 /H.S {%
12015   currentpoint %
12016   HyperBorder add /pdf@lly exch def %
12017   dup DvipsToPDF 72 add /pdf@hoff exch def %
12018   HyperBorder sub /pdf@llx exch def%
12019 } 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`

```

12020 /H.L {%
12021 2 sub dup%
12022 /HyperBasePt exch def %
12023 PDFToDvips /HyperBaseDvips exch def %
12024 currentpoint %
12025 HyperBaseDvips sub /pdf@ury exch def%
12026 /pdf@urx exch def%
12027 } def%
12028 /H.A {%
12029 H.L %
12030 % |pdf@voff| = the distance from the top of the page to a point
12031 % |\baselineskip| above the current point in PDF coordinates
12032 currentpoint exch pop %
12033 vsize 72 sub exch DvipsToPDF %
12034 HyperBasePt sub % baseline skip
12035 sub /pdf@voff exch def%
12036 } def%
12037 /H.R {%
12038 currentpoint %
12039 HyperBorder sub /pdf@ury exch def %
12040 HyperBorder add /pdf@urx exch def %
12041 % |pdf@voff| = the distance from the top of the page to the current point, in
12042 % PDF coordinates
12043 currentpoint exch pop vsize 72 sub %
12044 exch DvipsToPDF sub /pdf@voff exch def%
12045 } def%
12046 }%
12047 }
12048 \AtBeginShipoutFirst{%
12049 \ifHy@setpagesize
12050 \begingroup
12051 \ifundefined{stockwidth}{%
12052 \ifdim\paperwidth>\z@
12053 \ifdim\paperheight>\z@
12054 \special{papersize=\the\paperwidth,\the\paperheight}%
12055 \fi
12056 \fi
12057 }{%
12058 \ifdim\stockwidth>\z@
12059 \ifdim\stockheight>\z@
12060 \special{papersize=\the\stockwidth,\the\stockheight}%
12061 \fi
12062 \fi
12063 }%
12064 \endgroup
12065 \fi
12066 \Hy@DisableOption{setpagesize}%
12067 }
12068 </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.

```

12069 (*vtexpdfmark)
12070 \providecommand*\XR@ext}{pdf}
12071 \let\Hy@raisedlink\ltx@empty
12072 \def\literalps@out#1{\special{pS:#1}}%
12073 \def\headerps@out#1{\immediate\special{pS:#1}}%
12074 \input{pdfmark.def}%
12075 \ifx\@pdfproducer\relax
12076   \ifnum\OpMode=\@ne
12077     \def\@pdfproducer{VTeX}%
12078   \else
12079     \def\@pdfproducer{VTeX + Distiller}%
12080   \fi
12081 \fi
12082 \providecommand*\@pdfborder{0 0 1}
12083 \providecommand*\@pdfborderstyle{}
12084 \providecommand*\@pdfview{XYZ}
12085 \providecommand*\@pdfviewparams{ H.V}
12086 \g@addto@macro\Hy@FirstPageHook{%
12087   \headerps@out{%
12088     /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.

```

12089   /HyperBorder {1} def%
12090   /H.V {pdf@hoff pdf@voff null} def%
12091   /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

12092   /H.S {%
12093     currentpoint %
12094     HyperBorder sub%
12095     /pdf@lly exch def %
12096     dup 72 add /pdf@hoff exch def %
12097     HyperBorder sub%
12098     /pdf@llx exch def%
12099   } def%

```

The  $x$  and  $y$  coordinates of the current point, minus the `\baselineskip`:  $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$ ,  $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

12100   /H.L {%
12101     2 sub%
12102     /HyperBasePt exch def %
12103     currentpoint %
12104     HyperBasePt add HyperBorder add%
12105     /pdf@ury exch def %
12106     HyperBorder add%
12107     /pdf@urx exch def%
12108   } def%
12109   /H.A {%
12110     H.L %
12111     currentpoint exch pop %
12112     vsize 72 sub exch %
12113     HyperBasePt add add%
12114     /pdf@voff exch def%
12115   } def%

```

$\text{pdf@ury} = Y_c + \text{HyperBorder}$ ,  $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

12116 /H.R {%
12117     currentpoint %
12118     HyperBorder add%
12119     /pdf@ury exch def %
12120     HyperBorder add%
12121     /pdf@urx exch def %
12122     currentpoint exch pop vsize 72 sub add%
12123     /pdf@voff exch def%
12124 } def%
12125 }%
12126 }
12127 </vtxpdfmark>

```

## 47.11 Textures

```

12128 <*textures>
12129 \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.

```

12130 \begingroup
12131 \obeylines %
12132 \gdef\Hy@ps@CR{\noexpand
12133 }%
12134 \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`.

```

12135 \def\literalps@out#1{%
12136 \special{postscript 0 0 transform}%
12137 \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
12138 }%
12139 %

```

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.

```

12140 \def\headerps@out#1{%
12141 \special{%
12142     prepostscript TeXdict begin\Hy@ps@CR

```



```

12143      #1\Hy@ps@CR
12144      end%
12145    }%
12146  }%
12147 %

```

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.

```

12148 \g@addto@macro\Hy@FirstPageHook{%
12149   \headerps@out{%
12150     /betterpdfmark {%
12151       systemdict begin %
12152         dup /BP eq%
12153         {cleartomark gsave nulldevice []}%
12154         {dup /EP eq%
12155          {cleartomark cleartomark grestore}%
12156          {cleartomark}%
12157         ifelse%
12158       }ifelse %
12159     end%
12160   }def\Hy@ps@CR
12161   ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
12162 }% end of \headerps@out
12163 }% end of \AtBeginShipoutFirst
12164 %
12165 \input{pdfmark.def}%
12166 %
12167 \ifx\@pdfproducer\relax
12168   \def\@pdfproducer{Textures + Distiller}%
12169 \fi
12170 \providecommand*\@pdfborder{0 0 1}
12171 \providecommand*\@pdfborderstyle{}
12172 \providecommand*\@pdfview{XYZ}
12173 \providecommand*\@pdfviewparams{ H.V}
12174 %

```

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  $\text{\TeX}$ .

```

12175 \Hy@AtBeginDocument{%
12176   \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

12177     /vsize {\Hy@pageheight} def%
12178     /DvipsToPDF {} def%
12179     /PDFToDvips {} def%
12180     /BPToDvips {} def%
12181     /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
12182     /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
12183     /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
12184     /H.S {%
12185       currentpoint %
12186       HyperBorder add /pdf@lly exch def %

```

```

12187     dup DvipsToPDF 72 add /pdf@hoff exch def %
12188     HyperBorder sub /pdf@llx exch def%
12189   } def\Hy@ps@CR
12190 /H.L {%
12191   2 sub %
12192   PDFToDvips /HyperBase exch def %
12193   currentpoint %
12194   HyperBase sub /pdf@ury exch def%
12195   /pdf@urx exch def%
12196 } def\Hy@ps@CR
12197 /H.A {%
12198   H.L %
12199   currentpoint exch pop %
12200   vsize 72 sub exch DvipsToPDF %
12201   HyperBase sub % baseline skip
12202   sub /pdf@voff exch def%
12203 } def\Hy@ps@CR
12204 /H.R {%
12205   currentpoint %
12206   HyperBorder sub /pdf@ury exch def %
12207   HyperBorder add /pdf@urx exch def %
12208   currentpoint exch pop vsize 72 sub %
12209   exch DvipsToPDF sub /pdf@voff exch def%
12210 } def\Hy@ps@CR
12211 }%
12212 }

12213 \Hy@AtBeginDocument{%
12214   \ifHy@colorlinks
12215     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
12216   \fi
12217 }

```

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.

```

12218 \expandafter\let\expandafter\keepPDF@SetupDoc
12219   \csname PDF@SetupDoc\endcsname
12220 \def\PDF@SetupDoc{%
12221   \ifx\@baseurl\@empty
12222   \else
12223     \special{html:<base href="\@baseurl">}%
12224   \fi
12225   \keepPDF@SetupDoc
12226 }
12227 \Hy@WrapperDef\hyper@anchor#1{%
12228   \Hy@SaveLastskip
12229   \Hy@VerboseAnchor{#1}%
12230   \begingroup
12231     \let\protect=\string
12232     \special{html:<a name=%
12233       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12234   \endgroup
12235   \Hy@activeanchortrue
12236   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12237   \special{html:</a>}%
12238   \Hy@activeanchorfalse
12239   \Hy@RestoreLastskip

```

```

12240 }
12241 \Hy@WrapperDef\hyper@anchorstart#1{%
12242   \Hy@SaveLastskip
12243   \Hy@VerboseAnchor{#1}%
12244   \begingroup
12245     \hyper@chars
12246     \special{html:<a name=%
12247       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12248   \endgroup
12249   \Hy@activeanchortrue
12250 }
12251 \def\hyper@anchorend{%
12252   \special{html:</a>}%
12253   \Hy@activeanchorfalse
12254   \Hy@RestoreLastskip
12255 }
12256 \def\@urltype{url}
12257 \def\hyper@linkstart#1#2{%
12258   \Hy@VerboseLinkStart{#1}{#2}%
12259   \expandafter\Hy@colorlink\csname @#1color\endcsname
12260   \def\Hy@tempa{#1}%
12261   \ifx\Hy@tempa\@urltype
12262     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12263   \else
12264     \begingroup
12265       \hyper@chars
12266       \special{%
12267         html:<a href=%
12268           \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>%
12269       }%
12270     \endgroup
12271   \fi
12272 }
12273 \def\hyper@linkend{%
12274   \special{html:</a>}%
12275   \Hy@endcolorlink
12276 }
12277 \def\hyper@linkfile#1#2#3{%
12278   \hyper@linkurl{#1}{%
12279     \Hy@linkfileprefix#2\ifx\#3\\\else\##3\fi
12280   }%
12281 }
12282 \def\hyper@linkurl#1#2{%
12283   \leavevmode
12284   \ifHy@raiselinks
12285     \Hy@SaveSpaceFactor
12286     \Hy@SaveSavedSpaceFactor
12287     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12288     \Hy@RestoreSavedSpaceFactor
12289     \@linkdim\dp\@tempboxa
12290     \lower\@linkdim\hbox{%
12291       \hyper@chars
12292       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12293     }%
12294     \Hy@colorlink\@urlcolor
12295     \Hy@RestoreSpaceFactor
12296     #1\Hy@xspace@end

```

```

12297 \Hy@SaveSpaceFactor
12298 \@linkdim\ht\@tempboxa
12299 \advance\@linkdim by -6.5\p@
12300 \raise\@linkdim\hbox{\special{html:</a>}}}%
12301 \Hy@endcolorlink
12302 \Hy@RestoreSpaceFactor
12303 \else
12304 \begingroup
12305 \hyper@chars
12306 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12307 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
12308 \special{html:</a>}%
12309 \Hy@endcolorlink
12310 \endgroup
12311 \fi
12312 }

```

Very poor implementation of \hyper@link without considering #1.

```

12313 \def\hyper@link#1#2#3{%
12314 \Hy@VerboseLinkStart{#1}{#2}%
12315 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
12316 }
12317 \def\hyper@image#1#2{%
12318 \begingroup
12319 \hyper@chars
12320 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
12321 \endgroup
12322 }
12323 </textures>

```

## 47.12 dvipsone

```

12324 % \subsection{dvipsone driver}
12325 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
12326 % |\special| commands.
12327 (*dvipsone)
12328 \providecommand*\XR@ext}{pdf}
12329 \let\Hy@raisedlink\ltx@empty
12330 \providecommand*\@pdfborder{0 0 1}
12331 \providecommand*\@pdfborderstyle{}
12332 \def\literalps@out#1{\special{ps:#1}}%
12333 \def\headerps@out#1{\special{headertext=#1}}%
12334 \input{pdfmark.def}%
12335 \ifx\@pdfproducer\relax
12336 \def\@pdfproducer{dvipsone + Distiller}%
12337 \fi
12338 \HyInfo@AddonUnsupportedtrue
12339 \def\PDF@FinishDoc{%
12340 \Hy@UseMaketitleInfos
12341 \HyInfo@TrappedUnsupported
12342 \special{PDF: Keywords \@pdfkeywords}%
12343 \special{PDF: Title \@pdftitle}%
12344 \special{PDF: Creator \@pdfcreator}%
12345 \ifx\@pdfcreationdate\@empty
12346 \else
12347 \special{PDF: CreationDate \@pdfcreationdate}%
12348 \fi
12349 \ifx\@pdfmoddate\@empty

```

```

12350 \else
12351   \special{PDF: ModDate \@pdfmoddate}%
12352 \fi
12353 \special{PDF: Author \@pdfauthor}%
12354 \ifx\@pdfproducer\relax
12355 \else
12356   \special{PDF: Producer \@pdfproducer}%
12357 \fi
12358 \special{PDF: Subject \@pdfsubject}%
12359 \Hy@DisableOption{pdfauthor}%
12360 \Hy@DisableOption{pdftitle}%
12361 \Hy@DisableOption{pdfsubject}%
12362 \Hy@DisableOption{pdfcreator}%
12363 \Hy@DisableOption{pdfcreationdate}%
12364 \Hy@DisableOption{pdfmoddate}%
12365 \Hy@DisableOption{pdfproducer}%
12366 \Hy@DisableOption{pdfkeywords}%
12367 \Hy@DisableOption{pdftrapped}%
12368 \Hy@DisableOption{pdfinfo}%
12369 }
12370 \def\PDF@SetupDoc{%
12371   \def\Hy@temp{}%
12372   \ifx\@pdfstartpage\@empty
12373   \else
12374     \ifx\@pdfstartview\@empty
12375     \else
12376       \edef\Hy@temp{%
12377         ,Page=\@pdfstartpage
12378         ,View=\@pdfstartview
12379       }%
12380     \fi
12381   \fi
12382   \edef\Hy@temp{%
12383     \noexpand\pdfmark{%
12384       pdfmark=/DOCVIEW,%
12385       PageMode=/\@pdfpagemode
12386     }\Hy@temp
12387   }%
12388 }%
12389 \Hy@temp
12390 \ifx\@pdfpagescrop\@empty
12391 \else
12392   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
12393 \fi
12394 \edef\Hy@temp{%
12395   \ifHy@pdftoolbar\else /HideToolbar true\fi
12396   \ifHy@pdfmenubar\else /HideMenubar true\fi
12397   \ifHy@pdfwindowui\else /HideWindowUI true\fi
12398   \ifHy@pdfwindow /FitWindow true\fi
12399   \ifHy@pdfcenterwindow /CenterWindow true\fi
12400   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12401   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12402   \Hy@UseNameKey{Direction}\@pdfdirection
12403   \Hy@UseNameKey{ViewArea}\@pdfviewarea
12404   \Hy@UseNameKey{ViewClip}\@pdfviewclip
12405   \Hy@UseNameKey{PrintArea}\@pdfprintarea
12406   \Hy@UseNameKey{PrintClip}\@pdfprintclip

```

```

12407 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12408 \Hy@UseNameKey{Duplex}\@pdfduplex
12409 \ifx\@pdfpicktraybypdfsize\@empty
12410 \else
12411 /PickTrayByPDFSize \@pdfpicktraybypdfsize
12412 \fi
12413 \ifx\@pdfprintpagerange\@empty
12414 \else
12415 /PrintPageRange[\@pdfprintpagerange]%
12416 \fi
12417 \ifx\@pdfnumcopies\@empty
12418 \else
12419 /NumCopies \@pdfnumcopies
12420 \fi
12421 }%
12422 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12423 \pdfmark{%
12424 pdfmark=/PUT,%
12425 Raw={%
12426 \string{Catalog\string}<<%
12427 \ifx\Hy@temp\@empty
12428 \else
12429 /ViewerPreferences<<\Hy@temp>>%
12430 \fi
12431 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12432 \ifx\@pdflang\@empty
12433 \else
12434 /Lang(\@pdflang)%
12435 \fi
12436 \ifx\@baseurl\@empty
12437 \else
12438 /URI<</Base(\Hy@pstringB)>>%
12439 \fi
12440 >>%
12441 }%
12442 }%
12443 }
12444 \providecommand*\@pdfview{XYZ}
12445 \providecommand*\@pdfviewparams{ %
12446 gsave revscl currentpoint grestore %
12447 72 add exch pop null exch null%
12448 }
12449 \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  $\text{\TeX}$ .

```

12450 \g@addto@macro\Hy@FirstPageHook{%
12451 \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

12452 /DvipsToPDF { 65781 div } def%
12453 /PDFToDvips { 65781 mul } def%
12454 /BPToDvips{65781 mul}def%
12455 /HyperBorder { 1 PDFToDvips } def%
12456 /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.

```

12457 /BorderArrayPatch{%
12458   [exch{%
12459     dup dup type/integertype eq exch type/realtype eq or%
12460     {BPToDvips}if%
12461   }forall]%
12462 }def%
12463 /H.S {%
12464   currentpoint %
12465   HyperBorder add /pdf@lly exch def %
12466   dup DvipsToPDF 72 add /pdf@hoff exch def %
12467   HyperBorder sub /pdf@llx exch def%
12468 } def%
12469 /H.L {%
12470   2 sub %
12471   PDFToDvips /HyperBase exch def %
12472   currentpoint %
12473   HyperBase sub /pdf@ury exch def%
12474   /pdf@urx exch def%
12475 } def%
12476 /H.A {%
12477   H.L %
12478   currentpoint exch pop %
12479   HyperBase sub % baseline skip
12480   DvipsToPDF /pdf@voff exch def%
12481 } def%
12482 /H.R {%
12483   currentpoint %
12484   HyperBorder sub /pdf@ury exch def %
12485   HyperBorder add /pdf@urx exch def %
12486   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12487 } def%
12488 }%
12489 }
12490 </dvipsone>

```

## 47.13 TeX4ht

```

12491 (*tex4ht)
12492 \providecommand*\XR@ext>{html}
12493 \let\Hy@raisedlink\ltx@empty
12494 \@ifpackageloaded{tex4ht}{%
12495   \Hy@InfoNoLine{tex4ht is already loaded}%
12496 }{%
12497   \RequirePackage[hTeX4ht]{tex4ht}%
12498 }
12499 \hyperlinkfileprefix{}
12500 \let\PDF@FinishDoc\ltx@empty
12501 \def\PDF@SetupDoc{%
12502   \ifx\@baseurl\@empty
12503   \else
12504     \special{t4ht=<base href="\@baseurl">}%
12505   \fi
12506 }
12507 \Hy@WrapperDef\hyper@anchor#1{%
12508   \Hy@SaveLastskip

```

```

12509 \Hy@VerboseAnchor{#1}%
12510 \begingroup
12511 \let\protect=\string
12512 \special{t4ht=<a name=%
12513 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
12514 \endgroup
12515 \Hy@activeanchortrue
12516 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12517 \special{t4ht=</a>}}%
12518 \Hy@activeanchorfalse
12519 \Hy@RestoreLastskip
12520 }
12521 \Hy@WrapperDef\hyper@anchorstart#1{%
12522 \Hy@SaveLastskip
12523 \Hy@VerboseAnchor{#1}%
12524 \begingroup
12525 \hyper@chars\special{t4ht=<a name=%
12526 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
12527 \endgroup
12528 \Hy@activeanchortrue
12529 }
12530 \def\hyper@anchorend{%
12531 \special{t4ht=</a>}}%
12532 \Hy@activeanchorfalse
12533 \Hy@RestoreLastskip
12534 }
12535 \def\@urltype{url}
12536 \def\hyper@linkstart#1#2{%
12537 \Hy@VerboseLinkStart{#1}{#2}%
12538 \expandafter\Hy@colorlink\csname @#1color\endcsname
12539 \def\Hy@tempa{#1}%
12540 \ifx\Hy@tempa\@urltype
12541 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
12542 \else
12543 \begingroup
12544 \hyper@chars
12545 \special{t4ht=<a href=%
12546 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}}%
12547 \endgroup
12548 \fi
12549 }
12550 \def\hyper@linkend{%
12551 \special{t4ht=</a>}}%
12552 \Hy@endcolorlink
12553 }
12554 \def\hyper@linkfile#1#2#3{%
12555 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
12556 }
12557 \def\hyper@linkurl#1#2{%
12558 \leavevmode
12559 \ifHy@raiselinks
12560 \Hy@SaveSpaceFactor
12561 \Hy@SaveSavedSpaceFactor
12562 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12563 \Hy@RestoreSavedSpaceFactor
12564 \@linkdim\dp\@tempboxa
12565 \lower\@linkdim\hbox{%

```



```

12566 \begingroup
12567 \hyper@chars
12568 \special{%
12569 t4ht=<a href=\hyper@quote#2\hyper@quote>%
12570 }%
12571 \endgroup
12572 }%
12573 \Hy@colorlink\@urlcolor
12574 \Hy@RestoreSpaceFactor
12575 #1\Hy@xspace@end
12576 \Hy@SaveSpaceFactor
12577 \Hy@endcolorlink
12578 \@linkdim\ht\@tempboxa
12579 \advance\@linkdim by -6.5\p@
12580 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12581 \Hy@RestoreSpaceFactor
12582 \else
12583 \begingroup
12584 \hyper@chars
12585 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12586 \Hy@colorlink\@urlcolor
12587 #1\Hy@xspace@end
12588 \Hy@endcolorlink
12589 \special{t4ht=</a>}}%
12590 \endgroup
12591 \fi
12592 }

```

Poor implementation of \hyper@link without considering #1.

```

12593 \def\hyper@link#1#2#3{%
12594 \Hy@VerboseLinkStart{#1}{#2}%
12595 \hyper@linkurl{#3}{\#\Hy@HyperDestNameFilter{#2}}%
12596 }
12597 \def\hyper@image#1#2{%
12598 \begingroup
12599 \hyper@chars
12600 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12601 \endgroup
12602 }
12603 \let\autoref\ref
12604 \ifx \rEFLiNK \UnDef
12605 \def\rEFLiNK #1#2{#2}%
12606 \fi
12607 \let\backref\ltx@gobble

```

Fix for tex4ht.

```

12608 \AtBeginDocument{%
12609 \expandafter
12610 \let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
12611 \expandafter\def\csname Make:Label\endcsname#1#2{%
12612 \ifhmode
12613 \Hy@SaveSpaceFactor
12614 \else
12615 \global\Hy@SavedSpaceFactor=1000 %
12616 \fi
12617 \Hy@OrgMakeLabel{#1}{%
12618 \Hy@RestoreSpaceFactor
12619 #2\Hy@xspace@end%
12620 \Hy@SaveSpaceFactor

```

```

12621 }%
12622 \Hy@RestoreSpaceFactor
12623 }%
12624 }
12625 \</tex4ht>
12626 \<*tex4htcfg>
12627 \IfFileExists{\jobname.cfg}{\endinput}{}
12628 \Preamble{html}
12629 \begin{document}%
12630 \EndPreamble
12631 \def\TeX{TeX}
12632 \def\OMEGA{Omega}
12633 \def\LaTeX{LaTeX}
12634 \def\LaTeXe{\LaTeX2e}
12635 \def\TeX{e-TeX}
12636 \def\MF{Metafont}
12637 \def\MP{MetaPost}
12638 \</tex4htcfg>

```

## 48 Driver-specific form support

### 48.1 pdfmarks

```

12639 \<*pdfmark>
12640 \long\def\@Form[#1]{%
12641 \g@addto@macro\Hy@FirstPageHook{%
12642 \headerps@out{%
12643 [%
12644 /_objdef{pdfDocEncoding}%
12645 /type/dict%
12646 /OBJ pdfmark%
12647 [%
12648 {pdfDocEncoding}%
12649 <<%
12650 /Type/Encoding%
12651 /Differences[%
12652 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
12653 /tilde %
12654 39/quotesingle %
12655 96/grave %
12656 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12657 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12658 /quotedblbase/quotedblleft/quotedblright/quoteleft%
12659 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
12660 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12661 164/currency %
12662 166/brokenbar %
12663 168/dieresis/copyright/ordfeminine %
12664 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12665 /twosuperior/threesuperior/acute/mu %
12666 183/periodcentered/cedilla/onesuperior/ordmasculine %
12667 188/onequarter/onehalf/threequarters %
12668 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12669 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12670 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12671 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12672 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12673 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%

```

```

12674      /cedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12675      /iacute/icircumflex/idieresis/eth/ntilde/ograve/oacute%
12676      /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
12677      /ucircumflex/udieresis/yacute/thorn/ydieresis%
12678  ]%
12679  >>%
12680 /PUT pdfmark%
12681 [%
12682   /_objdef{ZaDb}%
12683   /type/dict%
12684 /OBJ pdfmark%
12685 [%
12686   {ZaDb}%
12687   <<%
12688     /Type/Font%
12689     /Subtype/Type1%
12690     /Name/ZaDb%
12691     /BaseFont/ZapfDingbats%
12692   >>%
12693 /PUT pdfmark%
12694 [%
12695   /_objdef{Helv}%
12696   /type/dict%
12697 /OBJ pdfmark%
12698 [%
12699   {Helv}%
12700   <<%
12701     /Type/Font%
12702     /Subtype/Type1%
12703     /Name/Helv%
12704     /BaseFont/Helvetica%
12705     /Encoding{pdfDocEncoding}%
12706   >>%
12707 /PUT pdfmark%
12708 [%
12709   /_objdef{aform}%
12710   /type/dict%
12711 /OBJ pdfmark%
12712 [%
12713   /_objdef{afields}%
12714   /type/array%
12715 /OBJ pdfmark%
12716 {%
12717   [%
12718     /BBox[0 0 100 100]%
12719     /_objdef{Check}%
12720 /BP pdfmark %
12721 1 0 0 setrgbcolor%
12722 /ZapfDingbats 80 selectfont %
12723 20 20 moveto%
12724 (4)show%
12725 [/EP pdfmark%
12726 [%
12727   /BBox[0 0 100 100]%
12728   /_objdef{Cross}%
12729 /BP pdfmark %
12730 1 0 0 setrgbcolor%

```

```

12731 /ZapfDingbats 80 selectfont %
12732 20 20 moveto%
12733 (8)show%
12734 [/EP pdfmark%
12735 [%
12736 /BBox[0 0 250 100]%
12737 /_objdef{Submit}%
12738 /BP pdfmark %
12739 0.6 setgray %
12740 0 0 250 100 rectfill %
12741 1 setgray %
12742 2 2 moveto %
12743 2 98 lineto %
12744 248 98 lineto %
12745 246 96 lineto %
12746 4 96 lineto %
12747 4 4 lineto %
12748 fill %
12749 0.34 setgray %
12750 248 98 moveto %
12751 248 2 lineto %
12752 2 2 lineto %
12753 4 4 lineto %
12754 246 4 lineto %
12755 246 96 lineto %
12756 fill%
12757 /Helvetica 76 selectfont %
12758 0 setgray %
12759 8 22.5 moveto%
12760 (Submit)show%
12761 [/EP pdfmark%
12762 [%
12763 /BBox[0 0 250 100]%
12764 /_objdef{SubmitP}%
12765 /BP pdfmark %
12766 0.6 setgray %
12767 0 0 250 100 rectfill %
12768 0.34 setgray %
12769 2 2 moveto %
12770 2 98 lineto %
12771 248 98 lineto %
12772 246 96 lineto %
12773 4 96 lineto %
12774 4 4 lineto %
12775 fill %
12776 1 setgray %
12777 248 98 moveto %
12778 248 2 lineto %
12779 2 2 lineto %
12780 4 4 lineto %
12781 246 4 lineto %
12782 246 96 lineto %
12783 fill%
12784 /Helvetica 76 selectfont %
12785 0 setgray %
12786 10 20.5 moveto%
12787 (Submit)show%

```

```

12788 [/EP pdfmark%
12789 } ?pdfmark%
12790 [%
12791 {aform}%
12792 <<%
12793 /Fields{afields}%
12794 /DR<<%
12795 /Font<<%
12796 /ZaDb{ZaDb}%
12797 /Helv{Helv}%
12798 >>%
12799 >>%
12800 /DA(/Helv 10 Tf 0 g)%
12801 /CO{corder}%
12802 \ifHy@pdfa
12803 \else
12804 \ifHyField@NeedAppearances
12805 /NeedAppearances true%
12806 \fi
12807 \fi
12808 >>%
12809 /PUT pdfmark%
12810 [%
12811 {Catalog}%
12812 <<%
12813 /AcroForm{aform}%
12814 >>%
12815 /PUT pdfmark%
12816 [%
12817 /__objdef{corder}%
12818 /type/array%
12819 /OBJ pdfmark% dps
12820 }}%
12821 \kvsetkeys{Form}{#1}%
12822 }
12823 \let\@endForm\ltx@empty
12824 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12825 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12826 }
12827 \def\@TextField[#1]#2{% parameters, label
12828 \def\Fld@name{#2}%
12829 \let\Fld@default\ltx@empty
12830 \let\Fld@value\@empty
12831 \def\Fld@width{\DefaultWidthofText}%
12832 \def\Fld@height{%
12833 \ifFld@multiline
12834 \DefaultHeightofTextMultiline
12835 \else
12836 \DefaultHeightofText
12837 \fi
12838 }%
12839 \begingroup
12840 \expandafter\HyField@SetKeys\expandafter{%
12841 \DefaultOptionsofText,#1%
12842 }%
12843 \HyField@FlagsText
12844 \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

12845 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12846 \LayoutTextField{#2}{%
12847   \leavevmode
12848   \Hy@escapeform\PDFForm@Text
12849   \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
12850     pdfmark=/ANN,Raw={\PDFForm@Text}%
12851   }%
12852 }%
12853 \endgroup
12854 }
12855 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12856 \def\Fld@name{#2}%
12857 \let\Fld@default\relax
12858 \let\Fld@value\relax
12859 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12860 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12861 \begingroup
12862 \Fld@menulength=0 %
12863 \@tempdima\z@
12864 \@for\@curropt:=#3\do{%
12865   \expandafter\Fld@checkequals\@curropt==\%
12866   \Hy@StepCount\Fld@menulength
12867   \settowidth{\@tempdimb}{\@currDisplay}%
12868   \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12869 }%
12870 \advance\@tempdima by 15\p@
12871 \begingroup
12872 \HyField@SetKeys{#1}%
12873 \edef\x{\endgroup
12874   \noexpand\expandafter
12875   \noexpand\HyField@SetKeys
12876   \noexpand\expandafter{%
12877     \expandafter\noexpand\csname DefaultOptionsof%
12878       \ifFld@radio
12879         Radio%
12880       \else
12881         \ifFld@combo
12882           \ifFld@popdown
12883             PopdownBox%
12884           \else
12885             ComboBox%
12886           \fi
12887         \else
12888           ListBox%
12889         \fi
12890       \fi
12891     \endcsname
12892   }%
12893 }\x
12894 \HyField@SetKeys{#1}%
12895 \ifFld@hidden\def\Fld@width{1sp}\fi
12896 \ifx\Fld@value\relax
12897   \let\Fld@value\Fld@default
12898 \fi
12899 \LayoutChoiceField{#2}{%
12900   \ifFld@radio
12901     \HyField@FlagsRadioButton

```

```

12902     \@@Radio{#3}%
12903 \else
12904 \begingroup
12905     \HyField@FlagsChoice
12906     \ifdim\Fld@width<\@tempdima
12907         \ifdim\@tempdima<1cm\@tempdima1cm\fi
12908         \edef\Fld@width{\the\@tempdima}%
12909     \fi
12910     \ifFld@combo
12911     \else
12912         \@tempdima=\the\Fld@menulength\Fld@charsize
12913         \advance\@tempdima by \Fld@borderwidth bp %
12914         \advance\@tempdima by \Fld@borderwidth bp %
12915         \edef\Fld@height{\the\@tempdima}%
12916     \fi
12917     \@@ListBox{#3}%
12918 \endgroup
12919 \fi
12920 }%
12921 \endgroup
12922 }
12923 \def\@@Radio#1{%
12924     \Fld@listcount=0 %
12925     \EdefEscapeName\Fld@default{\Fld@default}%
12926     \@for\@curropt:=#1\do{%
12927         \expandafter\Fld@checkequals\@curropt==\%
12928         \EdefEscapeName\@currValue{\@currValue}%
12929         \Hy@StepCount\Fld@listcount
12930         \@currDisplay\space
12931         \Hy@escapeform\PDFForm@Radio
12932         \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12933             pdfmark=/ANN,%
12934             Raw={%
12935                 \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12936             }%
12937         } % deliberate space between radio buttons
12938     }%
12939 }
12940 \newcount\Fld@listcount
12941 \def\@@ListBox#1{%
12942     \HyField@PDFChoices{#1}%
12943     \Hy@escapeform\PDFForm@List
12944     \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12945         pdfmark=/ANN,Raw={\PDFForm@List}%
12946     }%
12947 }
12948 \def\@PushButton[#1]#2{% parameters, label
12949     \def\Fld@name{#2}%
12950     \begingroup
12951         \expandafter\HyField@SetKeys\expandafter{%
12952             \DefaultOptionsofPushButton,#1%
12953         }%
12954         \ifHy@pdfa
12955             \Hy@Error{%
12956                 PDF/A: Push button with JavaScript is prohibited%
12957             }\@ehc
12958         \LayoutPushButtonField{%

```

```

12959     \leavevmode
12960     \MakeButtonField{#2}%
12961 }%
12962 \else
12963     \HyField@FlagsPushButton
12964     \ifFld@hidden\def\Fld@width{1sp}\fi
12965     \LayoutPushButtonField{%
12966         \leavevmode
12967         \Hy@escapeform\PDFForm@Push
12968         \pdfmark[\MakeButtonField{#2}]{%
12969             pdfmark=/ANN,Raw={\PDFForm@Push}%
12970         }%
12971     }%
12972 \fi
12973 \endgroup
12974 }
12975 \def\@Submit[#1]#2{%
12976     \def\Fld@width{\DefaultWidthofSubmit}%
12977     \def\Fld@height{\DefaultHeightofSubmit}%
12978     \begingroup
12979         \expandafter\HyField@SetKeys\expandafter{%
12980             \DefaultOptionsofSubmit,#1%
12981         }%
12982         \HyField@FlagsPushButton
12983         \HyField@FlagsSubmit
12984         \ifFld@hidden\def\Fld@width{1sp}\fi
12985         \Hy@escapeform\PDFForm@Submit
12986         \pdfmark[\MakeButtonField{#2}]{%
12987             pdfmark=/ANN,%
12988             Raw={\PDFForm@Submit /AP << /N {Submit} /D {SubmitP} >>}%
12989         }%
12990     \endgroup
12991 }
12992 \def\@Reset[#1]#2{%
12993     \def\Fld@width{\DefaultWidthofReset}%
12994     \def\Fld@height{\DefaultHeightofReset}%
12995     \begingroup
12996         \expandafter\HyField@SetKeys\expandafter{%
12997             \DefaultOptionsofReset,#1%
12998         }%
12999         \leavevmode
13000         \ifHy@pdfa
13001             \Hy@Error{%
13002                 PDF/A: Reset action is prohibited%
13003             }\@ehc
13004             \MakeButtonField{#2}%
13005         \else
13006             \HyField@FlagsPushButton
13007             \ifFld@hidden\def\Fld@width{1sp}\fi
13008             \Hy@escapeform\PDFForm@Reset
13009             \pdfmark[\MakeButtonField{#2}]{%
13010                 pdfmark=/ANN,Raw={\PDFForm@Reset}%
13011             }%
13012         \fi
13013     \endgroup
13014 }%
13015 \def\@CheckBox[#1]#2{% parameters, label

```



```

13016 \def\Fld@name{#2}%
13017 \def\Fld@default{0}%
13018 \begingroup
13019 \def\Fld@width{\DefaultWidthofCheckBox}%
13020 \def\Fld@height{\DefaultHeightofCheckBox}%
13021 \expandafter\HyField@SetKeys\expandafter{%
13022 \DefaultOptionsofCheckBox,#1%
13023 }%
13024 \HyField@FlagsCheckBox
13025 \ifFld@hidden\def\Fld@width{1sp}\fi
13026 \LayoutCheckBox{#2}{%
13027 \leavevmode
13028 \Hy@escapeform\PDFForm@Check
13029 \pdfmark{\MakeCheckField{\Fld@width}{\Fld@height}}{%
13030 pdfmark=/ANN,Raw={\PDFForm@Check}%
13031 }%
13032 }%
13033 \endgroup
13034 }
13035 \pdfmark>

```

## 48.2 HyperTeX

```

13036 \hypertex>
13037 \def\@Form[#1]{%
13038 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13039 }
13040 \let\@endForm\ltx@empty
13041 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13042 \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
13043 }
13044 \def\@TextField[#1]#2{% parameters, label
13045 \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
13046 }
13047 \def\@CheckBox[#1]#2{% parameters, label
13048 \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
13049 }
13050 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13051 \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
13052 }
13053 \def\@PushButton[#1]#2{% parameters, label
13054 \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
13055 }
13056 \def\@Reset[#1]#2{%
13057 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13058 }
13059 \def\@Submit[#1]#2{%
13060 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
13061 }
13062 \hypertex>

```

## 48.3 TeX4ht

```

13063 \tex4ht>
13064 \def\@Form[#1]{%
13065 \kvsetkeys{Form}{#1}%
13066 \HCode{<form action="\Form@action" method="\Form@method">}%
13067 }
13068 \def\@endForm{\HCode{</form>}}

```

```

13069 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13070 \Hy@Message{Sorry, TeX4ht does not support gauges}%
13071 }
13072 \def\@TextField[#1]#2{% parameters, label
13073 \let\Hy@reserved@a\@empty
13074 \def\Fld@name{#2}%
13075 \let\Fld@default\ltx@empty
13076 \bgroup
13077 \Field@toks={ }%
13078 \kvsetkeys{Field}{#1}%
13079 \HCode{<label for="\Fld@name">#2</label>}%
13080 \ifFld@password
13081 \@@PasswordField
13082 \else
13083 \@@TextField
13084 \fi
13085 \egroup
13086 }
13087 \def\@@PasswordField{%
13088 \HCode{%
13089 <input type="password" %
13090 id="\Fld@name" %
13091 name="\Fld@name" %
13092 \ifFld@hidden type="hidden" \fi
13093 value="\Fld@default" %
13094 \the\Field@toks
13095 >%
13096 }%
13097 }
13098 \def\@@TextField{%
13099 \ifFld@multiline
13100 \HCode{<textarea %
13101 \ifFld@readonly readonly \fi
13102 id="\Fld@name" %
13103 name="\Fld@name" %
13104 \ifFld@hidden type="hidden" \fi
13105 \the\Field@toks>%
13106 }%
13107 \Fld@default
13108 \HCode{</textarea>}%
13109 \else
13110 \HCode{<input type="text" %
13111 \ifFld@readonly readonly \fi
13112 id="\Fld@name" %
13113 name="\Fld@name" %
13114 \ifFld@hidden type="hidden" \fi
13115 value="\Fld@default" %
13116 \the\Field@toks>%
13117 }%
13118 \fi
13119 }
13120 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13121 \def\Fld@name{#2}%
13122 \let\Fld@default\ltx@empty
13123 \let\Hy@reserved@a\relax
13124 \begingroup
13125 \expandafter\Fld@findlength#3\\%

```

```

13126 \Field@toks={ }%
13127 \kvsetkeys{Field}{#1}%
13128 #2%
13129 \ifFld@radio
13130 \expandafter\@@Radio#3\\%
13131 \else
13132 \expandafter\@@Menu#3\\%
13133 \fi
13134 \endgroup
13135 }
13136 \def\Fld@findlength#1\\{%
13137 \Fld@menulength=0 %
13138 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
13139 }
13140 \def\@@Menu#1\\{%
13141 \HCode{<select size="\the\Fld@menulength" %
13142 name="\Fld@name" %
13143 \the\Fld@toks>%
13144 }%
13145 \@for\@curropt:=#1\do{%
13146 \expandafter\Fld@checkequals\@curropt==\\%
13147 \HCode{<option %
13148 \ifx\@curropt\Fld@default selected \fi
13149 value="\@currValue">\@currDisplay</option>%
13150 }%
13151 }%
13152 \HCode{</select>}%
13153 }
13154 \def\@@Radio#1\\{%
13155 \@for\@curropt:=#1\do{%
13156 \expandafter\Fld@checkequals\@curropt==\\%
13157 \HCode{<input type="radio" %
13158 \ifx\@curropt\Fld@default checked \fi
13159 name="\Fld@name" %
13160 value="\@currValue" %
13161 \the\Fld@toks>%
13162 }%
13163 \@currDisplay
13164 }%
13165 }
13166 \def\@PushButton[#1]#2{% parameters, label
13167 \def\Fld@name{#2}%
13168 \bgroup
13169 \Field@toks={ }%
13170 \kvsetkeys{Field}{#1}%
13171 \HCode{<input type="button" %
13172 name="\Fld@name" %
13173 value="#2" %
13174 \the\Fld@toks>%
13175 }%
13176 \HCode{</button>}%
13177 \egroup
13178 }
13179 \def\@Submit[#1]#2{%
13180 \HCode{<button type="submit">#2</button>}%
13181 }
13182 \def\@Reset[#1]#2{%

```

```

13183 \HCode{<button type="reset">#2</button>}%
13184 }
13185 \def\@CheckBox[#1]#2{% parameters, label
13186 \let\Hy@reserved@a\@empty
13187 \def\Fld@name{#2}%
13188 \def\Fld@default{0}%
13189 \bgroup
13190 \Field@toks={ }%
13191 \kvsetkeys{Field}{#1}%
13192 \HCode{<input type="checkbox" %
13193 \ifFld@checked checked \fi
13194 \ifFld@disabled disabled \fi
13195 \ifFld@readonly readonly \fi
13196 name="\Fld@name" %
13197 \ifFld@hidden type="hidden" \fi
13198 value="\Fld@default" %
13199 \the\Field@toks>%
13200 #2%
13201 }%
13202 \egroup
13203 }
13204 </tex4ht>

```

## 48.4 pdfTeX

```

13205 (*pdfTeX)
13206 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13207 \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
13208 }
13209 \def\MakeFieldObject#1#2{\sbox0{#1}%
13210 \immediate\pdfxform0 %
13211 \expandafter\edef\csname #2Object\endcsname{%
13212 \the\pdfastxform\space 0 R%
13213 }%
13214 % \hbox to Opt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}}%
13215 }%
13216 \let\HyField@afields\ltx@empty
13217 \begingroup\expandafter\expandafter\expandafter\endgroup
13218 \expandafter\ifx\csname pdfastlink\endcsname\relax
13219 \let\HyField@AddToFields\relax
13220 \PackageInfo{hyperref}{%
13221 You need pdfTeX 1.40.0 for setting the /Fields entry.%
13222 \MessageBreak
13223 Adobe Reader/Acrobat accepts an empty /Field array,%
13224 \MessageBreak
13225 but other PDF viewers might complain%
13226 }%
13227 \else
13228 \let\HyField@AuxAddToFields\ltx@gobble
13229 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%
13230 \Hy@AtBeginDocument{%
13231 \if@files
13232 \immediate\write\@mainaux{%
13233 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
13234 }%
13235 \fi
13236 \let\HyField@AfterAuxOpen\@firstofone
13237 \def\HyField@AuxAddToFields#1{%

```

```

13238 \xdef\HyField@afields{%
13239 \ifx\HyField@afields\@empty
13240 \else
13241 \HyField@afields
13242 \space
13243 \fi
13244 #1 0 R%
13245 }%
13246 }%
13247 }%
13248 \def\HyField@AddToFields{%
13249 \expandafter\HyField@@AddToFields\expandafter{%
13250 \the\pdfastlink
13251 }%
13252 }%
13253 \def\HyField@@AddToFields#1{%
13254 \HyField@AfterAuxOpen{%
13255 \if@filesw
13256 \write\@mainaux{%
13257 \string\HyField@AuxAddToFields{#1}%
13258 }%
13259 \fi
13260 }%
13261 }%
13262 \fi
13263 \def\@Form[#1]{%
13264 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13265 \kvsetkeys{Form}{#1}%
13266 \pdf@ifdraftmode{}{%
13267 \Hy@FormObjects
13268 \ifnum\pdfTeXversion>13 %
13269 \pdfrefobj\OBJ@pdfdocencoding
13270 \pdfrefobj\OBJ@ZaDb
13271 \pdfrefobj\OBJ@Helv
13272 \fi
13273 \AtVeryEndDocument{%
13274 \immediate\pdfobj{%
13275 <<%
13276 /Fields[\HyField@afields]%
13277 /DR<<%
13278 /Font<<%
13279 /ZaDb \OBJ@ZaDb\space 0 R%
13280 /Helv \OBJ@Helv\space 0 R%
13281 >>%
13282 >>%
13283 /DA(/Helv 10 Tf 0 g)%
13284 \ifHy@pdfa
13285 \else
13286 \ifHyField@NeedAppearances
13287 /NeedAppearances true%
13288 \fi
13289 \fi
13290 >>%
13291 }%
13292 \edef\OBJ@acroform{\the\pdfastobj}%
13293 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
13294 }%

```

```

13295 }%
13296 \MakeFieldObject{%

Same as \ding{123} of package pifont.
13297 \beginngroup
13298 \fontfamily{pzd}%
13299 \fontencoding{U}%
13300 \fontseries{m}%
13301 \fontshape{n}%
13302 \selectfont
13303 \char123 %
13304 \endgroup
13305 }{Ding}%
13306 \MakeFieldObject{%
13307 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
13308 }{Submit}%
13309 \MakeFieldObject{%
13310 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
13311 }{SubmitP}%
13312 }
13313 \let\@endForm\ltx@empty
13314 \def\@TextField[#1]#2{% parameters, label
13315 \def\Fld@name{#2}%
13316 \let\Fld@default\ltx@empty
13317 \let\Fld@value\@empty
13318 \def\Fld@width{\DefaultWidthofText}%
13319 \def\Fld@height{%
13320 \ifFld@multiline
13321 \DefaultHeightofTextMultiline
13322 \else
13323 \DefaultHeightofText
13324 \fi
13325 }%
13326 \beginngroup
13327 \expandafter\HyField@SetKeys\expandafter{%
13328 \DefaultOptionsofText,#1%
13329 }%
13330 \PDFForm@Name
13331 \HyField@FlagsText
13332 \ifFld@hidden\def\Fld@width{1sp}\fi
13333 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13334 \LayoutTextField{#2}{%
13335 \leavevmode
13336 \Hy@escapeform\PDFForm@Text
13337 \pdfstartlink user {\PDFForm@Text}\relax
13338 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
13339 \HyField@AddToFields
13340 }%
13341 \endgroup
13342 }
13343 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13344 \def\Fld@name{#2}%
13345 \let\Fld@default\relax
13346 \let\Fld@value\relax
13347 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13348 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13349 \beginngroup
13350 \Fld@menulength=0 %

```

```

13351 \@tempdima\z@
13352 \@for\@curropt:=#3\do{%
13353   \expandafter\Fld@checkequals\@curropt==\\%
13354   \Hy@StepCount\Fld@menulength
13355   \settowidth{\@tempdimb}{\@currDisplay}%
13356   \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13357 }%
13358 \advance\@tempdima by 15\p@
13359 \begingroup
13360   \HyField@SetKeys{#1}%
13361 \edef\x{\endgroup
13362   \noexpand\expandafter
13363   \noexpand\HyField@SetKeys
13364   \noexpand\expandafter{%
13365     \expandafter\noexpand\csname DefaultOptionsof%
13366     \ifFld@radio
13367       Radio%
13368     \else
13369       \ifFld@combo
13370       \ifFld@popdown
13371         PopdownBox%
13372       \else
13373         ComboBox%
13374       \fi
13375     \else
13376       ListBox%
13377     \fi
13378   \fi
13379   \endcsname
13380 }%
13381 }\x
13382 \HyField@SetKeys{#1}%
13383 \PDFForm@Name
13384 \ifFld@hidden\def\Fld@width{1sp}\fi
13385 \ifx\Fld@value\relax
13386   \let\Fld@value\Fld@default
13387 \fi
13388 \LayoutChoiceField{#2}{%
13389   \ifFld@radio
13390     \HyField@FlagsRadioButton
13391     \@@Radio{#3}%
13392   \else
13393     \begingroup
13394       \HyField@FlagsChoice
13395       \ifdim\Fld@width<\@tempdima
13396         \ifdim\@tempdima<1cm\@tempdima1cm\fi
13397       \edef\Fld@width{\the\@tempdima}%
13398     \fi
13399     \ifFld@combo
13400     \else
13401       \@tempdima=\the\Fld@menulength\Fld@charsize
13402       \advance\@tempdima by \Fld@borderwidth bp %
13403       \advance\@tempdima by \Fld@borderwidth bp %
13404       \edef\Fld@height{\the\@tempdima}%
13405     \fi
13406     \@@ListBox{#3}%
13407   \endgroup

```

```

13408 \fi
13409 }%
13410 \endgroup
13411 }
13412 \def\@@Radio#1{%
13413 \Fld@listcount=0 %
13414 \EdefEscapeName\Fld@default{\Fld@default}%
13415 \@for\@curropt:=#1\do{%
13416 \expandafter\Fld@checkequals\@curropt==\%
13417 \EdefEscapeName\@currValue{\@currValue}%
13418 \Hy@StepCount\Fld@listcount
13419 \@currDisplay\space
13420 \leavevmode
13421 \Hy@escapeform\PDFForm@Radio
13422 \pdfstartlink user {%
13423 \PDFForm@Radio
13424 /AP<<%
13425 /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.

```

13426 \/\@currValue\space \DingObject
13427 >>%
13428 >>%
13429 }%
13430 \relax
13431 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
13432 \ifnum\Fld@listcount=1 %
13433 \HyField@AddToFields
13434 \fi
13435 \space % deliberate space between radio buttons
13436 }%
13437 }
13438 \newcount\Fld@listcount
13439 \def\@@Listbox#1{%
13440 \HyField@PDFChoices{#1}%
13441 \leavevmode
13442 \Hy@escapeform\PDFForm@List
13443 \pdfstartlink user {\PDFForm@List}\relax
13444 \MakeChoiceField{\Fld@width}{\Fld@height}%
13445 \pdfendlink
13446 \HyField@AddToFields
13447 }
13448 \def\@PushButton[#1]#2{% parameters, label
13449 \def\Fld@name{#2}%
13450 \begingroup
13451 \expandafter\HyField@SetKeys\expandafter{%
13452 \DefaultOptionsofPushButton,#1%
13453 }%
13454 \PDFForm@Name
13455 \ifHy@pdfa
13456 \Hy@Error{%
13457 PDF/A: Push button with JavaScript is prohibited%
13458 }\@ehc
13459 \LayoutPushButtonField{%
13460 \leavevmode
13461 \MakeButtonField{#2}%

```



```

13462 }%
13463 \else
13464 \HyField@FlagsPushButton
13465 \ifFld@hidden\def\Fld@width{1sp}\fi
13466 \LayoutPushButtonField{%
13467 \leavevmode
13468 \Hy@escapeform\PDFForm@Push
13469 \pdfstartlink user {\PDFForm@Push}\relax
13470 \MakeButtonField{#2}%
13471 \pdfendlink
13472 \HyField@AddToFields
13473 }%
13474 \fi
13475 \endgroup
13476 }
13477 \def\@Submit[#1]#2{%
13478 \def\Fld@width{\DefaultWidthofSubmit}%
13479 \def\Fld@height{\DefaultHeightofSubmit}%
13480 \begingroup
13481 \expandafter\HyField@SetKeys\expandafter{%
13482 \DefaultOptionsofSubmit,#1%
13483 }%
13484 \HyField@FlagsPushButton
13485 \HyField@FlagsSubmit
13486 \ifFld@hidden\def\Fld@width{1sp}\fi
13487 \leavevmode
13488 \Hy@escapeform\PDFForm@Submit
13489 \pdfstartlink user {%
13490 \PDFForm@Submit
13491 /AP<</N \SubmitObject/D \SubmitPObject>>%
13492 }%
13493 \relax
13494 \MakeButtonField{#2}%
13495 \pdfendlink
13496 \HyField@AddToFields
13497 \endgroup
13498 }
13499 \def\@Reset[#1]#2{%
13500 \def\Fld@width{\DefaultWidthofReset}%
13501 \def\Fld@height{\DefaultHeightofReset}%
13502 \begingroup
13503 \expandafter\HyField@SetKeys\expandafter{%
13504 \DefaultOptionsofReset,#1%
13505 }%
13506 \leavevmode
13507 \ifHy@pdfa
13508 \Hy@Error{%
13509 PDF/A: Reset action is prohibited%
13510 }\@ehc
13511 \MakeButtonField{#2}%
13512 \else
13513 \HyField@FlagsPushButton
13514 \ifFld@hidden\def\Fld@width{1sp}\fi
13515 \Hy@escapeform\PDFForm@Reset
13516 \pdfstartlink user {\PDFForm@Reset}\relax
13517 \MakeButtonField{#2}%
13518 \pdfendlink

```

```

13519 \HyField@AddToFields
13520 \fi
13521 \endgroup
13522 }
13523 \def\@CheckBox[#1]#2{% parameters, label
13524 \def\Fld@name{#2}%
13525 \def\Fld@default{0}%
13526 \begingroup
13527 \def\Fld@width{\DefaultWidthofCheckBox}%
13528 \def\Fld@height{\DefaultHeightofCheckBox}%
13529 \expandafter\HyField@SetKeys\expandafter{%
13530 \DefaultOptionsofCheckBox,#1%
13531 }%
13532 \PDFForm@Name
13533 \HyField@FlagsCheckBox
13534 \ifFld@hidden\def\Fld@width{1sp}\fi
13535 \LayoutCheckField{#2}{%
13536 \leavevmode
13537 \Hy@escapeform\PDFForm@Check
13538 \pdfstartlink user {\PDFForm@Check}\relax
13539 \MakeCheckField{\Fld@width}{\Fld@height}%
13540 \pdfendlink
13541 \HyField@AddToFields
13542 }%
13543 \endgroup
13544 }
13545 \def\Hy@FormObjects{%
13546 \pdfobj {%
13547 <<%
13548 /Type/Encoding%
13549 /Differences[%
13550 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13551 /ring/tilde %
13552 39/quotesingle %
13553 96/grave %
13554 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13555 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13556 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13557 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13558 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13559 164/currency %
13560 166/brokenbar %
13561 168/dieresis/copyright/ordfeminine %
13562 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13563 /twosuperior/threesuperior/acute/mu %
13564 183/periodcentered/cedilla/onesuperior/ordmasculine %
13565 188/onequarter/onehalf/threequarters %
13566 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13567 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13568 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13569 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13570 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13571 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13572 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13573 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13574 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
13575 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%

```

```

13576    ]%
13577    >>%
13578  }%
13579  \xdef\OBJ@pdfdocencoding{\the\pdflastobj}%
13580  \pdfobj{%
13581    <<%
13582      /Type/Font%
13583      /Subtype/Type1%
13584      /Name/ZaDb%
13585      /BaseFont/ZapfDingbats%
13586    >>%
13587  }%
13588  \xdef\OBJ@ZaDb{\the\pdflastobj}%
13589  \pdfobj{%
13590    <<%
13591      /Type/Font%
13592      /Subtype/Type1%
13593      /Name/Helv%
13594      /BaseFont/Helvetica%
13595      /Encoding \OBJ@pdfdocencoding\space 0 R%
13596    >>%
13597  }%
13598  \xdef\OBJ@Helv{\the\pdflastobj}%
13599  \global\let\Hy@FormObjects\relax
13600 }
13601 \</pdfTeX>

```

## 48.5 dvipdfm, xetex

D. P. Story adapted the pdf<sub>T</sub>E<sub>X</sub> forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```
13602 \<*dvipdfm | xetex>
```

\@Gauge

```

13603 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13604   \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13605 }

```

\@Form

```

13606 \def\@Form[#1]{%
13607   \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13608   \kvsetkeys{Form}{#1}%
13609   \Hy@FormObjects
13610   \@pdfm@mark{obj @afields []}%
13611   \@pdfm@mark{obj @corder []}%
13612   \@pdfm@mark{%
13613     obj @aform <<%
13614       /Fields @afields%
13615       /DR<<%
13616       /Font<<%
13617       /ZaDb @OBJZaDb%
13618       /Helv @OBJHelv%
13619     >>%
13620     >>%
13621     /DA(/Helv 10 Tf 0 g)%
13622     /CO @corder%
13623     \ifHy@pdfa
13624     \else

```

```

13625     \ifHyField@NeedAppearances
13626     /NeedAppearances true%
13627     \fi
13628     \fi
13629     >>%
13630 }%
13631 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
13632 }

\@endForm

13633 \let\@endForm\ltx@empty

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.
13634 \def\dvipdfm@setdim{%
13635   height \the\ht\pdfm@box\space
13636   width \the\wd\pdfm@box\space
13637   depth \the\dp\pdfm@box\space
13638 }

\HyField@AnnotCount

13639 \newcount\HyField@AnnotCount
13640 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount

13641 \def\HyField@AdvanceAnnotCount{%
13642   \global\advance\HyField@AnnotCount\@ne
13643 }

\HyField@TheAnnotCount

13644 \def\HyField@TheAnnotCount{%
13645   \the\HyField@AnnotCount
13646 }

\@TextField

13647 \def\@TextField[#1]#2{% parameters, label
13648   \def\Fld@name{#2}%
13649   \let\Fld@default\ltx@empty
13650   \let\Fld@value\@empty
13651   \def\Fld@width{\DefaultWidthofText}%
13652   \def\Fld@height{%
13653     \ifFld@multiline
13654       \DefaultHeightofTextMultiline
13655     \else
13656       \DefaultHeightofText
13657     \fi
13658   }%
13659   \begingroup
13660     \expandafter\HyField@SetKeys\expandafter{%
13661       \DefaultOptionsofText,#1%
13662     }%
13663     \PDFForm@Name
13664     \HyField@FlagsText
13665     \ifFld@hidden\def\Fld@width{1sp}\fi
13666     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13667     \setbox\pdfm@box=\hbox{%
13668       \MakeTextField{\Fld@width}{\Fld@height}%
13669     }%

```

```

13670 \HyField@AdvanceAnnotCount
13671 \LayoutTextField{#2}{%
13672 \leavevmode
13673 \Hy@escapeform\PDFForm@Text
13674 \@pdfm@mark{%
13675 ann @text\HyField@TheAnnotCount\space
13676 \dvipdfm@setdim << \PDFForm@Text >>%
13677 }%
13678 }%
13679 \unhbox\pdfm@box
13680 \@pdfm@mark{put @afields @text\HyField@TheAnnotCount}%
13681 % record in @afields array
13682 \endgroup
13683 }

```

\@ChoiceMenu

```

13684 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13685 \def\Fld@name{#2}%
13686 \let\Fld@default\relax
13687 \let\Fld@value\relax
13688 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13689 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13690 \begingroup
13691 \Fld@menulength=0 %
13692 \@tempdima\z@
13693 \@for\@curropt:=#3\do{%
13694 \expandafter\Fld@checkequals\@curropt==\%
13695 \Hy@StepCount\Fld@menulength
13696 \settowidth{\@tempdimb}{\@currDisplay}%
13697 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13698 }%
13699 \advance\@tempdima by 15\p@
13700 \begingroup
13701 \HyField@SetKeys{#1}%
13702 \edef\x{\endgroup
13703 \noexpand\expandafter
13704 \noexpand\HyField@SetKeys
13705 \noexpand\expandafter{%
13706 \expandafter\noexpand\cname DefaultOptionsof%
13707 \ifFld@radio
13708 Radio%
13709 \else
13710 \ifFld@combo
13711 \ifFld@popdown
13712 PopdownBox%
13713 \else
13714 ComboBox%
13715 \fi
13716 \else
13717 ListBox%
13718 \fi
13719 \fi
13720 \endcname
13721 }%
13722 }\x
13723 \HyField@SetKeys{#1}%
13724 \PDFForm@Name
13725 \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

13726 \ifx\Fld@value\relax
13727 \let\Fld@value\Fld@default
13728 \fi
13729 \LayoutChoiceField{#2}{%
13730 \ifFld@radio
13731 \HyField@FlagsRadioButton
13732 \@@Radio{#3}%
13733 \else
13734 \beginngroup
13735 \HyField@FlagsChoice
13736 \ifdim\Fld@width<\@tempdima
13737 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13738 \edef\Fld@width{\the\@tempdima}%
13739 \fi
13740 \ifFld@combo
13741 \else
13742 \@tempdima=\the\Fld@menulength\Fld@charsize
13743 \advance\@tempdima by \Fld@borderwidth bp %
13744 \advance\@tempdima by \Fld@borderwidth bp %
13745 \edef\Fld@height{\the\@tempdima}%
13746 \fi
13747 \@@ListBox{#3}%
13748 \endgroup
13749 \fi
13750 }%
13751 \endgroup
13752 }

\@@Radio
13753 \def\@@Radio#1{%
13754 \Fld@listcount=0 %
13755 \EdefEscapeName\Fld@default{\Fld@default}%
13756 \setbox\pdfm@box=\hbox{%
13757 \MakeRadioField{\Fld@width}{\Fld@height}%
13758 }%
13759 \@for\@curropt:=#1\do{%
13760 \expandafter\Fld@checkequals\@curropt==\%
13761 \EdefEscapeName\@currValue{\@currValue}%
13762 \Hy@StepCount\Fld@listcount
13763 \@currDisplay\space
13764 \leavevmode
13765 \Hy@escapeform\PDFForm@Radio
13766 \ifnum\Fld@listcount=1 %
13767 \HyField@AdvanceAnnotCount
13768 \fi
13769 \@pdfm@mark{%
13770 ann %
13771 \ifnum\Fld@listcount=1 %
13772 @radio\HyField@TheAnnotCount%
13773 \space
13774 \fi
13775 \dvi pdfm@setdim
13776 <<%
13777 \PDFForm@Radio
13778 /AP<</N<</\@currValue /null>>>>%
13779 >>%
13780 }%
13781 \unhcopy\pdfm@box\space% deliberate space between radio buttons

```

```

13782 \ifnum\Fld@listcount=1 %
13783 \@pdfm@mark{%
13784 put @afields @radio\HyField@TheAnnotCount
13785 }%
13786 \fi
13787 }%
13788 }

\Fld@listcount
13789 \newcount\Fld@listcount

@@@Listbox
13790 \def\@@Listbox#1{%
13791 \HyField@PDFChoices{#1}%
13792 \setbox\pdfm@box=\hbox{%
13793 \MakeChoiceField{\Fld@width}{\Fld@height}%
13794 }%
13795 \leavevmode
13796 \Hy@escapeform\PDFForm@List
13797 \HyField@AdvanceAnnotCount
13798 \@pdfm@mark{%
13799 ann @list\HyField@TheAnnotCount\space
13800 \dvipdfm@setdim
13801 <<\PDFForm@List>>%
13802 }%
13803 \unhbox\pdfm@box
13804 \@pdfm@mark{put @afields @list\HyField@TheAnnotCount}%
13805 }

\@PushButton
13806 \def\@PushButton[#1]#2{% parameters, label
13807 \def\Fld@name{#2}%
13808 \begingroup
13809 \expandafter\HyField@SetKeys\expandafter{%
13810 \DefaultOptionsofPushButton,#1%
13811 }%
13812 \PDFForm@Name
13813 \ifHy@pdfa
13814 \Hy@Error{%
13815 PDF/A: Push button with JavaScript is prohibited%
13816 }\@ehc
13817 \LayoutPushButtonField{%
13818 \leavevmode
13819 \MakeButtonField{#2}%
13820 }%
13821 \else
13822 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13823 \HyField@FlagsPushButton
13824 \ifFld@hidden\def\Fld@width{1sp}\fi
13825 \HyField@AdvanceAnnotCount
13826 \LayoutPushButtonField{%
13827 \leavevmode
13828 \Hy@escapeform\PDFForm@Push
13829 \@pdfm@mark{%
13830 ann @push\HyField@TheAnnotCount\space
13831 \dvipdfm@setdim
13832 <<\PDFForm@Push>>%

```

```

13833     }%
13834 }%
13835 \unhbox\pdfm@box
13836 \@pdfm@mark{put @afields @push\HyField@TheAnnotCount}%
13837 \fi
13838 \endgroup
13839 }

\@Submit
13840 \def\@Submit[#1]#2{%
13841 \def\Fld@width{\DefaultWidthofSubmit}%
13842 \def\Fld@height{\DefaultHeightofSubmit}%
13843 \begingroup
13844 \expandafter\HyField@SetKeys\expandafter{%
13845 \DefaultOptionsofSubmit,#1%
13846 }%
13847 \HyField@FlagsPushButton
13848 \HyField@FlagsSubmit
13849 \ifFld@hidden\def\Fld@width{1sp}\fi
13850 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13851 \leavevmode
13852 \Hy@escapeform\PDFForm@Submit
13853 \HyField@AdvanceAnnotCount
13854 \@pdfm@mark{%
13855 ann @submit\HyField@TheAnnotCount\space
13856 \dvipdfm@setdim
13857 <<\PDFForm@Submit>>%
13858 }%
13859 \unhbox\pdfm@box%
13860 \@pdfm@mark{put @afields @submit\HyField@TheAnnotCount}%
13861 \endgroup
13862 }

\@Reset
13863 \def\@Reset[#1]#2{%
13864 \def\Fld@width{\DefaultWidthofReset}%
13865 \def\Fld@height{\DefaultHeightofReset}%
13866 \begingroup
13867 \expandafter\HyField@SetKeys\expandafter{%
13868 \DefaultOptionsofReset,#1%
13869 }%
13870 \leavevmode
13871 \ifHy@pdfa
13872 \Hy@Error{%
13873 PDF/A: Reset action is prohibited%
13874 }\@ehc
13875 \MakeButtonField{#2}%
13876 \else
13877 \HyField@FlagsPushButton
13878 \ifFld@hidden\def\Fld@width{1sp}\fi
13879 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13880 \Hy@escapeform\PDFForm@Reset
13881 \HyField@AdvanceAnnotCount
13882 \@pdfm@mark{%
13883 ann @reset\HyField@TheAnnotCount\space
13884 \dvipdfm@setdim
13885 <<\PDFForm@Reset>>%

```



```

13886 }%
13887 \unhbox\pdfm@box
13888 \@pdfm@mark{put @afields @reset\HyField@TheAnnotCount}%
13889 \fi
13890 \endgroup
13891 }

```

#### \@CheckBox

```

13892 \def\@CheckBox[#1]#2{% parameters, label
13893 \def\Fld@name{#2}%
13894 \def\Fld@default{0}%
13895 \begingroup
13896 \def\Fld@width{\DefaultWidthofCheckBox}%
13897 \def\Fld@height{\DefaultHeightofCheckBox}%
13898 \expandafter\HyField@SetKeys\expandafter{%
13899 \DefaultOptionsofCheckBox,#1%
13900 }%
13901 \PDFForm@Name
13902 \HyField@FlagsCheckBox
13903 \ifFld@hidden\def\Fld@width{1sp}\fi
13904 \setbox\pdfm@box=\hbox{%
13905 \MakeCheckField{\Fld@width}{\Fld@height}%
13906 }%
13907 \HyField@AdvanceAnnotCount
13908 \LayoutCheckField{#2}{%
13909 \leavevmode
13910 \Hy@escapeform\PDFForm@Check
13911 \@pdfm@mark{%
13912 ann @check\HyField@TheAnnotCount\space
13913 \dvipdfm@setdim
13914 <<\PDFForm@Check>>%
13915 }%
13916 \unhbox\pdfm@box
13917 \@pdfm@mark{put @afields @check\HyField@TheAnnotCount}%
13918 }%
13919 \endgroup
13920 }

13921 \def\Hy@FormObjects{%
13922 \@pdfm@mark{obj @OBJpdfdocencoding%
13923 <<%
13924 /Type/Encoding%
13925 /Differences[%
13926 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
13927 39/quotesingle %
13928 96/grave %
13929 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13930 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13931 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13932 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
13933 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13934 164/currency %
13935 166/brokenbar %
13936 168/dieresis/copyright/ordfeminine %
13937 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13938 /twosuperior/threesuperior/acute/mu %
13939 183/periodcentered/cedilla/onesuperior/ordmasculine %
13940 188/onequarter/onehalf/threequarters %

```

```

13941      192/Agave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13942      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13943      /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
13944      /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13945      /Udieresis/Yacute/Thorn/germandbls/agave/aacute/acircumflex%
13946      /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
13947      /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
13948      /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
13949      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
13950      /thorn/ydieresis%
13951      ]%
13952      >>%
13953      }%
13954      \@pdfm@mark{obj @OBJZaDb%
13955      <<%
13956      /Type/Font%
13957      /Subtype/Type1%
13958      /Name/ZaDb%
13959      /BaseFont/ZapfDingbats%
13960      >>%
13961      }%
13962      \@pdfm@mark{obj @OBJHelv%
13963      <<%
13964      /Type/Font%
13965      /Subtype/Type1%
13966      /Name/Helv%
13967      /BaseFont/Helvetica%
13968      /Encoding @OBJpdfdocencoding%
13969      >>%
13970      }%
13971      \global\let\Hy@FormObjects\relax
13972      }
13973      </dvipdfm | xetex>

```

## 48.6 Common forms part

```

13974      (*pdfform)

\Hy@escapestring

13975      \begingroup\expandafter\expandafter\expandafter\endgroup
13976      \expandafter\ifx\csname pdfescapestring\endcsname\relax
13977      \let\Hy@escapestring\@firstofone
13978      \def\Hy@escapeform#1{%
13979      \ifHy@pdfescapeform
13980      \def\Hy@escapestring##1{%
13981      \noexpand\Hy@escapestring{\noexpand##1}%
13982      }%
13983      \edef\Hy@temp{#1}%
13984      \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
13985      \def\Hy@escapestring##1{%
13986      \@ifundefined{Hy@esc@\string##1}{%
13987      ##1%
13988      \ThisShouldNotHappen
13989      }{%
13990      \csname Hy@esc@\string##1\endcsname
13991      }%
13992      }%
13993      \else

```

```

13994 \let\Hy@escapestring\@firstofone
13995 \fi
13996 }%
13997 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
13998 \ifx\|#3\}%
13999 \else
14000 \expandafter
14001 \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
14002 \ltx@ReturnAfterFi{%
14003 \Hy@@escapeform#3\@nil
14004 }%
14005 \fi
14006 }%
14007 \else
14008 \def\Hy@escapeform#1{%
14009 \ifHy@pdfescapeform
14010 \let\Hy@escapestring\pdfescapestring
14011 \else
14012 \let\Hy@escapestring\@firstofone
14013 \fi
14014 }%
14015 \Hy@escapeform{}%
14016 \fi

```

#### \PDFForm@Name

```

14017 \def\PDFForm@Name{%
14018 \PDFForm@@Name\Fld@name
14019 \ifx\Fld@altname\relax
14020 \else
14021 \PDFForm@@Name\Fld@altname
14022 \fi
14023 \ifx\Fld@mappingname\relax
14024 \else
14025 \PDFForm@@Name\Fld@mappingname
14026 \fi
14027 }

```

#### \PDFForm@@Name

```

14028 \def\PDFForm@@Name#1{%
14029 \begingroup
14030 \ifnum\Hy@pdfversion<5 % implementation note 117, PDF spec 1.7
14031 \ifHy@unicode
14032 \Hy@unicodetrue
14033 \fi
14034 \fi
14035 \HyPsd@XeTeXBigCharstrue
14036 \pdfstringdef\Hy@gtemp#1%
14037 \endgroup
14038 \let#1\Hy@gtemp
14039 }

```

#### \Fld@additionalactions

```

14040 \def\Fld@@additionalactions{%
K input (keystroke) format
14041 \ifx\Fld@keystroke@code\@empty
14042 \else
14043 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%

```

```

14044  \fi
F display format
14045  \ifx\Fld@format@code\@empty
14046  \else
14047    /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
14048  \fi
V validation
14049  \ifx\Fld@validate@code\@empty
14050  \else
14051    /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
14052  \fi
C calculation
14053  \ifx\Fld@calculate@code\@empty
14054  \else
14055    /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
14056  \fi
Fo receiving the input focus
14057  \ifx\Fld@onfocus@code\@empty
14058  \else
14059    /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
14060  \fi
Bl loosing the input focus (blurred)
14061  \ifx\Fld@onblur@code\@empty
14062  \else
14063    /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
14064  \fi
D pressing the mouse button (down)
14065  \ifx\Fld@onmousedown@code\@empty
14066  \else
14067    /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
14068  \fi
U releasing the mouse button (up)
14069  \ifx\Fld@onmouseup@code\@empty
14070  \else
14071    /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
14072  \fi
E cursor enters the annotation's active area.
14073  \ifx\Fld@onenter@code\@empty
14074  \else
14075    /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
14076  \fi
X cursor exits the annotation's active area.
14077  \ifx\Fld@onexit@code\@empty
14078  \else
14079    /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
14080  \fi
14081  }
14082  \def\Fld@additionalactions{%
14083    \if-\Fld@@@additionalactions-%
14084    \else
14085      \ifHy@pdfa
14086      \else

```

```

14087      /AA<<\Fld@@additionalactions>>%
14088      \fi
14089      \fi
14090  }

```

\Fld@annotnames

```

14091 \def\Fld@annotnames{%
14092   /T(\Fld@name)%
14093   \ifx\Fld@altname\relax
14094   \else
14095     /TU(\Fld@altname)%
14096   \fi
14097   \ifx\Fld@mappingname\relax
14098   \else
14099     /TM(\Fld@mappingname)%
14100   \fi
14101 }

```

\PDFForm@Check

```

14102 \def\PDFForm@Check{%
14103   /Subtype/Widget%
14104   \Fld@annotflags
14105   \Fld@annotnames
14106   /FT/Btn%
14107   \Fld@flags
14108   /Q \Fld@align
14109   /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
14110   /MK<<%
14111     \ifnum\Fld@rotation=\z@
14112     \else
14113       /R \Fld@rotation
14114     \fi
14115     \ifx\Fld@bordercolor\relax
14116     \else
14117       /BC[\Fld@bordercolor]%
14118     \fi
14119     \ifx\Fld@bcolor\relax
14120     \else
14121       /BG[\Fld@bcolor]%
14122     \fi
14123     /CA(\Hy@escapestring{\Fld@cbsymbol})%
14124   >>%
14125   /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14126     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14127   /H/P%
14128   \ifFld@checked /V/Yes\else /V/Off\fi
14129   \Fld@additionalactions
14130 }

```

\PDFForm@Push

```

14131 \ifHy@pdfa
14132 \else
14133   \def\PDFForm@Push{%
14134     /Subtype/Widget%
14135     \Fld@annotflags
14136     \Fld@annotnames
14137     /FT/Btn%

```

```

14138 \Fld@flags
14139 /H/P%
14140 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14141 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14142 \ifx\Fld@bordercolor\relax\else 1\fi
14143 \space
14144 \else
14145 /MK<<%
14146 \ifnum\Fld@rotation=\z@
14147 \else
14148 /R \Fld@rotation
14149 \fi
14150 \ifx\Fld@bordercolor\relax
14151 \else
14152 /BC[\Fld@bordercolor]%
14153 \fi
14154 >>%
14155 \fi
14156 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
14157 \Fld@additionalactions
14158 }%
14159 \fi

```

#### \PDFForm@List

```

14160 \def\PDFForm@List{%
14161 /Subtype/Widget%
14162 \Fld@annotflags
14163 \Fld@annotnames
14164 /FT/Ch%
14165 \Fld@flags
14166 /Q \Fld@align
14167 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14168 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14169 \ifx\Fld@bordercolor\relax\else 1\fi
14170 \ifx\Fld@bcolor\relax \else 1\fi
14171 \space
14172 \else
14173 /MK<<%
14174 \ifnum\Fld@rotation=\z@
14175 \else
14176 /R \Fld@rotation
14177 \fi
14178 \ifx\Fld@bordercolor\relax
14179 \else
14180 /BC[\Fld@bordercolor]%
14181 \fi
14182 \ifx\Fld@bcolor\relax
14183 \else
14184 /BG[\Fld@bcolor]%
14185 \fi
14186 >>%
14187 \fi
14188 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14189 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14190 \Fld@choices
14191 \Fld@additionalactions
14192 }

```

## \PDFForm@Radio

```
14193 \def\PDFForm@Radio{%
14194   /Subtype/Widget%
14195   \Fld@annotflags
14196   \Fld@annotnames
14197   /FT/Btn%
14198   \Fld@flags
14199   /H/P%
14200   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14201   /MK<<%
14202     \ifnum\Fld@rotation=\z@
14203     \else
14204       /R \Fld@rotation
14205     \fi
14206     \ifx\Fld@bordercolor\relax
14207     \else
14208       /BC[\Fld@bordercolor]%
14209     \fi
14210     \ifx\Fld@bcolor\relax
14211     \else
14212       /BG[\Fld@bcolor]%
14213     \fi
14214     /CA(\Fld@radiosymbol)%
14215   >>%
14216   /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14217     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14218   \ifx\@currValue\Fld@default
14219     /V/\Fld@default
14220     /DV/\Fld@default
14221   \else
14222     /V/Off%
14223     /DV/Off%
14224   \fi
14225   \Fld@additionalactions
14226 }
```

## \PDFForm@Text

```
14227 \def\PDFForm@Text{%
14228   /Subtype/Widget%
14229   \Fld@annotflags
14230   \Fld@annotnames
14231   /FT/Tx%
14232   \Fld@flags
14233   /Q \Fld@align
14234   /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
14235   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14236     \ifx\Fld@bordercolor\relax\else 1\fi
14237     \ifx\Fld@bcolor\relax \else 1\fi
14238     \space
14239   \else
14240     /MK<<%
14241     \ifnum\Fld@rotation=\z@
14242     \else
14243       /R \Fld@rotation
14244     \fi
14245     \ifx\Fld@bordercolor\relax
14246     \else
```

```

14247      /BC[\Fld@bordercolor]%
14248      \fi
14249      \ifx\Fld@bcolor\relax
14250      \else
14251      /BG[\Fld@bcolor]%
14252      \fi
14253      >>%
14254      \fi
14255      /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14256      \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14257      /DV(\Hy@escapestring{\Fld@default})%
14258      /V(\Hy@escapestring{\Fld@value})%
14259      \Fld@additionalactions
14260      \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
14261      }

```

\PDFForm@Submit

```

14262 \def\PDFForm@Submit{%
14263   /Subtype/Widget%
14264   \Fld@annotflags
14265   \Fld@annotnames
14266   /FT/Btn%
14267   \Fld@flags
14268   /H/P%
14269   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14270   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14271     \ifx\Fld@bordercolor\relax\else 1\fi
14272     \space
14273   \else
14274     /MK<<%
14275     \ifnum\Fld@rotation=\z@
14276     \else
14277       /R \Fld@rotation
14278     \fi
14279     \ifx\Fld@bordercolor\relax
14280     \else
14281       /BC[\Fld@bordercolor]%
14282     \fi
14283     >>%
14284   \fi
14285   /A<<%
14286   /S/SubmitForm%
14287   /F<<%
14288   /FS/URL%
14289   /F(\Hy@escapestring{\Form@action})%
14290   >>%
14291   \Fld@submitflags
14292   >>%
14293   \Fld@additionalactions
14294   }

```

\PDFForm@Reset

```

14295 \ifHy@pdfa
14296 \else
14297   \def\PDFForm@Reset{%
14298     /Subtype/Widget%
14299     \Fld@annotflags

```



```

14300 \Fld@annotnames
14301 /FT/Btn%
14302 \Fld@flags
14303 /H/P%
14304 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
14305 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14306 \ifx\Fld@bordercolor\relax\else 1\fi
14307 \space
14308 \else
14309 /MK<<%
14310 \ifnum\Fld@rotation=\z@
14311 \else
14312 /R \Fld@rotation
14313 \fi
14314 \ifx\Fld@bordercolor\relax
14315 \else
14316 /BC[\Fld@bordercolor]%
14317 \fi
14318 % /CA (Clear)
14319 % /AC (Done)
14320 >>%
14321 \fi
14322 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14323 /A<</S/ResetForm>>%
14324 \Fld@additionalactions
14325 }%
14326 \fi

14327 </pdfform>
14328 <*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`

```

14329 \def\phantomsection{%
14330 \Hy@MakeCurrentHrefAuto{section*}%
14331 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
14332 }
14333 </package>

```

### 49.1 Bookmarks

```
14334 <*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.

```

14335 \def\Hy@writebookmark#1#2#3#4#5{%
14336   % section number, text, label, level, file
14337   \ifx\WriteBookmarks\relax%
14338   \else
14339     \ifnum#4>\Hy@bookmarksdepth\relax
14340     \else
14341       \@@writetorep{#1}{#2}{#3}{#4}{#5}%
14342     \fi
14343   \fi
14344 }
14345 \def\Hy@currentbookmarklevel{0}
14346 \def\Hy@numberline#1{#1 }
14347 \def\@@writetorep#1#2#3#4#5{%
14348   \begingroup
14349   \edef\Hy@tempa{#5}%
14350   \ifx\Hy@tempa\Hy@bookmarkstype
14351     \edef\Hy@level{#4}%
14352     \ifx\Hy@levelcheck Y%
14353       \@tempcnta\Hy@level\relax
14354       \advance\@tempcnta by -1 %
14355       \ifnum\Hy@currentbookmarklevel<\@tempcnta
14356         \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
14357         \advance\@tempcnta by 1 %
14358         \Hy@Warning{%
14359           Difference (\the\@tempcnta) between bookmark levels is %
14360           greater \MessageBreak than one, level fixed%
14361         }%
14362         \@tempcnta\Hy@currentbookmarklevel
14363         \advance\@tempcnta by 1 %
14364         \edef\Hy@level{\the\@tempcnta}%
14365       \fi
14366     \else
14367       \global\let\Hy@levelcheck Y%
14368     \fi
14369     \global\let\Hy@currentbookmarklevel\Hy@level
14370     \@tempcnta\Hy@level\relax
14371     \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
14372     \advance\@tempcnta by -1 %
14373     \edef\Hy@tempa{#3}%
14374     \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
14375     \ifx\Hy@tempa\Hy@tempb
14376       \Hy@Warning{%
14377         The anchor of a bookmark and its parent's must not%
14378         \MessageBreak be the same. Added a new anchor%

```

```

14379     }%
14380     \phantomsection
14381     \fi
14382     \ifHy@bookmarksnumbered
14383         \let\numberline\Hy@numberline
14384         \let\booknumberline\Hy@numberline
14385         \let\partnumberline\Hy@numberline
14386         \let\chapternumberline\Hy@numberline
14387     \else
14388         \let\numberline\@gobble
14389         \let\booknumberline\@gobble
14390         \let\partnumberline\@gobble
14391         \let\chapternumberline\@gobble
14392     \fi
14393     \HyPsd@XeTeXBigCharstrue
14394     \pdfstringdef\Hy@tempa{#2}%
14395     \HyPsd@SanitizeForOutFile\Hy@tempa
14396     \if@filesw
14397         \stepcounter{bookmark@seq@number}%
14398         \@ifundefined{@outlinefile}{%
14399             }{%
14400                 \protected@write\@outlinefile{%
14401                     \protect\BOOKMARK
14402                     [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
14403                     {\Hy@tempa}{\Hy@tempb}%
14404                     \@percentchar\space\thebookmark@seq@number
14405                 }%
14406             }%
14407         \fi
14408     \fi
14409 \endgroup
14410 }
14411 \newcounter{bookmark@seq@number}
14412 \begingroup
14413 \lccode'('= '{%
14414 \lccode')='}%
14415 \lccode'1=\z@
14416 \lccode'2=\z@
14417 \lccode'3=\z@
14418 \lccode'5=\z@
14419 \lccode'7=\z@
14420 \lccode'\#=\z@
14421 \lccode'\='=\z@
14422 \lccode'\{=\z@
14423 \lccode'\}=\z@
14424 \lowercase{%
14425 \endgroup
14426 \def\HyPsd@SanitizeForOutFile#1{%
14427     \@onelevel@sanitize\Hy@tempa
14428     \escapechar'\%
14429     \edef\Hy@tempa{%
14430         \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
14431     }%
14432     \edef\Hy@tempa{%
14433         \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
14434     }%
14435 }%

```

```

14436 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
14437   #1%
14438   \ifx\#2\%
14439     \expandafter\ltx@gobble
14440   \else
14441     \expandafter\ltx@firstofone
14442   \fi
14443   {%
14444     \string\173%
14445     \HyPsd@SanitizeOut@BraceLeft#2\@nil
14446   }%
14447 }%
14448 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
14449   #1%
14450   \ifx\#2\%
14451     \expandafter\ltx@gobble
14452   \else
14453     \expandafter\ltx@firstofone
14454   \fi
14455   {%
14456     \string\175%
14457     \HyPsd@SanitizeOut@BraceRight#2\@nil
14458   }%
14459 }%
14460 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

14461 \newcommand{\currentpdfbookmark}{%
14462   \pdfbookmark[\Hy@currentbookmarklevel]%
14463 }
14464 \newcommand{\subpdfbookmark}{%
14465   \@tempcnta\Hy@currentbookmarklevel
14466   \Hy@StepCount\@tempcnta
14467   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
14468 }
14469 \newcommand{\belowpdfbookmark}[2]{%
14470   \@tempcnta\Hy@currentbookmarklevel
14471   \Hy@StepCount\@tempcnta
14472   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
14473   \advance\@tempcnta by -1 %
14474   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
14475 }

```

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.

```

14476 \renewcommand\pdfbookmark[3][0]{%
14477   \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
14478   \hyper@anchorstart{#3.#1}\hyper@anchorend
14479 }
14480 \def\BOOKMARK{%
14481   \ifnextchar{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
14482 }
14483 \def\@BOOKMARK[#1]{%
14484   \ifnextchar{\@@BOOKMARK[{#1}]}{\@@BOOKMARK[{#1}][-]}%
14485 }

```

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`

```

14486 \RequirePackage{rerunfilecheck}[2009/12/10]
14487 \def\Hy@OutlineRerunCheck{%
14488   \RerunFileCheck{\jobname.out}{%
14489     \immediate\closeout\@outlinefile
14490   }{%
14491     Rerun to get outlines right\MessageBreak
14492     or use package 'bookmark'%
14493   }%
14494 }
```

#### 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 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.

```

14495 (*vtex)
14496 \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.

```

14497 \begingroup
14498   \catcode'\=12 %
14499   \ifnum\Hy@VTeXversion<650 %
14500     \catcode'\=12 %
14501     \gdef\hv@pdf@char#1#2#3{%
14502       \char
14503       \ifcase'#1#2#3 %
14504         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
14505         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
14506         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
14507         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
14508         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
14509         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
14510         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
14511         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
14512         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
14513         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
14514         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
14515         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
14516         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
14517         \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
14518         \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
14519         \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
14520         \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
14521         \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
14522         \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
14523         \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
14524         \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
14525         \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
```

```

14526 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
14527 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
14528 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
14529 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
14530 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
14531 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
14532 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
14533 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
14534 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
14535 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
14536 \fi
14537 }%
14538 \else
14539 \gdef\hv@pdf@char{\char'}%
14540 \fi
14541 \endgroup

```

\@@BOOKMARK

```

14542 \def\@@BOOKMARK[#1][#2]#3#4#5{%
14543 \expandafter\edef\csname @count@#3\endcsname{%
14544 \the\@serial@counter
14545 }%
14546 \edef\@mycount{\the\@serial@counter}%
14547 \Hy@StepCount\@serial@counter
14548 \edef\@parcount{%
14549 \expandafter\ifx\csname @count@#5\endcsname\relax
14550 0%
14551 \else
14552 \csname @count@#5\endcsname
14553 \fi
14554 }%
14555 \immediate\special{%
14556 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14557 s=\ifx#2-c\else o\fi,t=#4%
14558 }%
14559 }%

```

\ReadBookmarks

```

14560 \def\ReadBookmarks{%
14561 \begingroup
14562 \def\0{\hv@pdf@char 0}%
14563 \def\1{\hv@pdf@char 1}%
14564 \def\2{\hv@pdf@char 2}%
14565 \def\3{\hv@pdf@char 3}%
14566 \def\({}%
14567 \def\)}%
14568 \def\do##1{%
14569 \ifnum\catcode'##1=\active
14570 \@makeother##1%
14571 \else
14572 \ifnum\catcode'##1=6 %
14573 \@makeother##1%
14574 \fi
14575 \fi
14576 }%
14577 \dospecials
14578 \Hy@safe@activetrue

```

```

14579 \InputIfFileExists{\jobname.out}{\relax}{\relax}%
14580 \endgroup
14581 \ifx\WriteBookmarks\relax
14582 \else
14583 \if@filesw
14584 \newwrite\@outlinefile
14585 \Hy@OutlineRerunCheck
14586 \immediate\openout\@outlinefile=\jobname.out\relax
14587 \ifHy@typexml
14588 \immediate\write\@outlinefile{<relaxxml>\relax}%
14589 \fi
14590 \fi
14591 \fi
14592 }

14593 </vtex>
14594 <*\vtex>
14595 \def\ReadBookmarks{%
14596 \pdf@ifdraftmode{\relax}{\relax}%
14597 \begingroup
14598 \def\do##1{%
14599 \ifnum\catcode'##1=\active
14600 \@makeother##1%
14601 \else
14602 \ifnum\catcode'##1=6 %
14603 \@makeother##1%
14604 \fi
14605 \fi
14606 }%
14607 \dospecials
14608 \Hy@safe@activestruer
14609 \escapechar=\%
14610 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14611 \calc@bm@number{##5}%
14612 }%
14613 \InputIfFileExists{\jobname.out}{\relax}{\relax}%
14614 \ifx\WriteBookmarks\relax
14615 \global\let\WriteBookmarks\relax
14616 \fi
14617 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14618 \def\Hy@temp{##4}%
14619 <*pdfTeX>
14620 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14621 \Hy@OutlineName{\Hy@pstringName{##2}\check@bm@number{##3}}%
14622 }%
14623 \expandafter\strip@prefix\meaning\Hy@temp
14624 }%
14625 </pdfTeX>
14626 <*pdfmark>
14627 \pdfmark{%
14628 pdfmark=/OUT,%
14629 Count={##2\check@bm@number{##3}},%
14630 Dest={##3},%
14631 Title=\expandafter\strip@prefix\meaning\Hy@temp
14632 }%
14633 </pdfmark>
14634 <*\pdfmark | xetex>

```

```

14636 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14637 \@pdfm@mark{%
14638   outline \ifHy@DvipdfmxOutlineOpen
14639     [%
14640       \ifnum##21>\z@
14641       \else
14642       -%
14643       \fi
14644     ] %
14645     \fi
14646     ##1<<%
14647     /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14648     /A<<%
14649     /S/GoTo%
14650     /D(\Hy@pstringName)%
14651     >>%
14652     >>%
14653     }%
14654 </dvipdfm | xetex>
14655 }%
14656 \begingroup
14657 \def\WriteBookmarks{0}%
14658 \InputIfFileExists{jobname.out}{-}{-}%
14659 \endgroup
14660 {%\escapechar\m@ne\InputIfFileExists{jobname.out}{-}{-}}%
14661 \endgroup
14662 }%
14663 \ifx\WriteBookmarks\relax
14664 \else
14665 \if@filesw
14666 \newwrite\@outlinefile
14667 \Hy@OutlineRerunCheck
14668 \immediate\openout\@outlinefile=jobname.out\relax
14669 \ifHy@typexml
14670 \immediate\write\@outlinefile{<relaxxml>\relax}%
14671 \fi
14672 \fi
14673 \fi
14674 }
14675 <*pdfTeX>
14676 \def\Hy@OutlineName#1#2#3#4{%
14677 \pdfoutline goto name{#2}count#3{#4}%
14678 }
14679 </pdfTeX>
14680 \def\check@bm@number#1{%
14681 \expandafter\ifx\csname B_#1\endcsname\relax
14682 0%
14683 \else
14684 \csname B_#1\endcsname
14685 \fi
14686 }
14687 \def\calc@bm@number#1{%
14688 \@tempcnta=\check@bm@number{#1}\relax
14689 \advance\@tempcnta by 1 %
14690 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
14691 }
14692 </!vTeX>

```



```

14693 \ifHy@implicit
14694 \else
14695   \expandafter\endinput
14696 \fi

14697 </outlines>
14698 <*outlines | hypertex>

14699 \newlength\Hy@SectionHShift
14700 \def\Hy@SectionAnchorHref#1{%
14701   \ifx\protect\@typeset@protect
14702     \Hy@@@SectionAnchor{#1}%
14703   \fi
14704 }
14705 \DeclareRobustCommand*{\Hy@@@SectionAnchor}[1]{%
14706   \leavevmode
14707   \hbox to 0pt{%
14708     \kern-\Hy@SectionHShift
14709     \Hy@raisedlink{%
14710       \hyper@anchorstart{#1}\hyper@anchorend
14711     }%
14712     \hss
14713   }%
14714 }
14715 \let\H@old@ssect\@ssect
14716 \def\@ssect#1#2#3#4#5{%
14717   \Hy@MakeCurrentHrefAuto{section*}%
14718   \setlength{\Hy@SectionHShift}{#1}%
14719   \begingroup
14720     \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14721     \toks\tw@\expandafter{%
14722       \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14723       #5%
14724     }%
14725   \edef\x{\endgroup
14726     \the\toks@{\the\toks\tw@}}%
14727   }\x
14728 }
14729 \let\H@old@schapter\@schapter
14730 \def\@schapter#1{%
14731   \begingroup
14732     \let\@mkboth\@gobbletwo
14733     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14734     \Hy@raisedlink{%
14735       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14736     }%
14737   \endgroup
14738   \H@old@schapter{#1}%
14739 }

```

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:

```

14740 \ltx@ifundefined{@chapter}{}{%
14741   \let\Hy@org@chapter\@chapter
14742   \def\@chapter{%
14743     \def\Hy@next{%
14744       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14745       \Hy@raisedlink{%

```

```

14746     \hyper@anchorstart{\@currentHref}\hyper@anchorend
14747 }%
14748 }%
14749 \ifnum\c@secnumdepth>\m@ne
14750 \ltx@ifUndefined{if@mainmatter}%
14751 \iftrue{\csname if@mainmatter\endcsname}%
14752 \let\Hy@next\relax
14753 \fi
14754 \fi
14755 \Hy@next
14756 \Hy@org@chapter
14757 }%
14758 }

14759 \let\H@old@part\@part
14760 \begingroup\expandafter\expandafter\expandafter\endgroup
14761 \expandafter\ifx\csname chapter\endcsname\relax
14762 \let\Hy@secnum@part\z@
14763 \else
14764 \let\Hy@secnum@part\m@ne
14765 \fi
14766 \def\@part{%
14767 \ifnum\Hy@secnum@part>\c@secnumdepth
14768 \phantomsection
14769 \fi
14770 \H@old@part
14771 }

14772 \let\H@old@spart\@spart
14773 \def\@spart#1{%
14774 \Hy@MakeCurrentHrefAuto{part*}%
14775 \Hy@raisedlink{%
14776 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14777 }%
14778 \H@old@spart{#1}%
14779 }

14780 \let\H@old@sect\@sect
14781 \def\@sect#1#2#3#4#5#6[#7]#8{%
14782 \ifnum #2>\c@secnumdepth
14783 \expandafter\@firstoftwo
14784 \else
14785 \expandafter\@secondoftwo
14786 \fi
14787 {%
14788 \Hy@MakeCurrentHrefAuto{section*}%
14789 \setlength{\Hy@SectionHShift}{#3}%
14790 \begingroup
14791 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[{#7}]}%
14792 \toks\tw@\expandafter{%
14793 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14794 #8%
14795 }%
14796 \edef\x{\endgroup
14797 \the\toks@\the\toks\tw@}%
14798 }\x
14799 }{%
14800 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[{#7}]{#8}%
14801 }%
14802 }

```

```

14803 </outlines | hypertex>
14804 <*outlines>

14805 \expandafter\def\csname Parent-4\endcsname{}
14806 \expandafter\def\csname Parent-3\endcsname{}
14807 \expandafter\def\csname Parent-2\endcsname{}
14808 \expandafter\def\csname Parent-1\endcsname{}
14809 \expandafter\def\csname Parent0\endcsname{}
14810 \expandafter\def\csname Parent1\endcsname{}
14811 \expandafter\def\csname Parent2\endcsname{}
14812 \expandafter\def\csname Parent3\endcsname{}
14813 \expandafter\def\csname Parent4\endcsname{}

14814 </outlines>

```

## 50 Compatibility with koma-script classes

```

14815 <*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.

```

14816 \def\Hy@tempa{%
14817   \def\@addchap{##1}##2{%
14818     \typeout{##2}%
14819     \if@twoside
14820       \@mkboth{##1}{}%
14821     \else
14822       \@mkboth{}{##1}%
14823     \fi
14824     \addtocontents{lof}{\protect\addvspace{10\p@}}%
14825     \addtocontents{lot}{\protect\addvspace{10\p@}}%
14826     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14827     \Hy@raisedlink{%
14828       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14829     }%
14830     \if@twocolumn
14831       \@topnewpage[\@makeschapterhead{##2}]%
14832     \else
14833       \@makeschapterhead{##2}%
14834       \@afterheading
14835     \fi
14836     \addcontentsline{toc}{chapter}{##1}%
14837   }%
14838 }
14839 \@ifclassloaded{scrbook}{%
14840   \@ifclasslater{scrbook}{2001/01/01}{%
14841     \let\Hy@tempa\@empty
14842   }{%
14843 }%
14844 \@ifclassloaded{scrreprt}{%
14845   \@ifclasslater{scrreprt}{2001/01/01}{%
14846     \let\Hy@tempa\@empty
14847   }{%
14848 }%
14849   \let\Hy@tempa\@empty
14850 }%

```

```

14851 }%
14852 \Hy@tempa
14853 </outlines | hypertext>

```

## 51 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

### 51.1 PD1 encoding

```

14854 <*pd1enc>
14855 \DeclareFontEncoding{PD1}{-}{-}

Accents
14856 \DeclareTextAccent{'}{PD1}{\textasciigrave}
14857 \DeclareTextAccent{'~}{PD1}{\textacute}
14858 \DeclareTextAccent{^}{PD1}{\textasciicircum}
14859 \DeclareTextAccent{~}{PD1}{\texttilde}
14860 \DeclareTextAccent{"}{PD1}{\textasciidieresis}
14861 \DeclareTextAccent{r}{PD1}{\textring}
14862 \DeclareTextAccent{v}{PD1}{\textasciicaron}
14863 \DeclareTextAccent{.}{PD1}{\textdotaccent}
14864 \DeclareTextAccent{c}{PD1}{\textcedilla}
14865 \DeclareTextAccent{=}{PD1}{\textasciimacron}
14866 \DeclareTextAccent{b}{PD1}{\textmacronbelow}
14867 \DeclareTextAccent{d}{PD1}{\textdotbelow}
14868 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textasciigrave}
14869 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\textacute}
14870 \DeclareTextCompositeCommand{^}{PD1}{\@empty}{\textasciicircum}
14871 \DeclareTextCompositeCommand{~}{PD1}{\@empty}{\texttilde}
14872 \DeclareTextCompositeCommand{"}{PD1}{\@empty}{\textasciidieresis}
14873 \DeclareTextCompositeCommand{r}{PD1}{\@empty}{\textring}
14874 \DeclareTextCompositeCommand{v}{PD1}{\@empty}{\textasciicaron}
14875 \DeclareTextCompositeCommand{.}{PD1}{\@empty}{\textdotaccent}
14876 \DeclareTextCompositeCommand{c}{PD1}{\@empty}{\textcedilla}
14877 \DeclareTextCompositeCommand{=}{PD1}{\@empty}{\textasciimacron}
14878 \DeclareTextCompositeCommand{b}{PD1}{\@empty}{\textmacronbelow}
14879 \DeclareTextCompositeCommand{d}{PD1}{\@empty}{\textdotbelow}
14880 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textasciigrave}
14881 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\textacute}
14882 \DeclareTextCompositeCommand{^}{PD1}{\ }{\textasciicircum}
14883 \DeclareTextCompositeCommand{~}{PD1}{\ }{\texttilde}
14884 \DeclareTextCompositeCommand{"}{PD1}{\ }{\textasciidieresis}
14885 \DeclareTextCompositeCommand{r}{PD1}{\ }{\textring}
14886 \DeclareTextCompositeCommand{v}{PD1}{\ }{\textasciicaron}
14887 \DeclareTextCompositeCommand{.}{PD1}{\ }{\textdotaccent}
14888 \DeclareTextCompositeCommand{c}{PD1}{\ }{\textcedilla}
14889 \DeclareTextCompositeCommand{=}{PD1}{\ }{\textasciimacron}
14890 \DeclareTextCompositeCommand{b}{PD1}{\ }{\textmacronbelow}
14891 \DeclareTextCompositeCommand{d}{PD1}{\ }{\textdotbelow}
14892 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}}{#1}
14893 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}}{#1}
14894 \DeclareTextCommand{\newtie}{PD1}[1]{%
14895   \TextSymbolUnavailable{\newtie{#1}}}{#1}%
14896 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```
14897 % U+0009 (CHARACTER TABULATION)
14898 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
14899 % U+000A (LINE FEED)
14900 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
14901 % U+000D (CARRIAGE RETURN)
14902 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

Accent glyph names
14903 % U+02D8 BREVE; breve
14904 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
14905 % U+02C7 CARON; caron
14906 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
14907 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
14908 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
14909 % U+02D9 DOT ABOVE; dotaccent
14910 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
14911 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
14912 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
14913 % U+02DB OGONEK; ogonek
14914 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
14915 % U+02DA RING ABOVE; ring
14916 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
14917 % U+02DC SMALL TILDE; ilde, *tilde
14918 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

\040: U+0020 SPACE; *space, spacehackarabic
\041: U+0021 EXCLAMATION MARK; exclam
14919 % U+0022 QUOTATION MARK; quotedbl
14920 \DeclareTextCommand{\textquotedbl}{PD1}{\string"}% \042 U+0022
14921 % U+0023 NUMBER SIGN; numbersign
14922 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
14923 % U+0024 DOLLAR SIGN; dollar
14924 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
14925 % U+0025 PERCENT SIGN; percent
14926 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
14927 % U+0026 AMPERSAND; ampersand
14928 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

\047: U+0027 APOSTROPHE; quotesingle

14929 % U+0028 LEFT PARENTHESIS; parenleft
14930 \DeclareTextCommand{\textparenleft}{PD1}{\string\(% \050 U+0028
14931 % U+0029 RIGHT PARENTHESIS; parenright
14932 \DeclareTextCommand{\textparenright}{PD1}{\string\)% \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
14933 % U+002E FULL STOP; period
14934 \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  
 14935 % U+003C LESS-THAN SIGN; less  
 14936 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
 \075: U+003D EQUALS SIGN; equal  
 14937 % U+003E GREATER-THAN SIGN; greater  
 14938 \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  
 14939 % U+005C REVERSE SOLIDUS; backslash  
 14940 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
 14941 % "U+2216 SET MINUS" simulated by "U+005C REVERSE SOLIDUS"  
 14942 \DeclareTextCommand{\textsetminus}{PD1}{\textbackslash}  
 \135: U+005D RIGHT SQUARE BRACKET; bracketright  
 14943 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 14944 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
 14945 % U+005F LOW LINE; underscore  
 14946 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
 14947 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F  
 14948 % U+0060 GRAVE ACCENT; grave  
 14949 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
 \141: U+0061 LATIN SMALL LETTER A; a  
 ...  
 \150: U+0068 LATIN SMALL LETTER H; h  
 14950 % U+0069 LATIN SMALL LETTER I; i  
 14951 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
 \152: U+006A LATIN SMALL LETTER J; j  
 ...  
 \172: U+007A LATIN SMALL LETTER Z; z  
 14952 % U+007B LEFT CURLY BRACKET; braceleft  
 14953 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
 14954 % U+007C VERTICAL LINE; \*bar, verticalbar  
 14955 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
 14956 % U+007D RIGHT CURLY BRACKET; braceright  
 14957 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
 14958 % U+007E TILDE; asciitilde  
 14959 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
 Slot \177 (0x7F) is undefined in PDFDocEncoding.  
 14960 % U+2022 BULLET; bullet  
 14961 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
 14962 % U+2020 DAGGER; dagger  
 14963 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
 14964 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
 14965 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
 14966 \DeclareTextCommand{\textddagger}{PD1}{\textddagger}  
 14967 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
 14968 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
 14969 % U+2014 EM DASH; emdash  
 14970 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
 14971 % U+2013 EN DASH; endash

14972 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
14973 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
14974 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
14975 % U+2044 FRACTION SLASH; fraction  
14976 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
14977 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
inglleft  
14978 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039  
14979 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guils-  
inglright  
14980 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A  
14981 % U+2212 MINUS SIGN; minus  
14982 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
14983 % U+2030 PER MILLE SIGN; perthousand  
14984 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
14985 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
14986 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E  
14987 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
14988 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
14989 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
14990 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
14991 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
14992 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
14993 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
14994 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
14995 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
14996 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
14997 % U+2122 TRADE MARK SIGN; trademark  
14998 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
14999 % U+FB01 LATIN SMALL LIGATURE FI; fi  
15000 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
15001 % U+FB02 LATIN SMALL LIGATURE FL; fl  
15002 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
15003 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
15004 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
15005 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
15006 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
15007 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
15008 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
15009 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
15010 \DeclareTextCompositeCommand{\Y}{PD1}{Y}{\230}% U+0178  
15011 \DeclareTextCommand{\IJ}{PD1}{\230}  
15012 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
15013 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
15014 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
15015 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
15016 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
15017 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
15018 % U+0153 LATIN SMALL LIGATURE OE; oe  
15019 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
15020 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
15021 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
15022 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
15023 \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.  
15024 % U+20AC EURO SIGN; \*Euro, euro

15025 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
15026 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
15027 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
15028 % U+00A2 CENT SIGN; cent  
15029 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
15030 % U+00A3 POUND SIGN; sterling  
15031 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
15032 % U+00A4 CURRENCY SIGN; currency  
15033 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4  
15034 % U+00A5 YEN SIGN; yen  
15035 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
15036 % U+00A6 BROKEN BAR; brokenbar  
15037 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
15038 % U+00A7 SECTION SIGN; section  
15039 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
15040 % U+00A8 DIAERESIS; dieresis  
15041 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
15042 % U+00A9 COPYRIGHT SIGN; copyright  
15043 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
15044 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
15045 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
15046 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
15047 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
15048 % U+00AC NOT SIGN; logicalnot  
15049 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
15050 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not  
  
No glyph \255 in PDFDocEncoding.  
15051 % U+00AE REGISTERED SIGN; registered  
15052 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
15053 % U+00AF MACRON; \*macron, overscore  
15054 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
15055 % U+00B0 DEGREE SIGN; degree  
15056 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
15057 % U+00B1 PLUS-MINUS SIGN; plusminus  
15058 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
15059 % U+00B2 SUPERSCRIPT TWO; twosuperior  
15060 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}%\* U+00B2  
15061 % U+00B3 SUPERSCRIPT THREE; threesuperior  
15062 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}%\* U+00B3  
15063 % U+00B4 ACUTE ACCENT; acute  
15064 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
15065 % U+00B5 MICRO SIGN; mu, mu1  
15066 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
15067 % U+00B6 PILCROW SIGN; paragraph  
15068 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
15069 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
15070 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
15071 % U+00B8 CEDILLA; cedilla  
15072 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
15073 % U+00B9 SUPERSCRIPT ONE; onesuperior  
15074 \DeclareTextCommand{\textonesuperior}{PD1}{\271}%\* U+00B9  
15075 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
15076 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
15077 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
15078 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB



15079 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
15080 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
15081 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
15082 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
15083 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
15084 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
15085 % U+00BF INVERTED QUESTION MARK; questiondown  
15086 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
15087 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
15088 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
15089 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
15090 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
15091 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
15092 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
15093 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
15094 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
15095 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
15096 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
15097 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
15098 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
15099 % U+00C6 LATIN CAPITAL LETTER AE; AE  
15100 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
15101 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
15102 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
15103 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
15104 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
15105 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
15106 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
15107 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
15108 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
15109 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
15110 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
15111 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
15112 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
15113 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
15114 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
15115 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
15116 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE  
15117 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
15118 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF  
15119 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
15120 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
15121 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
15122 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
15123 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
15124 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
15125 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2  
15126 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
15127 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
15128 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
15129 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4  
15130 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
15131 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
15132 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
15133 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6  
15134 % U+00D7 MULTIPLICATION SIGN; multiply  
15135 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7

15136 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
15137 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
15138 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
15139 \DeclareTextCompositeCommand{\'}{PD1}{U}{\331}% U+00D9  
15140 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
15141 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
15142 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
15143 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB  
15144 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
15145 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC  
15146 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
15147 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD  
15148 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
15149 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
15150 \DeclareTextCommand{\textThorn}{PD1}{\336}%\* U+00DE  
15151 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
15152 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
15153 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
15154 \DeclareTextCompositeCommand{\'}{PD1}{a}{\340}% U+00E0  
15155 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15156 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
15157 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15158 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2  
15159 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15160 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3  
15161 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15162 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4  
15163 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15164 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
15165 % U+00E6 LATIN SMALL LETTER AE; ae  
15166 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
15167 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15168 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
15169 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15170 \DeclareTextCompositeCommand{\'}{PD1}{e}{\350}% U+00E8  
15171 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15172 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
15173 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15174 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
15175 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
15176 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB  
15177 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
15178 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
15179 \DeclareTextCompositeCommand{\'}{PD1}{i}{\354}% U+00EC  
15180 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
15181 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
15182 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
15183 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
15184 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
15185 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
15186 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
15187 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
15188 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
15189 % U+00F0 LATIN SMALL LETTER ETH; eth  
15190 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
15191 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
15192 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1

```

15193 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
15194 \DeclareTextCompositeCommand{\'}{PD1}{o}{\362}% U+00F2
15195 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
15196 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3
15197 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
15198 \DeclareTextCompositeCommand{\'}{PD1}{o}{\364}% U+00F4
15199 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
15200 \DeclareTextCompositeCommand{\'}{PD1}{o}{\365}% U+00F5
15201 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
15202 \DeclareTextCompositeCommand{\'}{PD1}{o}{\366}% U+00F6
15203 % U+00F7 DIVISION SIGN; divide
15204 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
15205 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
15206 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
15207 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
15208 \DeclareTextCompositeCommand{\'}{PD1}{u}{\371}% U+00F9
15209 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
15210 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA
15211 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
15212 \DeclareTextCompositeCommand{\'}{PD1}{u}{\373}% U+00FB
15213 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
15214 \DeclareTextCompositeCommand{\'}{PD1}{u}{\374}% U+00FC
15215 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
15216 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD
15217 % U+00FE LATIN SMALL LETTER THORN; thorn; \th, \thorn (wasysym)
15218 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
15219 \DeclareTextCommand{\textthorn}{PD1}{\376}%* U+00FE
15220 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
15221 \DeclareTextCompositeCommand{\'}{PD1}{y}{\377}% U+00FF
15222 \DeclareTextCommand{\ij}{PD1}{\377}% U+00FF

```

Glyphs that consist of several characters.

```

15223 \DeclareTextCommand{\SS}{PD1}{SS}
15224 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}

```

Aliases (german.sty)

```

15225 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}
15226 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}
15227 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}
15228 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}
15229 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}
15230 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}
15231 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}
15232 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}

```

Aliases (math names)

```

15233 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}
15234 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}
15235 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}
15236 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}
15237 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}
15238 \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).

```

15239 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
15240 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
15241 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
15242 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute

```

```

15243 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
15244 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
15245 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
15246 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
15247 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
15248 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
15249 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
15250 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
15251 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
15252 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
15253 \end{pd1enc}

```

## 51.2 PU encoding

```

15254 \newcommand{*puenc}
15255 \DeclareFontEncoding{PU}{}{}

```

### 51.2.1 NFSS2 accents

```

15256 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
15257 \DeclareTextCommand{\'}{PU}[1]{#1\83\000}% U+0300
15258 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
15259 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
15260 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
15261 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
15262 % U+0303 COMBINING TILDE; tildecmb, *tildecomb
15263 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
15264 % U+0304 COMBINING MACRON; macroncmb
15265 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
15266 % U+0306 COMBINING BREVE; brevecmb
15267 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
15268 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
15269 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
15270 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
15271 % U+0308 COMBINING DIAERESIS; dieresiscmb
15272 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
15273 % U+030A COMBINING RING ABOVE; ringcmb
15274 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
15275 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
15276 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
15277 % U+030C COMBINING CARON; caroncmb
15278 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
15279 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
15280 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
15281 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
15282 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
15283 \DeclareTextCommand{\textinvbreve}{PU}[1]{#1\83\021}% U+0311
15284 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
15285 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
15286 % U+0324 COMBINING DIAERESIS BELOW; dieresisbelowcmb; \textsubum-
    laut (tipa)
15287 \DeclareTextCommand{\textsubumlaut}{PU}[1]{#1\83\044}% U+0324
15288 % U+0325 COMBINING RING BELOW; ringbelowcmb; \textsubring (tipa)
15289 \DeclareTextCommand{\textsubring}{PU}[1]{#1\83\045}% U+0325
15290 % U+0327 COMBINING CEDILLA; cedillacmb
15291 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
15292 % U+0328 COMBINING OGONEK; ogonekcmb
15293 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
15294 % U+032D COMBINING CIRCUMFLEX ACCENT BELOW;

```

```

15295 % \textsubcircum (tipa)
15296 \DeclareTextCommand{\textsubcircum}{PU}[1]{#1\83\055}% U+032D
15297 % U+032E COMBINING BREVE BELOW; brevebelowcmb
15298 \DeclareTextCommand{\textsubbreve}{PU}[1]{#1\83\056}% U+032E
15299 % U+0330 COMBINING TILDE BELOW; tildebelowcmb; \textsubtilde (tipa)
15300 \DeclareTextCommand{\textsubtilde}{PU}[1]{#1\83\060}% U+0330
15301 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
15302 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
15303 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-
      blecmb
15304 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
15305 % U+20DD COMBINING ENCLOSING CIRCLE
15306 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

```

Double accents.

```

15307 \DeclareTextCommand{\textacutemacron}{PU}[1]{#1\83\001\83\004}
15308 \DeclareTextCommand{\textgravemacron}{PU}[1]{#1\83\000\83\004}

```

\@empty is an artefact of the NFSS2 machinery, it gets inserted for empty arguments and spaces.

```

15309 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textasciigrave}
15310 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}
15311 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}
15312 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}
15313 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}
15314 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textstring}
15315 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}
15316 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}
15317 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}
15318 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}
15319 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}
15320 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}
15321 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}
15322 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}
15323 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\@empty}{\83\021}
15324 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\@empty}{\83\044}
15325 \DeclareTextCompositeCommand{\textsubring}{PU}{\@empty}{\texttringlow}
15326 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\@empty}{\textcirc-
      low}
15327 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\@empty}{\83\056}
15328 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\@empty}{\texttildelow}
15329 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}
15330 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}
15331 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}
15332 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}
15333 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}
15334 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\@empty}{\83\001\83\004}
15335 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\@empty}{\83\000\83\004}
15336 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textasciigrave}
15337 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}
15338 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}
15339 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}
15340 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}
15341 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textstring}
15342 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}
15343 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}
15344 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}
15345 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}

```

```

15346 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}
15347 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}
15348 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}
15349 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}
15350 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\ }{\83\021}}
15351 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\ }{\83\044}}
15352 \DeclareTextCompositeCommand{\textsubring}{PU}{\ }{\texttringlow}
15353 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\ }{\textcircumlow}
15354 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\ }{\83\056}}
15355 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\ }{\texttildelow}
15356 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}
15357 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}
15358 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}
15359 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}
15360 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}
15361 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\ }{\83\001\83\004}}
15362 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\ }{\83\000\83\004}}

```

Accents for capitals (see encoding TS1)

```

15363 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}
15364 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}
15365 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}
15366 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}
15367 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}
15368 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}
15369 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}
15370 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}
15371 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}
15372 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}
15373 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}
15374 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}
15375 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.\{#1}}
15376 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}
15377 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}

```

### 51.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

15378 % U+0009 (CHARACTER TABULATION)
15379 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
15380 % U+000A (LINE FEED)
15381 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
15382 % U+000D (CARRIAGE RETURN)
15383 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D
\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam
15384 % U+0022 QUOTATION MARK; quotedbl
15385 \DeclareTextCommand{\textquotedbl}{PU}{\string"}% \80\042 U+0022
15386 % U+0023 NUMBER SIGN; numbersign
15387 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
15388 % U+0024 DOLLAR SIGN; dollar
15389 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
15390 %* \textdollar -> \mathdollar
15391 % U+0025 PERCENT SIGN; percent
15392 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
15393 % U+0026 AMPERSAND; ampersand
15394 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
15395 %* \textampersand -> \binampersand (stmaryrd)

```

15396 %\* \textampersand -> \with (cml)  
 15397 % U+0027 APOSTROPHE; quotesingle  
 15398 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027  
 15399 % U+0028 LEFT PARENTHESIS; parenleft  
 15400 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028  
 15401 % U+0029 RIGHT PARENTHESIS; parenright  
 15402 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029  
 15403 % U+002A ASTERISK; asterisk  
 15404 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A (?)  
 \80\053: U+002B PLUS SIGN; plus  
 \80\054: U+002C COMMA; comma  
 \80\055: U+002D HYPHEN-MINUS; hyphen  
 \80\056: U+002E FULL STOP; period  
 \80\057: U+002F SOLIDUS; slash  
 \80\060: U+0030 DIGIT ZERO; zero  
 ...  
 \80\071: U+0039 DIGIT NINE; nine  
 \80\072: U+003A COLON; colon  
 \80\073: U+003B SEMICOLON; semicolon  
 15405 % U+003C LESS-THAN SIGN; less  
 15406 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C  
 \80\075: U+003D EQUALS SIGN; equal  
 15407 % U+003E GREATER-THAN SIGN; greater  
 15408 \DeclareTextCommand{\textgreater}{PU}{>}% \80\076 U+003E  
 \80\077: U+003F QUESTION MARK; question  
 \80\100: U+0040 COMMERCIAL AT; at  
 \80\101: U+0041 LATIN CAPITAL LETTER A; A  
 ...  
 \80\132: U+005A LATIN CAPITAL LETTER Z; Z  
 \80\133: U+005B LEFT SQUARE BRACKET; bracketleft  
 15409 % U+005C REVERSE SOLIDUS; backslash  
 15410 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C  
 \80\135: U+005D RIGHT SQUARE BRACKET; bracketright  
 15411 % U+005E CIRCUMFLEX ACCENT; asciicircum  
 15412 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E  
 15413 % U+005F LOW LINE; underscore  
 15414 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F  
 15415 %\* \textunderscore -> \mathunderscore (LaTeX)  
 15416 % U+0060 GRAVE ACCENT; grave  
 15417 \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  
 15418 % U+0069 LATIN SMALL LETTER I; i  
 15419 \DeclareTextCompositeCommand{\.}{PU}{i}% \80\151 U+0069  
 15420 \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  
 15421 % U+007B LEFT CURLY BRACKET; braceleft  
 15422 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B  
 15423 % U+007C VERTICAL LINE; \*bar, verticalbar

15424 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C  
 15425 %\* \textbar -> \textvline (tipa)  
 15426 % U+007D RIGHT CURLY BRACKET; braceright  
 15427 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D  
 15428 % U+007E TILDE; asciitilde  
 15429 \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  
 15430 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
 15431 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1  
 15432 % U+00A2 CENT SIGN; cent  
 15433 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2  
 15434 % U+00A3 POUND SIGN; sterling  
 15435 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3  
 15436 %\* \textsterling -> \mathsterling (LaTeX)  
 15437 %\* \textsterling -> \pounds (LaTeX)  
 15438 % U+00A4 CURRENCY SIGN; currency  
 15439 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4  
 15440 % U+00A5 YEN SIGN; yen  
 15441 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5  
 15442 % U+00A6 BROKEN BAR; brokenbar  
 15443 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
 15444 %\* \textbrokenbar -> \brokenvert (wasysym)  
 15445 % U+00A7 SECTION SIGN; section  
 15446 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
 15447 %\* \textsection -> \mathsection (LaTeX)  
 15448 %\* \textsection -> \S (LaTeX)  
 15449 % U+00A8 DIAERESIS; dieresis  
 15450 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
 15451 % U+00A9 COPYRIGHT SIGN; copyright  
 15452 \DeclareTextCommand{\textcopyright}{PU}{\80\251}%\* U+00A9  
 15453 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
 15454 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
 15455 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
 15456 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
 15457 % U+00AC NOT SIGN; logicalnot  
 15458 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
 15459 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
 \80\255: U+00AD SOFT HYPHEN; sftyphen, softthyphen  
 15460 % U+00AE REGISTERED SIGN; registered  
 15461 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
 15462 % U+00AF MACRON; \*macron, overscore  
 15463 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
 15464 % U+00B0 DEGREE SIGN; degree  
 15465 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
 15466 % U+00B1 PLUS-MINUS SIGN; plusminus  
 15467 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
 15468 % U+00B2 SUPERSCRIPT TWO; twosuperior  
 15469 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}%\* U+00B2  
 15470 % U+00B3 SUPERSCRIPT THREE; threesuperior  
 15471 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}%\* U+00B3  
 15472 % U+00B4 ACUTE ACCENT; acute  
 15473 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
 15474 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4



15475 % U+00B5 MICRO SIGN; mu, mul  
 15476 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
 15477 % U+00B6 PILCROW SIGN; paragraph  
 15478 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
 15479 %\* \textparagraph -> \mathparagraph (LaTeX)  
 15480 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
 15481 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
 15482 % U+00B8 CEDILLA; cedilla  
 15483 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
 15484 % U+00B9 SUPERSCRIPT ONE; onesuperior  
 15485 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}%\* U+00B9  
 15486 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
 15487 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA  
 15488 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guille-  
 motright  
 15489 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
 15490 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
 15491 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
 15492 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
 15493 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
 15494 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
 15495 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
 15496 % U+00BF INVERTED QUESTION MARK; questiondown  
 15497 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
 15498 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
 15499 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
 15500 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
 15501 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
 15502 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
 15503 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
 15504 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
 15505 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
 15506 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
 15507 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4  
 15508 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
 15509 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
 15510 % U+00C6 LATIN CAPITAL LETTER AE; AE  
 15511 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
 15512 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
 15513 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
 15514 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
 15515 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
 15516 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
 15517 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
 15518 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
 15519 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
 15520 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
 15521 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB  
 15522 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
 15523 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
 15524 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
 15525 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
 15526 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
 15527 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
 15528 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
 15529 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF  
 15530 % U+00D0 LATIN CAPITAL LETTER ETH; Eth

15531 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
15532 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
15533 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
15534 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
15535 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
15536 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
15537 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
15538 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
15539 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4  
15540 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
15541 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
15542 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
15543 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6  
15544 % U+00D7 MULTIPLICATION SIGN; multiply  
15545 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
15546 %\* \textmultiply -> \vartimes (stmaryrd)  
15547 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
15548 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
15549 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
15550 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9  
15551 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
15552 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
15553 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
15554 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB  
15555 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
15556 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC  
15557 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
15558 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
15559 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
15560 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
15561 \DeclareTextCommand{\textThorn}{PU}{\80\336}%\* U+00DE  
15562 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
15563 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
15564 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
15565 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0  
15566 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15567 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
15568 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15569 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
15570 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15571 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
15572 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15573 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4  
15574 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15575 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
15576 % U+00E6 LATIN SMALL LETTER AE; ae  
15577 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
15578 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15579 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
15580 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15581 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8  
15582 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15583 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
15584 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15585 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA  
15586 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
15587 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB

15588 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
15589 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
15590 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
15591 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
15592 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
15593 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
15594 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
15595 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
15596 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE  
15597 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
15598 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
15599 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF  
15600 % U+00F0 LATIN SMALL LETTER ETH; eth  
15601 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
15602 %\* \dh -> \eth (wsuipa, phonetic)  
15603 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
15604 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1  
15605 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
15606 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2  
15607 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
15608 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
15609 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
15610 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4  
15611 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
15612 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
15613 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
15614 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6  
15615 % U+00F7 DIVISION SIGN; divide  
15616 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
15617 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
15618 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
15619 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
15620 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
15621 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
15622 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
15623 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
15624 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB  
15625 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
15626 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC  
15627 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
15628 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
15629 % U+00FE LATIN SMALL LETTER THORN; thorn;  
15630 % \th, \thorn (wasysym), \textthorn (tipa)  
15631 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
15632 \DeclareTextCommand{\textthorn}{PU}{\80\376}%\* U+00FE  
15633 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
15634 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

#### 51.2.4 Latin Extended-A: U+0080 to U+017F

15635 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
15636 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100  
15637 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
15638 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
15639 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
15640 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
15641 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve

15642 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
15643 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
15644 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
15645 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
15646 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
15647 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
15648 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
15649 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
15650 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107  
15651 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
15652 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108  
15653 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
15654 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109  
15655 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent  
15656 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
15657 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
15658 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
15659 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
15660 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
15661 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
15662 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
15663 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
15664 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
15665 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
15666 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
15667 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
15668 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
15669 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron;  
15670 % \textcrd (tipa)  
15671 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
15672 \DeclareTextCommand{\textcrd}{PU}{\81\021}% U+0111  
15673 %\* \textcrd -> \crossd (wsuipa)  
15674 % An alternate glyph with the stroke through the bowl:  
15675 %\* \textcrd -> \textbard (tipa)  
15676 %\* \textcrd -> \bard (wsuipa)  
15677 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
15678 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112  
15679 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
15680 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113  
15681 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve  
15682 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
15683 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
15684 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
15685 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
15686 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
15687 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
15688 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
15689 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
15690 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
15691 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
15692 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
15693 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
15694 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
15695 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
15696 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
15697 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex

15698 \DeclareTextCompositeCommand{\~}{PU}{G}{\81\034}% U+011C  
15699 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
15700 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
15701 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
15702 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
15703 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
15704 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
15705 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotac-  
cent  
15706 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
15707 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
15708 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
15709 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent  
15710 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
15711 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
15712 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
15713 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
15714 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
15715 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
15716 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125  
15717 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
15718 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
15719 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar; \hbar (AmS)  
15720 \DeclareTextCommand{\textthbar}{PU}{\81\047}%\* U+127  
15721 %\* \textthbar -> \textcrh (tipa)  
15722 %\* \textthbar -> \crossh (wsuipa)  
15723 %\* \textthbar -> \planck (phonetic)  
15724 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
15725 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
15726 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
15727 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
15728 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
15729 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron  
15730 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A  
15731 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron  
15732 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
15733 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B  
15734 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve  
15735 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C  
15736 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve  
15737 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
15738 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D  
15739 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek  
15740 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E  
15741 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek  
15742 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
15743 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F  
15744 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent  
15745 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130  
15746 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
15747 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131  
15748 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ  
15749 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132  
15750 % U+0133 LATIN SMALL LIGATURE IJ; ij  
15751 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133  
15752 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex

```

15753 \DeclareTextCompositeCommand{\~}{PU}{J}{\81\064}% U+0134
15754 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
15755 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
15756 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
15757 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaac-
cent
15758 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
15759 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
15760 \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 chosen `\textkra`.

```

15761 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
15762 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
15763 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
15764 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
15765 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
15766 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
15767 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-
cent
15768 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
15769 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
15770 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
15771 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
15772 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
15773 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
15774 \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`.

```

15775 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotac-
cent
15776 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
15777 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
15778 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
15779 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
15780 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
15781 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
15782 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
15783 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
15784 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
15785 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
15786 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
15787 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaac-
cent
15788 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
15789 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
15790 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
15791 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
15792 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
15793 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
15794 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
15795 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napos-
trophe, quoterightn
15796 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
15797 % U+014A LATIN CAPITAL LETTER ENG; Eng

```

15798 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
15799 % U+014B LATIN SMALL LETTER ENG; eng  
15800 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
15801 %\* \ng -> \eng (wsuipa)  
15802 %\* \ng -> \engma (phonetic)  
15803 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
15804 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C  
15805 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
15806 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D  
15807 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
15808 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E  
15809 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
15810 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F  
15811 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odbla-  
cute, Ohungarumlaut  
15812 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150  
15813 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odbla-  
cute, ohungarumlaut  
15814 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151  
15815 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
15816 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
15817 % U+0153 LATIN SMALL LIGATURE OE; oe  
15818 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
15819 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
15820 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154  
15821 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
15822 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155  
15823 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaac-  
cent  
15824 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156  
15825 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
15826 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157  
15827 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
15828 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158  
15829 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
15830 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159  
15831 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
15832 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
15833 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
15834 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
15835 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
15836 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
15837 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
15838 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
15839 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
15840 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
15841 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
15842 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
15843 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
15844 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
15845 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
15846 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
15847 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-  
cent  
15848 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
15849 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
15850 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163

15851 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
15852 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
15853 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
15854 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
15855 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
15856 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
15857 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
15858 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
15859 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
15860 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
15861 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
15862 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
15863 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
15864 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
15865 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
15866 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
15867 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
15868 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
15869 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
15870 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
15871 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
15872 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
15873 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
15874 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
15875 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblac  
cute, Uhungarumlaut  
15876 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
15877 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblac  
cute, uhungarumlaut  
15878 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
15879 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
15880 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
15881 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
15882 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
15883 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
15884 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
15885 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
15886 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
15887 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
15888 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
15889 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
15890 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
15891 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
15892 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178  
15893 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
15894 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
15895 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
15896 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
15897 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
15898 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
15899 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
15900 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
15901 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
15902 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
15903 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
15904 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
15905 % U+017F LATIN SMALL LETTER LONG S; longs, slong



15906 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

### 51.2.5 Latin Extended-B: U+0180 to U+024F

15907 % U+0180 LATIN SMALL LETTER B WITH STROKE; bstroke; \textcrb (tipa)  
15908 \DeclareTextCommand{\textcrb}{PU}{\81\200}% U+0180  
15909 %\* \textcrb -> \crossb (wsuipa)  
15910 % An alternate glyph with the stroke through the bowl:  
15911 %\* \textcrb -> \textbarb (tipa)  
15912 %\* \textcrb -> \barb (wsuipa)  
15913 % U+0181 LATIN CAPITAL LETTER B WITH HOOK; Bhook; \hausab (phonetic)  
15914 \DeclareTextCommand{\texthausab}{PU}{\81\201}%\* U+0181  
15915 % U+0188 LATIN SMALL LETTER C WITH HOOK; chook; \texthtc (tipa)  
15916 \DeclareTextCommand{\texthtc}{PU}{\81\210}% U+0188  
15917 % U+018A LATIN CAPITAL LETTER D WITH HOOK; Dhook; \hausad (phonetic)  
15918 \DeclareTextCommand{\texthausad}{PU}{\81\212}%\* U+018A  
15919 % U+018E LATIN CAPITAL LETTER REVERSED E; Eversed  
15920 \DeclareTextCommand{\textEversed}{PU}{\81\216}% U+018E  
15921 \DeclareTextCommand{\textrevE}{PU}{\81\216}% U+018E  
15922 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
15923 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
15924 % U+0195 LATIN SMALL LETTER HV; hv; \texthvlig (tipa)  
15925 \DeclareTextCommand{\texthvlig}{PU}{\81\225}% U+0195  
15926 %\* \texthvlig -> \hv (wsuipa)  
15927 % U+0198 LATIN CAPITAL LETTER K WITH HOOK; Khook; \hausak (phonetic)  
15928 \DeclareTextCommand{\texthausak}{PU}{\81\230}%\* U+0198  
15929 % U+0199 LATIN SMALL LETTER K WITH HOOK; khook; \texthtk (tipa)  
15930 \DeclareTextCommand{\texthtk}{PU}{\81\231}% U+0199  
15931 %\* \texthtk -> \hausak (phonetic)  
15932 % U+019A LATIN SMALL LETTER L WITH BAR; lbar;  
15933 % \textbarl (tipa), \barl (wsuipa)  
15934 \DeclareTextCommand{\textbarl}{PU}{\81\232}%\* U+019A  
15935 % U+019B LATIN SMALL LETTER LAMBDA WITH STROKE/  
15936 % LATIN SMALL LETTER BARRED LAMBDA; lambdastroke;  
15937 % \textcrlambda (tipa)  
15938 \DeclareTextCommand{\textcrlambda}{PU}{\81\233}% U+019B  
15939 %\* \textcrlambda -> \crossnilambda (wsuipa)  
15940 %\* \textcrlambda -> \barlambd (phonetic)  
15941 %\* \textcrlambda -> \lambdabar (txfonts/pxfonts)  
15942 %\* \textcrlambda -> \lambdash (txfonts/pxfonts)  
15943 % U+019E LATIN SMALL LETTER N WITH LONG RIGHT LEG; nlegrightlong;  
15944 % \textnrleg (tipx)  
15945 \DeclareTextCommand{\textPUnrleg}{PU}{\81\236}% U+019E  
15946 %\* \textPUnrleg -> \textnrleg (tipx)  
15947 % U+01A5 LATIN SMALL LETTER P WITH HOOK; phook; \texthtp (tipa)  
15948 \DeclareTextCommand{\texthtp}{PU}{\81\245}% U+01A5  
15949 % U+01AB LATIN SMALL LETTER T WITH PALATAL HOOK; tpalatalhook;  
15950 % \textlhookt (tipa)  
15951 \DeclareTextCommand{\textlhookt}{PU}{\81\253}% U+01AB  
15952 % U+01AD LATIN SMALL LETTER T WITH HOOK; thook; \texthtt (tipa)  
15953 \DeclareTextCommand{\texthtt}{PU}{\81\255}% U+01AD  
15954 % U+01B9 LATIN SMALL LETTER EZH REVERSED/  
15955 % LATIN SMALL LETTER REVERSED YOGH; \textrevyogh (tipa)  
15956 \DeclareTextCommand{\textrevyogh}{PU}{\81\271}% U+01B9

15957 % U+01BB LATIN LETTER TWO WITH STROKE; twostroke; \textcrtwo (tipa)  
 15958 \DeclareTextCommand{\textcrtwo}{PU}{\81\273}% U+01BB  
 15959 % U+01BE LATIN LETTER INVERTED GLOTTAL STOP WITH STROKE;  
 15960 % glottalinvertedstroke; \textcrinvglotstop (tipa)  
 15961 \DeclareTextCommand{\textcrinvglotstop}{PU}{\81\276}% U+01BE  
 15962 % U+01BF LATIN LETTER WYNN; wynn; \textwynn (tipa)  
 15963 \DeclareTextCommand{\textwynn}{PU}{\81\277}% U+01BF  
 15964 % U+01C0 LATIN LETTER DENTAL CLICK/LATIN LETTER PIPE; clickden-  
 tal;  
 15965 % \textpipe (tipa)  
 15966 \DeclareTextCommand{\textpipe}{PU}{\81\300}% U+01C0  
 15967 %\* \textpipe -> \textpipevar (tipx)  
 15968 % U+01C1 LATIN LETTER LATERAL CLICK/LATIN LETTER  
 15969 % DOUBLE PIPE; clicklateral; \textdoublepipe (tipa)  
 15970 \DeclareTextCommand{\textdoublepipe}{PU}{\81\301}% U+01C1  
 15971 %\* \textdoublepipe -> \textdoublepipevar (tipx)  
 15972 % U+01C2 LATIN LETTER ALVEOLAR CLICK/LATIN LETTER PIPE DOU-  
 BLE BAR;  
 15973 % clickalveolar; \textdoublebarpipe (tipa)  
 15974 \DeclareTextCommand{\textdoublebarpipe}{PU}{\81\302}% U+01C2  
 15975 %\* \textdoublebarpipe -> \textdoublebarpipevar (tipx)  
 15976 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron  
 15977 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD  
 15978 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron  
 15979 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE  
 15980 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron  
 15981 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF  
 15982 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron  
 15983 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 15984 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0  
 15985 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron  
 15986 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1  
 15987 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron  
 15988 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2  
 15989 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron  
 15990 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3  
 15991 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron  
 15992 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4  
 15993 % U+01DD LATIN SMALL LETTER TURNED E; eturned; \inve (wasysym)  
 15994 \DeclareTextCommand{\textinve}{PU}{\81\335}%\* U+01DD  
 15995 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke  
 15996 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4  
 15997 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke  
 15998 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5  
 15999 %\* \textgslash -> \textcrg (tipa)  
 16000 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron  
 16001 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6  
 16002 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
 16003 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
 16004 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
 16005 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
 16006 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
 16007 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
 16008 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
 16009 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
 16010 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
 16011 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB

16012 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
16013 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
16014 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
16015 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
16016 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
16017 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
16018 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
16019 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
16020 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\370}% U+01F8  
16021 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
16022 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9  
16023 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
16024 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC  
16025 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
16026 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD  
16027 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE;  
16028 % \*Oslashacute, Ostrokeacute  
16029 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE  
16030 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE;  
16031 % \*oslashacute, ostrokeacute  
16032 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF  
16033 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
16034 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
16035 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
16036 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
16037 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
16038 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
16039 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
16040 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
16041 % U+0206 LATIN CAPITAL LETTER E WITH INVERTED BREVE; Einvert-  
16042 edbreve  
16042 \DeclareTextCompositeCommand{\textinvbreve}{PU}{E}{\82\006}% U+0206  
16043 % U+0207 LATIN SMALL LETTER E WITH INVERTED BREVE; einvert-  
16044 edbreve  
16044 \DeclareTextCompositeCommand{\textinvbreve}{PU}{e}{\82\007}% U+0207  
16045 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
16046 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
16047 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
16048 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
16049 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
16050 % U+020A LATIN CAPITAL LETTER I WITH INVERTED BREVE; Iinvert-  
16051 edbreve  
16051 \DeclareTextCompositeCommand{\textinvbreve}{PU}{I}{\82\012}% U+020A  
16052 % U+020B LATIN SMALL LETTER I WITH INVERTED BREVE; iinvert-  
16053 edbreve  
16053 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
16054 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B  
16055 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
16056 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
16057 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
16058 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
16059 % U+020E LATIN CAPITAL LETTER O WITH INVERTED BREVE; Oinvert-  
16060 edbreve  
16060 \DeclareTextCompositeCommand{\textinvbreve}{PU}{O}{\82\016}% U+020E  
16061 % U+020F LATIN SMALL LETTER O WITH INVERTED BREVE; oinvert-  
16062 edbreve  
16062 \DeclareTextCompositeCommand{\textinvbreve}{PU}{o}{\82\017}% U+020F

16063 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
16064 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
16065 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
16066 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
16067 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
16068 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
16069 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
16070 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
16071 % U+0216 LATIN CAPITAL LETTER U WITH INVERTED BREVE; Uinvert-  
edbreve  
16072 \DeclareTextCompositeCommand{\textinvbreve}{PU}{U}{\82\026}% U+0216  
16073 % U+0217 LATIN SMALL LETTER U WITH INVERTED BREVE; uinverted-  
breve  
16074 \DeclareTextCompositeCommand{\textinvbreve}{PU}{u}{\82\027}% U+0217  
16075 % U+021E LATIN CAPITAL LETTER H WITH CARON  
16076 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
16077 % U+021F LATIN SMALL LETTER H WITH CARON  
16078 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
16079 % U+0221 LATIN SMALL LETTER D WITH CURL; \textctd (tipa)  
16080 \DeclareTextCommand{\textctd}{PU}{\82\041}% U+0221  
16081 % U+0225 LATIN SMALL LETTER Z WITH HOOK; \textcommatailz (tipa)  
16082 \DeclareTextCommand{\textcommatailz}{PU}{\82\045}% U+0225  
16083 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
16084 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
16085 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
16086 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
16087 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
16088 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
16089 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
16090 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
16091 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
16092 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
16093 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE  
16094 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
16095 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
16096 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232  
16097 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
16098 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233  
16099 % U+0235 LATIN SMALL LETTER N WITH CURL; \textctn (tipa)  
16100 \DeclareTextCommand{\textctn}{PU}{\82\065}% U+0235  
16101 % U+0236 LATIN SMALL LETTER T WITH CURL; \textctt (tipa)  
16102 \DeclareTextCommand{\textctt}{PU}{\82\066}% U+0236  
16103 % U+0237 LATIN SMALL LETTER DOTLESS J  
16104 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237  
16105 % U+0238 LATIN SMALL LETTER DB DIGRAPH; \textdblig (tipx)  
16106 \DeclareTextCommand{\textPUdblig}{PU}{\82\070}% U+0238  
16107 %\* \textPUdblig -> \textdblig (tipx)  
16108 % U+0239 LATIN SMALL LETTER QP DIGRAPH; \textqplig (tipx)  
16109 \DeclareTextCommand{\textPUqplig}{PU}{\82\071}% U+0239  
16110 %\* \textPUqplig -> \textqplig (tipx)  
16111 % U+023C LATIN SMALL LETTER C WITH STROKE; \slashc (wsuipa)  
16112 \DeclareTextCommand{\textslashc}{PU}{\82\074}%\* U+023C  
16113 %\* \textslashc -> \textcentoldstyle (textcomp)  
16114 % With bar instead of stroke:  
16115 %\* \textslashc -> \textbarc (tipa)

## 51.2.6 IPA Extensions: U+0250 to U+02AF

16116 % U+0250 LATIN SMALL LETTER TURNED A; aturned; \textturna (tipa)  
16117 \DeclareTextCommand{\textturna}{PU}{\82\120}% U+250  
16118 %\* \textturna -> \inva (wasysym)  
16119 % U+0251 LATIN SMALL LETTER ALPHA/LATIN SMALL LETTER  
16120 % SCRIPT A; ascript; \textscripta (tipa), \scripta (wsuipa)  
16121 \DeclareTextCommand{\textscripta}{PU}{\82\121}%\* U+251  
16122 %\* \textscripta -> \vara (phonetic)  
16123 % U+0252 LATIN SMALL LETTER TURNED ALPHA; ascriptturned;  
16124 % \textturnscripta (tipa)  
16125 \DeclareTextCommand{\textturnscripta}{PU}{\82\122}% U+252  
16126 %\* \textturnscripta -> \invscripta (wsuipa)  
16127 %\* \textturnscripta -> \rotvara (phonetic)  
16128 % U+0253 LATIN CAPITAL LETTER B WITH HOOK; bhook; \texthtb (tipa)  
16129 \DeclareTextCommand{\texthtb}{PU}{\82\123}% U+253  
16130 %\* \texthtb -> \hookb (wsuipa)  
16131 %\* \texthtb -> \hausab (phonetic)  
16132 % U+0254 LATIN SMALL LETTER OPEN O; oopen;  
16133 % \textopeno (tipa), \openo (wasysym)  
16134 \DeclareTextCommand{\textopeno}{PU}{\82\124}%\* U+0254  
16135 %\* \textopeno -> \varopeno (phonetic)  
16136 % U+0255 LATIN SMALL LETTER C WITH CURL; ccurl; \textctc (tipa)  
16137 \DeclareTextCommand{\textctc}{PU}{\82\125}% U+0255  
16138 %\* \textctc -> \curlyc (wsuipa)  
16139 % U+0256 LATIN SMALL LETTER D WITH TAIL; dtail; \textrtaild (tipa)  
16140 \DeclareTextCommand{\textrtaild}{PU}{\82\126}%\* U+0256  
16141 %\* \textrtaild -> \taild (wsuipa)  
16142 % U+0257 LATIN SMALL LETTER D WITH HOOK; dhook; \texthtd (tipa)  
16143 \DeclareTextCommand{\texthtd}{PU}{\82\127}% U+0257  
16144 %\* \texthtd -> \hookd (wsuipa)  
16145 %\* \texthtd -> \hausad (phonetic)  
16146 % U+0258 LATIN SMALL LETTER REVERSED E; ereversed;  
16147 % \textreve (tipa), \reve (wsuipa)  
16148 \DeclareTextCommand{\textreve}{PU}{\82\130}%\* U+0258  
16149 % U+0259 LATIN SMALL LETTER SCHWA; schwa;  
16150 % \textschwa (tipa), \schwa (wsuipa, phonetic)  
16151 \DeclareTextCommand{\textschwa}{PU}{\82\131}%\* U+0259  
16152 % U+025A LATIN SMALL LETTER SCHWA WITH HOOK; schwahook;  
16153 % \textrhookschwa (tipa)  
16154 \DeclareTextCommand{\textrhookschwa}{PU}{\82\132}% U+025A  
16155 %\* \textrhookschwa -> \er (wsuipa)  
16156 % U+025B LATIN SMALL LETTER OPEN E/LATIN SMALL LETTER EP-  
SILON; eopen;  
16157 % \niepsilon (wsuipa)  
16158 \DeclareTextCommand{\textniepsilon}{PU}{\82\133}%\* U+025B  
16159 %\* \textniepsilon -> \epsi (phonetic)  
16160 % U+025C LATIN SMALL LETTER REVERSED OPEN E; eopenreversed;  
16161 % \textrevepsilon (tipa), \revepsilon (wsuipa)  
16162 \DeclareTextCommand{\textrevepsilon}{PU}{\82\134}%\* U+025C  
16163 % U+025D LATIN SMALL LETTER REVERSED OPEN E WITH HOOK; eopen-  
reversedhook;  
16164 % \textrhookrevepsilon (tipa)  
16165 \DeclareTextCommand{\textrhookrevepsilon}{PU}{\82\135}%\* U+025D  
16166 %\* \textrhookrevepsilon -> \hookrevepsilon (wsuipa)  
16167 % U+025E LATIN SMALL LETTER CLOSED REVERSED OPEN E; eopenre-  
versedclosed;  
16168 % \textcloserevepsilon (tipa)  
16169 \DeclareTextCommand{\textcloserevepsilon}{PU}{\82\136}% U+025E

16170 %\* \textcloserevepsilon -> \closedrevepsilon (wsuipa)  
 16171 % U+025F LATIN SMALL LETTER DOTLESS J WITH STROKE; jdotlessstroke;  
 16172 % \textbardotlessj (tipa)  
 16173 \DeclareTextCommand{\textbardotlessj}{PU}{\82\137}% U+025F  
 16174 %\* \textbardotlessj -> \barj (phonetic)  
 16175 % U+0260 LATIN SMALL LETTER G WITH HOOK; ghook; \texthtg (tipa)  
 16176 \DeclareTextCommand{\texthtg}{PU}{\82\140}% U+0260  
 16177 %\* \texthtg -> \hookg (wsuipa)  
 16178 % U+0261 LATIN SMALL LETTER SCRIPT G; gscript;  
 16179 % \textscriptg (tipa), \scriptg (wsuipa)  
 16180 \DeclareTextCommand{\textscriptg}{PU}{\82\141}%\* U+0261  
 16181 %\* \textscriptg -> \varg (phonetic)  
 16182 % U+0262 LATIN LETTER SMALL CAPITAL G; \textscg (tipa), \scg (wsuipa)  
 16183 \DeclareTextCommand{\textscg}{PU}{\82\142}%\* U+0262  
 16184 % U+0263 LATIN SMALL LETTER GAMMA; gammalatinsmall;  
 16185 % \ipagamma (wsuipa), \vod (phonetic)  
 16186 \DeclareTextCommand{\textipagamma}{PU}{\82\143}%\* U+0263  
 16187 %\* \textipagamma -> \vod (pnonetic)  
 16188 % U+0264 LATIN SMALL LETTER RAMS HORN; ramshorn;  
 16189 % \babygamma (wsuipa)  
 16190 \DeclareTextCommand{\textbabygamma}{PU}{\82\144}%\* U+0264  
 16191 % U+0265 LATIN SMALL LETTER TURNED H; hturned; \textturnh (tipa)  
 16192 \DeclareTextCommand{\textturnh}{PU}{\82\145}% U+0265  
 16193 %\* \textturnh -> \invh (wsuipa)  
 16194 %\* \textturnh -> \udesc (phonetic)  
 16195 % U+0266 LATIN SMALL LETTER H WITH HOOK; hhook; \texthth (tipa)  
 16196 \DeclareTextCommand{\texthth}{PU}{\82\146}% U+0266  
 16197 %\* \texthth -> \hookh (wsuipa)  
 16198 %\* \texthth -> \voicedh (phonetic)  
 16199 % U+0267 LATIN SMALL LETTER HENG WITH HOOK; henghook; \texththeng (tipa)  
 16200 \DeclareTextCommand{\texththeng}{PU}{\82\147}% U+0267  
 16201 %\* \texththeng -> \hookheng (wsuipa)  
 16202 % U+0268 LATIN SMALL LETTER I WITH STROKE;  
 16203 % \textbari (tipa), \bari (wsuipa)  
 16204 \DeclareTextCommand{\textbari}{PU}{\82\150}%\* U+0268  
 16205 %\* \textbari -> \ibar (phonetic)  
 16206 % U+0269 LATIN SMALL LETTER IOTA; iotalatin; \niiota (wsuipa)  
 16207 \DeclareTextCommand{\textniiota}{PU}{\82\151}%\* U+0269  
 16208 %\* \textniiota -> \vari (phonetic)  
 16209 % U+026A LATIN LETTER SMALL CAPITAL I; \textsci (tipa), \sci (wsuipa)  
 16210 \DeclareTextCommand{\textsci}{PU}{\82\152}%\* U+026A  
 16211 % U+026B LATIN SMALL LETTER L WITH MIDDLE TILDE; lmiddletilde;  
 16212 % \textltilde (tipa)  
 16213 \DeclareTextCommand{\textltilde}{PU}{\82\153}% U+026B  
 16214 %\* \textltilde -> \tildel (wsuipa)  
 16215 % U+026C LATIN SMALL LETTER L WITH BELT; lbelt; \textbeltl (tipa)  
 16216 \DeclareTextCommand{\textbeltl}{PU}{\82\154}% U+026C  
 16217 %\* \textbeltl -> \latfric (wsuipa)  
 16218 % U+026D LATIN SMALL LETTER L WITH RETROFLEX HOOK;  
 16219 % lhookretroflex; \textrtaill (tipa)  
 16220 \DeclareTextCommand{\textrtaill}{PU}{\82\155}% U+026D  
 16221 %\* \textrtaill -> \taill (wsuipa)  
 16222 % U+026E LATIN SMALL LETTER LEZH; lezh; \textlyoghlig (tipa)  
 16223 \DeclareTextCommand{\textlyoghlig}{PU}{\82\156}% U+026E  
 16224 %\* \textlyoghlig -> \lz (wsuipa)

16225 % U+026F LATIN SMALL LETTER TURNED M; mturned; \textturnm (tipa)  
 16226 \DeclareTextCommand{\textturnm}{PU}{\82\157}% U+026F  
 16227 %\* \textturnm -> \invm (wsuipa)  
 16228 %\* \textturnm -> \rotrm (phonetic)  
 16229 % U+0270 LATIN SMALL LETTER TURNED M WITH LONG LEG; mlongleg-  
 turned;  
 16230 % \textturnmrlleg (tipa)  
 16231 \DeclareTextCommand{\textturnmrlleg}{PU}{\82\160}% U+0270  
 16232 %\* \textturnmrlleg -> \legm (wsuipa)  
 16233 % U+0271 LATIN SMALL LETTER M WITH HOOK; mhook; \textltailm (tipa)  
 16234 \DeclareTextCommand{\textltailm}{PU}{\82\161}% U+0271  
 16235 %\* \textltailm -> \labdentainas (wsuipa)  
 16236 %\* \textltailm -> \emgma (phonetic)  
 16237 % U+0272 LATIN SMALL LETTER N WITH LEFT HOOK; nhookleft; \textl-  
 tailn (tipa)  
 16238 \DeclareTextCommand{\textltailn}{PU}{\82\162}% U+0272  
 16239 %\* \textltailn -> \nj (wsuipa)  
 16240 %\* \textltailn -> \enya (phonetic)  
 16241 % U+0273 LATIN SMALL LETTER N WITH RETROFLEX HOOK;  
 16242 % nhookretroflex; \textrtailn (tipa)  
 16243 \DeclareTextCommand{\textrtailn}{PU}{\82\163}% U+0273  
 16244 %\* \textrtailn -> \tailn (wsuipa)  
 16245 % U+0274 LATIN LETTER SMALL CAPITAL N; \textscn (tipa), \scn (wsuipa)  
 16246 \DeclareTextCommand{\textscn}{PU}{\82\164}%\* U+0274  
 16247 % U+0275 LATIN CAPITAL LETTER O WITH MIDDLE TILDE/  
 16248 % LATIN CAPITAL LETTER BARRED O; obarred;  
 16249 % \textbaro (tipa), \baro (wsuipa)  
 16250 \DeclareTextCommand{\textbaro}{PU}{\82\165}%\* U+0275  
 16251 % U+0276 LATIN LETTER SMALL CAPITAL OE; \textscœlig (tipa)  
 16252 \DeclareTextCommand{\textscœlig}{PU}{\82\166}% U+0276  
 16253 % U+0277 LATIN SMALL LETTER CLOSED OMEGA; omegalatinclosed;  
 16254 % \textcloseomega (tipa)  
 16255 \DeclareTextCommand{\textcloseomega}{PU}{\82\167}% U+0277  
 16256 %\* \textcloseomega -> \closedniomega (wsuipa)  
 16257 %\* \textcloseomega -> \varomega (phonetic)  
 16258 % U+0278 LATIN SMALL LETTER PHI; philatin; \niph (wsuipa)  
 16259 \DeclareTextCommand{\textniph}{PU}{\82\170}%\* U+0278  
 16260 % U+0279 LATIN SMALL LETTER TURNED R; rturned; \textturnr (tipa)  
 16261 \DeclareTextCommand{\textturnr}{PU}{\82\171}% U+0279  
 16262 %\* \textturnr -> \invr (wsuipa)  
 16263 %\* \textturnr -> \rotr (phonetic)  
 16264 % U+027A LATIN SMALL LETTER TURNED R WITH LONG LEG;  
 16265 % rlonglegturned; \textturnlongleg (tipa)  
 16266 \DeclareTextCommand{\textturnlongleg}{PU}{\82\172}% U+027A  
 16267 %\* \textturnlongleg -> \invleg (wsuipa)  
 16268 % U+027B LATIN SMALL LETTER TURNED R WITH HOOK; rhookturned;  
 16269 % \textturnrrtail (tipa)  
 16270 \DeclareTextCommand{\textturnrrtail}{PU}{\82\173}% U+027B  
 16271 %\* \textturnrrtail -> \tailinvr (wsuipa)  
 16272 % U+027C LATIN SMALL LETTER R WITH LONG LEG; rlongleg; \textlon-  
 glegr (tipa)  
 16273 \DeclareTextCommand{\textlongleg}{PU}{\82\174}%\* U+027C  
 16274 %\* \textlongleg -> \leg (wsuipa)  
 16275 % U+027D LATIN SMALL LETTER R WITH TAIL; rhook; \textrtailr (tipa)  
 16276 \DeclareTextCommand{\textrtailr}{PU}{\82\175}% U+027D  
 16277 %\* \textrtailr -> \tailr (wsuipa)  
 16278 % U+027E LATIN SMALL LETTER R WITH FISHHOOK; rfishhook;

16279 % \textfishhookr (tipa)  
 16280 \DeclareTextCommand{\textfishhookr}{PU}{\82\176}% U+027E  
 16281 %\* \textfishhookr -> \flapr (wsuipa)  
 16282 %\* \textfishhookr -> \flap (phonetic)  
 16283 % U+027F LATIN SMALL LETTER REVERSED R WITH FISHHOOK; rfishhookreversed;  
 16284 % \textlhtlongi (tipa)  
 16285 \DeclareTextCommand{\textlhtlongi}{PU}{\82\177}% U+027F  
 16286 % U+0280 LATIN LETTER SMALL CAPITAL R; \textscr (tipa), \scr (wsuipa)  
 16287 \DeclareTextCommand{\textscr}{PU}{\82\200}%\* U+0280  
 16288 % U+0281 LATIN LETTER SMALL CAPITAL INVERTED R; Rsmallinverted;  
 16289 % \textinvscr (tipa), \invscr (wsuipa)  
 16290 \DeclareTextCommand{\textinvscr}{PU}{\82\201}%\* U+0281  
 16291 % U+0282 LATIN SMALL LETTER S WITH HOOK; shook; \texttrails (tipa)  
 16292 \DeclareTextCommand{\texttrails}{PU}{\82\202}% U+0282  
 16293 %\* \texttrails -> \tails (wsuipa)  
 16294 % U+0283 LATIN SMALL LETTER ESH; esh; \textesh (tipa), \esh (wsuipa)  
 16295 \DeclareTextCommand{\textesh}{PU}{\82\203}%\* U+0283  
 16296 % U+0284 LATIN SMALL LETTER DOTLESS J WITH STROKE AND HOOK;  
 16297 % dotlessjstrokehook; \texthtbardotlessj (tipa)  
 16298 \DeclareTextCommand{\texthtbardotlessj}{PU}{\82\204}% U+0284  
 16299 % U+0285 LATIN SMALL LETTER SQUAT REVERSED ESH; eshsquatereversed;  
 16300 % \textvibyi (tipa)  
 16301 \DeclareTextCommand{\textvibyi}{PU}{\82\205}% U+0285  
 16302 % U+0286 LATIN SMALL LETTER ESH WITH CURL; eshcurl; \textctesh (tipa)  
 16303 \DeclareTextCommand{\textctesh}{PU}{\82\206}% U+0286  
 16304 %\* \textctesh -> \curlyesh (wsuipa)  
 16305 % U+0287 LATIN SMALL LETTER TURNED T; tturned; \textturnt (tipa)  
 16306 \DeclareTextCommand{\textturnt}{PU}{\82\207}% U+0287  
 16307 %\* \textturnt -> \clickt (wsuipa)  
 16308 % U+0288 LATIN SMALL LETTER T WITH RETROFLEX HOOK; retroflexhook;  
 16309 % \texttrtailt (tipa)  
 16310 \DeclareTextCommand{\texttrtailt}{PU}{\82\210}% U+0288  
 16311 %\* \texttrtailt -> \tailt (wsuipa)  
 16312 % U+0289 LATIN SMALL LETTER U BAR; ubar;  
 16313 % \textbaru (tipa), \baru (wsuipa)  
 16314 \DeclareTextCommand{\textbaru}{PU}{\82\211}%\* U+0289  
 16315 %\* \textbaru -> \ubar (phonetic)  
 16316 % U+028A LATIN SMALL LETTER UPSILON; \niupsilon (wsuipa)  
 16317 \DeclareTextCommand{\textniupsilon}{PU}{\82\212}%\* U+028A  
 16318 %\* \textniupsilon -> \rotOmega (phonetic)  
 16319 % U+028B LATIN SMALL LETTER V WITH HOOK/LATIN SMALL LETTER SCRIPT V;  
 16320 % vhook; \textscriptv (tipa), \scriptv (wsuipa)  
 16321 \DeclareTextCommand{\textscriptv}{PU}{\82\213}%\* U+028B  
 16322 % U+028C LATIN SMALL LETTER TURNED V; vturned; \textturnv (tipa)  
 16323 \DeclareTextCommand{\textturnv}{PU}{\82\214}%\* U+028C  
 16324 %\* \textturnv -> \invv (wsuipa)  
 16325 %\* \textturnv -> \pwedge (phonetic)  
 16326 % U+028D LATIN SMALL LETTER TURNED W; wturned; \textturnw (tipa)  
 16327 \DeclareTextCommand{\textturnw}{PU}{\82\215}%\* U+028D  
 16328 %\* \textturnw -> \invw (wsuipa)  
 16329 %\* \textturnw -> \rotw (phonetic)  
 16330 % U+028E LATIN SMALL LETTER TURNED Y; yturned; \textturny (tipa)  
 16331 \DeclareTextCommand{\textturny}{PU}{\82\216}%\* U+028E



16332 %\* \textturny -> \invy (wsuipa)  
 16333 %\* \textturny -> \roty (phonetic)  
 16334 % U+028F LATIN LETTER SMALL CAPITAL Y; \textscy (tipa), \scy (wsuipa)  
 16335 \DeclareTextCommand{\textscy}{PU}{\82\217}%\* U+028F  
 16336 % U+0290 LATIN SMALL LETTER Z WITH RETROFLEX HOOK; zretroflex-hook;  
 16337 % \textrtailz (tipa)  
 16338 \DeclareTextCommand{\textrtailz}{PU}{\82\220}% U+0290  
 16339 %\* \textrtailz -> \tailz (wsuipa)  
 16340 % U+0291 LATIN SMALL LETTER Z WITH CURL; zcurl; \textctz (tipa)  
 16341 \DeclareTextCommand{\textctz}{PU}{\82\221}% U+0291  
 16342 %\* \textctz -> \curlyz (wsuipa)  
 16343 % U+0292 LATIN SMALL LETTER EZH/LATIN SMALL LETTER YOGH; ezh;  
 16344 % \textyogh (tipa), \yogh (wsuipa)  
 16345 \DeclareTextCommand{\textyogh}{PU}{\82\222}%\* U+0292  
 16346 % U+0293 LATIN SMALL LETTER EZH WITH CURL/LATIN SMALL LETTER YOGH CURL;  
 16347 % ezhcurl; \textctyogh (tipa)  
 16348 \DeclareTextCommand{\textctyogh}{PU}{\82\223}% U+0293  
 16349 %\* \textctyogh -> \curlyyogh (wsuipa)  
 16350 % U+0294 LATIN LETTER GLOTTAL STOP; glottalstop;  
 16351 % \textglotstop (tipa), \glotstop (wsuipa)  
 16352 \DeclareTextCommand{\textglotstop}{PU}{\82\224}%\* U+0294  
 16353 %\* \textglotstop -> \ejective (wsuipa)  
 16354 %\* \textglotstop -> \glottal (phonetic)  
 16355 % U+0295 LATIN LETTER PHARYNGEAL VOICED FRICATIVE/  
 16356 % LATIN LETTER REVERSED GLOTTAL STOP; glottalstopreversed;  
 16357 % \textrevglotstop (tipa), \revglotstop (wsuipa)  
 16358 \DeclareTextCommand{\textrevglotstop}{PU}{\82\225}%\* U+0295  
 16359 %\* \textrevglotstop -> \reveject (wsuipa)  
 16360 % U+0296 LATIN LETTER INVERTED GLOTTAL STOP; glottalstopinverted;  
 16361 % \textinvglotstop (tipa), \invglotstop (wsuipa)  
 16362 \DeclareTextCommand{\textinvglotstop}{PU}{\82\226}%\* U+0296  
 16363 % U+0297 LATIN LETTER STRETCHED C; cstretched; \textstretchc (tipa)  
 16364 \DeclareTextCommand{\textstretchc}{PU}{\82\227}% U+0297  
 16365 %\* \textstretchc -> \clickc (wsuipa)  
 16366 %\* \textstretchc -> \textstretchcvar (tipx)  
 16367 % U+0298 LATIN LETTER BILABIAL CLICK; bilabialclick;  
 16368 % \textbullseye (tipa)  
 16369 \DeclareTextCommand{\textbullseye}{PU}{\82\230}% U+0298  
 16370 %\* \textbullseye -> \clickb (wsuipa)  
 16371 %\* \textbullseye -> \textObullseye (tipx)  
 16372 % U+0299 LATIN LETTER SMALL CAPITAL B; \textscb (tipa)  
 16373 \DeclareTextCommand{\textscb}{PU}{\82\231}% U+0299  
 16374 % U+029A LATIN SMALL LETTER CLOSED OPEN E; eopenclosed;  
 16375 % \textcloseepsilon (tipa)  
 16376 \DeclareTextCommand{\textcloseepsilon}{PU}{\82\232}% U+029A  
 16377 % U+029B LATIN LETTER SMALL CAPITAL G WITH HOOK; Gsmallhook;  
 16378 % \texthtscg (tipa)  
 16379 \DeclareTextCommand{\texthtscg}{PU}{\82\233}% U+029B  
 16380 % U+029C LATIN LETTER SMALL CAPITAL H; \textsch (tipa)  
 16381 \DeclareTextCommand{\textsch}{PU}{\82\234}% U+029C  
 16382 % U+029D LATIN SMALL LETTER J WITH CROSSED-TAIL; jcrossetail; \textcdj (tipa)  
 16383 \DeclareTextCommand{\textctj}{PU}{\82\235}% U+029D  
 16384 %\* \textctj -> \textctjvar (tipx)  
 16385 % U+029E LATIN SMALL LETTER TURNED K; kturned; \textturnk (tipa)

16386 \DeclareTextCommand{\textturnk}{PU}{\82\236}% U+029E  
 16387 %\* \textturnk -> \textturnsk (tipx)  
 16388 % U+029F LATIN LETTER SMALL CAPITAL L; \textsc (tipa)  
 16389 \DeclareTextCommand{\textsc}{PU}{\82\237}% U+029F  
 16390 % U+02A0 LATIN SMALL LETTER Q WITH HOOK; qhook; \texthtq (tipa)  
 16391 \DeclareTextCommand{\texthtq}{PU}{\82\240}% U+02A0  
 16392 % U+02A1 LATIN LETTER GLOTTAL STOP WITH STROKE; glottalstop-stroke;  
 16393 % \textbarglotstop (tipa)  
 16394 \DeclareTextCommand{\textbarglotstop}{PU}{\82\241}% U+02A1  
 16395 % U+02A2 LATIN LETTER REVERSED GLOTTAL STOP WITH STROKE/  
 16396 % LATIN LETTER REVERSED GLOTTAL STOP BAR; glottalstopstrokereversed;  
 16397 % \textbarrevglotstop (tipa)  
 16398 \DeclareTextCommand{\textbarrevglotstop}{PU}{\82\242}% U+02A2  
 16399 % U+02A3 LATIN SMALL LETTER DZ DIGRAPH; dzaltone; \textdzlig (tipa)  
 16400 \DeclareTextCommand{\textdzlig}{PU}{\82\243}% U+02A3  
 16401 %\* \textdzlig -> \dz (wsupipa)  
 16402 % U+02A4 LATIN SMALL LETTER DEZH DIGRAPH; dezh; \textdyoghlig (tipa)  
 16403 \DeclareTextCommand{\textdyoghlig}{PU}{\82\244}% U+02A4  
 16404 % U+02A5 LATIN SMALL LETTER DZ DIGRAPH WITH CURL; dzcurl;  
 16405 % \textdctzlig (tipa)  
 16406 \DeclareTextCommand{\textdctzlig}{PU}{\82\245}% U+02A5  
 16407 % U+02A6 LATIN SMALL LETTER TS DIGRAPH; ts; \texttslig (tipa)  
 16408 \DeclareTextCommand{\texttslig}{PU}{\82\246}% U+02A6  
 16409 % U+02A7 LATIN SMALL LETTER TESH DIGRAPH; tesh; \texttshlig (tipa)  
 16410 \DeclareTextCommand{\texttshlig}{PU}{\82\247}% U+02A7  
 16411 %\* \texttshlig -> \tesh (wsuipa)  
 16412 % U+02A8 LATIN SMALL LETTER TC DIGRAPH WITH CURL; tccurl;  
 16413 % \texttctclig (tipa)  
 16414 \DeclareTextCommand{\texttctclig}{PU}{\82\250}% U+02A8  
 16415 % U+02AE LATIN SMALL LETTER TURNED H WITH FISHHOOK;  
 16416 % \textlhtlongy (tipa)  
 16417 \DeclareTextCommand{\textlhtlongy}{PU}{\82\256}% U+02AE  
 16418 % U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;  
 16419 % \textvibyy (tipa)  
 16420 \DeclareTextCommand{\textvibyy}{PU}{\82\257}% U+02AF

### 51.2.7 Spacing Modifier Letters: U+02B0 to U+02FF

16421 % U+02BD MODIFIER LETTER REVERSED COMMA;  
 16422 % commareversedmod, afii64937; \textrevapostrophe (tipa)  
 16423 \DeclareTextCommand{\textrevapostrophe}{PU}{\82\275}% U+02BD  
 16424 % U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;  
 16425 % \textraiseglotstop (tipa)  
 16426 \DeclareTextCommand{\textraiseglotstop}{PU}{\82\300}% U+02C0  
 16427 % U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;  
 16428 % \textlptr (tipa)  
 16429 \DeclareTextCommand{\textlptr}{PU}{\82\302}% U+02C2  
 16430 % U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;  
 16431 % \textrptr (tipa)  
 16432 \DeclareTextCommand{\textrptr}{PU}{\82\303}% U+02C3  
 16433 % U+02C7 CARON; caron  
 16434 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7  
 16435 % U+02C8 MODIFIER LETTER VERTICAL LINE; verticallinemod;  
 16436 % \textprimstress (tipa)  
 16437 \DeclareTextCommand{\textprimstress}{PU}{\82\308}% U+02C8

16438 % U+02CC MODIFIER LETTER LOW VERTICAL LINE; `verticallinelowmod`;  
 16439 % `\textsecstress` (tipa)  
 16440 \DeclareTextCommand{\textsecstress}{PU}{\82\314}% U+02CC  
 16441 % U+02D0 MODIFIER LETTER TRIANGULAR COLON; `colontriangularmod`;  
 16442 % `\textlengthmark` (tipa)  
 16443 \DeclareTextCommand{\textlengthmark}{PU}{\82\320}% U+02D0  
 16444 % U+02D1 MODIFIER LETTER HALF TRIANGULAR COLON; `colontriangularhalfmod`;  
 16445 % `\texthalflength` (tipa)  
 16446 \DeclareTextCommand{\texthalflength}{PU}{\82\321}% U+02D1  
 16447 % U+02D8 BREVE; `breve`  
 16448 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8  
 16449 % U+02D9 DOT ABOVE; `dotaccent`  
 16450 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9  
 16451 % U+02DA RING ABOVE; `ring`  
 16452 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA  
 16453 % U+02DB OGONEK; `ogonek`  
 16454 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB  
 16455 % U+02DC SMALL TILDE; `ilde`, `*tilde`  
 16456 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC  
 16457 % U+02DD DOUBLE ACUTE ACCENT; `hungarumlaut`  
 16458 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD  
 16459 \DeclareTextCommand{\textacutedbl}{PU}{\texthungarumlaut}% U+02DD  
 16460 % U+02F3 MODIFIER LETTER LOW RING  
 16461 \DeclareTextCommand{\textringlow}{PU}{\82\363}% U+02F3  
 16462 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT  
 16463 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5  
 16464 % U+02F7 MODIFIER LETTER LOW TILDE  
 16465 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7  
 16466 % U+02F9 MODIFIER LETTER BEGIN HIGH TONE; `\textopencorner` (tipa)  
 16467 \DeclareTextCommand{\textopencorner}{PU}{\82\371}% U+02F9  
 16468 % U+02FA MODIFIER LETTER END HIGH TONE; `\textcorner` (tipa)  
 16469 \DeclareTextCommand{\textcorner}{PU}{\82\372}% U+02FA

### 51.2.8 Combining Diacritical Marks: U+0300 to U+036F

16470 % U+030F COMBINING DOUBLE GRAVE ACCENT; `dblgravecmb`  
 16471 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
 16472 % U+0311 COMBINING INVERTED BREVE; `breveinvertedcmb`  
 16473 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
 16474 % U+0323 COMBINING DOT BELOW; `dotbelowcmb`, `*dotbelowcmb`  
 16475 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
 16476 % U+0331 COMBINING MACRON BELOW; `macronbelowcmb`  
 16477 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
 16478 % U+0361 COMBINING DOUBLE INVERTED BREVE; `breveinverteddoublecmb`  
 16479 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

### 51.2.9 Greek and Coptic: U+0370 to U+03FF

16480 % U+0374 GREEK NUMERAL SIGN; `numeralsigngreek`  
 16481 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
 16482 % U+0375 GREEK LOWER NUMERAL SIGN; `numeralsignlowergreek`  
 16483 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
 16484 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; `Alphatonos`  
 16485 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
 16486 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; `Epsilontonos`  
 16487 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
 16488 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; `Etatonos`

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16489 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389
16490 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
16491 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A
16492 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omi-
      cronos
16493 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C
16494 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilontonos
16495 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E
16496 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
16497 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F
16498 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS;
16499 % iotadiesisistonos
16500 \DeclareTextCompositeCommand{\'}{PU}{\textIotadiesis}{\83\220}% U+0390
16501 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
16502 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
16503 % U+0392 GREEK CAPITAL LETTER BETA; Beta
16504 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
16505 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma; \Gamma (LaTeX)
16506 \DeclareTextCommand{\textGamma}{PU}{\83\223}%* U+0393
16507 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta; \Delta (La-
      TeX)
16508 \DeclareTextCommand{\textDelta}{PU}{\83\224}%* U+0394
16509 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
16510 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
16511 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
16512 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
16513 % U+0397 GREEK CAPITAL LETTER ETA; Eta
16514 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
16515 % U+0398 GREEK CAPITAL LETTER THETA; Theta; \Theta (LaTeX)
16516 \DeclareTextCommand{\textTheta}{PU}{\83\230}%* U+0398
16517 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
16518 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
16519 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
16520 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
16521 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda; \Lambda (LaTeX)
16522 \DeclareTextCommand{\textLambda}{PU}{\83\233}%* U+039B
16523 % U+039C GREEK CAPITAL LETTER MU; Mu
16524 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
16525 % U+039D GREEK CAPITAL LETTER NU; Nu
16526 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D
16527 % U+039E GREEK CAPITAL LETTER XI; Xi; \Xi (LaTeX)
16528 \DeclareTextCommand{\textXi}{PU}{\83\236}%* U+039E
16529 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
16530 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
16531 % U+03A0 GREEK CAPITAL LETTER PI; Pi
16532 \DeclareTextCommand{\textPi}{PU}{\83\240}%* U+03A0
16533 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
16534 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
16535 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma; \Sigma (LaTeX)
16536 \DeclareTextCommand{\textSigma}{PU}{\83\243}%* U+03A3
16537 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
16538 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
16539 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon; \Upsilon (LaTeX)
16540 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}%* U+03A5
16541 % U+03A6 GREEK CAPITAL LETTER PHI; Phi; \Phi (LaTeX)
16542 \DeclareTextCommand{\textPhi}{PU}{\83\246}%* U+03A6
16543 % U+03A7 GREEK CAPITAL LETTER CHI; Chi

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16544 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
16545 % U+03A8 GREEK CAPITAL LETTER PSI; Psi; \Psi (LaTeX)
16546 \DeclareTextCommand{\textPsi}{PU}{\83\250}%* U+03A8
16547 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega;
16548 % \Omega (LaTeX)
16549 \DeclareTextCommand{\textOmega}{PU}{\83\251}%* U+03A9
16550 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
16551 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
16552 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\252}% U+03AA
16553 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Up-
    silondieresis
16554 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\253}% U+03AB
16555 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
16556 \DeclareTextCompositeCommand{\'}{PU}{\textalpha}{\83\254}%* U+03AC
16557 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilonos
16558 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}% U+03AD
16559 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
16560 \DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}% U+03AE
16561 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos
16562 \DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}% U+03AF
16563 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA
16564 % AND TONOS; upsilondieresis
16565 \DeclareTextCompositeCommand{\'}{PU}{\textupsilon}{\83\260}% U+03B0
16566 % U+03B1 GREEK SMALL LETTER ALPHA; alpha; \alpha (LaTeX)
16567 \DeclareTextCommand{\textalpha}{PU}{\83\261}%* U+03B1
16568 % U+03B2 GREEK SMALL LETTER BETA; beta; \beta (LaTeX)
16569 \DeclareTextCommand{\textbeta}{PU}{\83\262}%* U+03B2
16570 % U+03B3 GREEK SMALL LETTER GAMMA; gamma; \gamma (LaTeX)
16571 \DeclareTextCommand{\textgamma}{PU}{\83\263}%* U+03B3
16572 % U+03B4 GREEK SMALL LETTER DELTA; delta; \delta (LaTeX)
16573 \DeclareTextCommand{\textdelta}{PU}{\83\264}%* U+03B4
16574 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon; \epsilon (LaTeX)
16575 \DeclareTextCommand{\textepsilon}{PU}{\83\265}%* U+03B5
16576 % U+03B6 GREEK SMALL LETTER ZETA; zeta; \zeta (LaTeX)
16577 \DeclareTextCommand{\textzeta}{PU}{\83\266}%* U+03B6
16578 % U+03B7 GREEK SMALL LETTER ETA; eta; \eta (LaTeX)
16579 \DeclareTextCommand{\texteta}{PU}{\83\267}%* U+03B7
16580 % U+03B8 GREEK SMALL LETTER THETA; theta; \theta (LaTeX)
16581 \DeclareTextCommand{\texttheta}{PU}{\83\270}%* U+03B8
16582 % U+03B9 GREEK SMALL LETTER IOTA; iota; \iota (LaTeX)
16583 \DeclareTextCommand{\textiota}{PU}{\83\271}%* U+03B9
16584 % U+03BA GREEK SMALL LETTER KAPPA; kappa; \kappa (LaTeX)
16585 \DeclareTextCommand{\textkappa}{PU}{\83\272}%* U+03BA
16586 % U+03BB GREEK SMALL LETTER LAMDA; lambda; \lambda (LaTeX)
16587 \DeclareTextCommand{\textlambda}{PU}{\83\273}%* U+03BB
16588 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu; \mu (LaTeX)
16589 \DeclareTextCommand{\textmugreek}{PU}{\83\274}%* U+03BC
16590 % U+03BD GREEK SMALL LETTER NU; nu; \nu (LaTeX)
16591 \DeclareTextCommand{\textnu}{PU}{\83\275}%* U+03BD
16592 % U+03BE GREEK SMALL LETTER XI; xi; \xi (LaTeX)
16593 \DeclareTextCommand{\textxi}{PU}{\83\276}%* U+03BE
16594 % U+03BF GREEK SMALL LETTER OMICRON; omicron
16595 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
16596 % U+03C0 GREEK SMALL LETTER PI; pi; \pi (LaTeX)
16597 \DeclareTextCommand{\textpi}{PU}{\83\300}%* U+03C0
16598 % U+03C1 GREEK SMALL LETTER RHO; rho; \rho (LaTeX)
16599 \DeclareTextCommand{\textrho}{PU}{\83\301}%* U+03C1

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16600 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
16601 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}%* U+03C2
16602 % U+03C3 GREEK SMALL LETTER SIGMA; sigma; \sigma (LaTeX)
16603 \DeclareTextCommand{\textsigma}{PU}{\83\303}%* U+03C3
16604 % U+03C4 GREEK SMALL LETTER TAU; tau; \tau (LaTeX)
16605 \DeclareTextCommand{\texttau}{PU}{\83\304}%* U+03C4
16606 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon; \upsilon (LaTeX)
16607 \DeclareTextCommand{\textupsilon}{PU}{\83\305}%* U+03C5
16608 % U+03C6 GREEK SMALL LETTER PHI; phi; \phi (LaTeX)
16609 \DeclareTextCommand{\textphi}{PU}{\83\306}%* U+03C6
16610 % U+03C7 GREEK SMALL LETTER CHI; chi; \chi (LaTeX)
16611 \DeclareTextCommand{\textchi}{PU}{\83\307}%* U+03C7
16612 % U+03C8 GREEK SMALL LETTER PSI; psi; \psi (LaTeX)
16613 \DeclareTextCommand{\textpsi}{PU}{\83\310}%* U+03C8
16614 % U+03C9 GREEK SMALL LETTER OMEGA; omega; \omega (LaTeX)
16615 \DeclareTextCommand{\textomega}{PU}{\83\311}%* U+03C9
16616 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
16617 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
16618 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
    silondieresis
16619 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
16620 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
16621 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
16622 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
16623 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
16624 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
16625 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
16626 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
16627 % U+03DA GREEK LETTER STIGMA; Stigmagreek
16628 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA
16629 % U+03DB GREEK SMALL LETTER STIGMA
16630 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
16631 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
16632 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
16633 % U+03DD GREEK SMALL LETTER DIGAMMA
16634 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
16635 %* \textdigammagreek -> \digamma (AmS)
16636 % U+03DE GREEK LETTER KOPPA; Koppagreek
16637 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
16638 % U+03DF GREEK SMALL LETTER KOPPA
16639 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
16640 % U+03E0 GREEK LETTER SAMPI; Sampigreek
16641 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
16642 % U+03E1 GREEK SMALL LETTER SAMPI
16643 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1
16644 % U+03F6 GREEK REVERSED LUNATE EPSILON SYMBOL;
16645 % \backepsilon (AmS)
16646 \DeclareTextCommand{\textbackepsilon}{PU}{\83\366}% U+03F6

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### 51.2.10 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names.

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16647 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
16648 \DeclareTextCompositeCommand{'}{PU}{\CYRE}{\84\000}% U+0400
16649 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
16650 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
16651 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% ???

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16652 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, \*afii10051  
16653 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402  
16654 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, \*afii10052  
16655 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403  
16656 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, \*afii10053  
16657 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404  
16658 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, \*afii10054  
16659 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405  
16660 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I;  
16661 % Icyrillic, \*afii10055  
16662 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406  
16663 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, \*afii10056  
16664 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407  
16665 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407  
16666 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, \*afii10057  
16667 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408  
16668 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, \*afii10058  
16669 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409  
16670 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
16671 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
16672 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
16673 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
16674 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
16675 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
16676 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
16677 \DeclareTextCompositeCommand{\`}{PU}{\CYRI}{\84\015}% U+040D  
16678 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, \*afii10062  
16679 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
16680 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
16681 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, \*afii10145  
16682 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
16683 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
16684 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
16685 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
16686 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
16687 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
16688 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
16689 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
16690 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
16691 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
16692 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
16693 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
16694 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
16695 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
16696 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
16697 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
16698 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
16699 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
16700 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
16701 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
16702 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
16703 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419  
16704 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
16705 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
16706 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
16707 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
16708 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030

16709 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
16710 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
16711 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
16712 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
16713 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
16714 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
16715 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
16716 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
16717 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
16718 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
16719 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
16720 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
16721 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
16722 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
16723 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
16724 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
16725 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
16726 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039  
16727 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
16728 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
16729 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
16730 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
16731 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
16732 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
16733 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
16734 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
16735 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
16736 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN;  
16737 % Hardsigncyrillic, \*afii10044  
16738 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
16739 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
16740 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
16741 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN;  
16742 % Softsigncyrillic, \*afii10046  
16743 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
16744 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
16745 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
16746 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afii10048  
16747 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
16748 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049  
16749 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
16750 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
16751 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
16752 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
16753 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431  
16754 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
16755 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
16756 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
16757 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
16758 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
16759 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
16760 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
16761 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
16762 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhacyrillic  
16763 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436  
16764 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
16765 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437



16766 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
16767 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
16768 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
16769 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
16770 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
16771 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
16772 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
16773 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
16774 \DeclareTextCommand{\cysl}{PU}{\84\073}% U+043B  
16775 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
16776 \DeclareTextCommand{\cym}{PU}{\84\074}% U+043C  
16777 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
16778 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
16779 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
16780 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
16781 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
16782 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
16783 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
16784 \DeclareTextCommand{\cyr}{PU}{\84\100}% U+0440  
16785 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
16786 \DeclareTextCommand{\cys}{PU}{\84\101}% U+0441  
16787 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
16788 \DeclareTextCommand{\cyr}{PU}{\84\102}% U+0442  
16789 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
16790 \DeclareTextCommand{\cyr}{PU}{\84\103}% U+0443  
16791 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
16792 \DeclareTextCommand{\cyr}{PU}{\84\104}% U+0444  
16793 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
16794 \DeclareTextCommand{\cyr}{PU}{\84\105}% U+0445  
16795 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
16796 \DeclareTextCommand{\cyr}{PU}{\84\106}% U+0446  
16797 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
16798 \DeclareTextCommand{\cyr}{PU}{\84\107}% U+0447  
16799 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
16800 \DeclareTextCommand{\cyr}{PU}{\84\110}% U+0448  
16801 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
16802 \DeclareTextCommand{\cyr}{PU}{\84\111}% U+0449  
16803 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
16804 \DeclareTextCommand{\cyr}{PU}{\84\112}% U+044A  
16805 %\* \cyrhrdsn -> \hardsign (tipa)  
16806 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
16807 \DeclareTextCommand{\cyr}{PU}{\84\113}% U+044B  
16808 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
16809 \DeclareTextCommand{\cyr}{PU}{\84\114}% U+044C  
16810 %\* \cyr}{PU}{\84\114}% U+044C  
16811 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
16812 \DeclareTextCommand{\cyr}{PU}{\84\115}% U+044D  
16813 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
16814 \DeclareTextCommand{\cyr}{PU}{\84\116}% U+044E  
16815 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
16816 \DeclareTextCommand{\cyr}{PU}{\84\117}% U+044F  
16817 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
16818 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\120}% U+0450  
16819 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
16820 \DeclareTextCommand{\cyr}{PU}{\84\121}% U+0451  
16821 \DeclareTextCompositeCommand{\'}{PU}{\cyre}{\84\121}% U+0451

16822 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
 16823 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452  
 16824 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
 16825 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453  
 16826 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
 16827 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454  
 16828 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
 16829 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455  
 16830 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I;  
 16831 % \*afii10103, icyrillic  
 16832 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456  
 16833 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
 16834 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457  
 16835 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457  
 16836 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
 16837 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
 16838 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
 16839 \DeclareTextCommand{\cyrkje}{PU}{\84\131}% U+0459  
 16840 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
 16841 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
 16842 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
 16843 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
 16844 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
 16845 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
 16846 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
 16847 \DeclareTextCompositeCommand{\'}{PU}{\cyri}{\84\135}% U+045D  
 16848 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
 16849 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
 16850 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
 16851 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic  
 16852 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
 16853 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
 16854 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
 16855 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
 16856 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
 16857 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
 16858 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
 16859 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
 16860 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463  
 16861 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
 16862 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
 16863 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
 16864 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
 16865 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslitlecyrillic  
 16866 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
 16867 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslitlecyrillic  
 16868 \DeclareTextCommand{\cyrljus}{PU}{\84\147}% U+0467  
 16869 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitlei-  
 otifiedcyrillic  
 16870 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
 16871 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitleioti-  
 fiedcyrillic  
 16872 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469  
 16873 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
 16874 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
 16875 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
 16876 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B

16877 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-cyrillic  
 16878 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
 16879 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-cyrillic  
 16880 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D  
 16881 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
 16882 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
 16883 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
 16884 \DeclareTextCommand{\cyrkxi}{PU}{\84\157}% U+046F  
 16885 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
 16886 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
 16887 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
 16888 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
 16889 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
 16890 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
 16891 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
 16892 \DeclareTextCommand{\cyrfit}{PU}{\84\163}% U+0473  
 16893 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
 16894 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
 16895 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
 16896 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
 16897 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE  
 16898 % GRAVE ACCENT; Izhitsadblgravecyrillic  
 16899 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
 16900 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE  
 16901 % GRAVE ACCENT; izhitsadblgravecyrillic  
 16902 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
 16903 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
 16904 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
 16905 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
 16906 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
 16907 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic  
 16908 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
 16909 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
 16910 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
 16911 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic  
 16912 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
 16913 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic  
 16914 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
 16915 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
 16916 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
 16917 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
 16918 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
 16919 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
 16920 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
 16921 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
 16922 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
 16923 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
 16924 \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-  
 acyrllicmb  
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
 16925 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
 16926 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
 16927 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
 16928 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
 16929 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
 16930 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
 16931 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
 16932 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D  
 16933 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
 16934 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E  
 16935 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
 16936 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
 16937 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-  
 cyrillic, \*afii10050  
 16938 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
 16939 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, ghe-  
 upturncyrillic  
 16940 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
 16941 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-  
 cyrillic  
 16942 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
 16943 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
 16944 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
 16945 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK;  
 16946 % Ghemiddlehookcyrillic  
 16947 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
 16948 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK;  
 16949 % ghemiddlehookcyrillic  
 16950 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
 16951 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER;  
 16952 % Zhedescendercyrillic  
 16953 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
 16954 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER;  
 16955 % zhedescendercyrillic  
 16956 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
 16957 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-  
 dercyrillic  
 16958 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
 16959 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
 16960 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-  
 cyrillic  
 16961 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499  
 16962 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
 16963 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-  
 dercyrillic  
 16964 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
 16965 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescen-  
 dercyrillic  
 16966 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
 16967 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE;  
 16968 % Kavertikalstrokecyrillic

16969 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
16970 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE;  
16971 % kaverticalstrokecyrillic  
16972 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
16973 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
16974 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
16975 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic  
16976 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
16977 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
16978 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
16979 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
16980 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
16981 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescen-  
16982 dercyrillic  
16982 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
16983 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-  
16984 cyrillic  
16984 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
16985 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
16986 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
16987 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
16988 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
16989 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemid-  
16990 dlehookcyrillic  
16990 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
16991 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddle-  
16992 hookcyrillic  
16992 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
16993 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyril-  
16994 lic  
16994 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
16995 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
16996 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
16997 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescen-  
16998 dercyrillic  
16998 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
16999 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
17000 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescender-  
17001 cyrillic  
17001 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
17002 \DeclareTextCompositeCommand{\k}{PU}{\cyrs}{\84\253}% U+04AB  
17003 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescen-  
17004 dercyrillic  
17004 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
17005 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescen-  
17006 dercyrillic  
17006 \DeclareTextCommand{\cyrtddsc}{PU}{\84\255}% U+04AD  
17007 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
17008 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
17009 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
17010 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF  
17011 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Us-  
17012 traightstrokecyrillic  
17012 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
17013 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; us-  
17014 traightstrokecyrillic  
17014 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1

17015 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesce-  
ndercyrillic  
17016 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
17017 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescen-  
dercyrillic  
17018 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
17019 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic  
17020 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
17021 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic  
17022 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5  
17023 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER;  
17024 % Chedescendercyrillic  
17025 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
17026 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescen-  
dercyrillic  
17027 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7  
17028 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE;  
17029 % Cheverticalstrokecyrillic  
17030 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
17031 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE;  
17032 % cheverticalstrokecyrillic  
17033 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
17034 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
17035 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
17036 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
17037 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
17038 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-  
cyrillic  
17039 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
17040 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyril-  
lic  
17041 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
17042 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-  
DER; Chedescenderabkhasiancyrillic  
17043 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
17044 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
17045 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-  
DER; chedescenderabkhasiancyrillic  
17046 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
17047 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
17048 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
17049 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
17050 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
17051 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
17052 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
17053 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
17054 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
17055 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
17056 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
17057 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4  
17058 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
17059 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
17060 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
17061 \DeclareTextCommand{\cyrlldsc}{PU}{\84\306}% U+04C6  
17062 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
17063 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
17064 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic

17065 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
 17066 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakas-  
 siancyrillic  
 17067 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
 17068 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-  
 cyrillic  
 17069 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
 17070 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
 17071 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
 17072 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
 17073 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
 \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
 17074 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevacyrillic  
 17075 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
 17076 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevacyrillic  
 17077 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
 17078 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyril-  
 lic  
 17079 \DeclareTextCompositeCommand{\"}{PU}{\CYRA}{\84\322}% U+04D2  
 17080 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
 17081 \DeclareTextCompositeCommand{\"}{PU}{\cyra}{\84\323}% U+04D3  
 17082 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
 17083 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
 17084 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
 17085 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
 17086 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevacyrillic  
 17087 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
 17088 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevacyrillic  
 17089 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
 17090 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
 17091 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
 17092 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic  
 17093 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9  
 17094 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS;  
 17095 % Schwadiescyrillic  
 17096 \DeclareTextCompositeCommand{\"}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
 17097 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS;  
 17098 % schwadiescyrillic  
 17099 \DeclareTextCompositeCommand{\"}{PU}{\cyrschwa}{\84\333}% U+04DB  
 17100 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedie-  
 riscyrillic  
 17101 \DeclareTextCompositeCommand{\"}{PU}{\CYRZH}{\84\334}% U+04DC  
 17102 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-  
 cyrillic  
 17103 \DeclareTextCompositeCommand{\"}{PU}{\cyrzh}{\84\335}% U+04DD  
 17104 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-  
 cyrillic  
 17105 \DeclareTextCompositeCommand{\"}{PU}{\CYRZ}{\84\336}% U+04DE  
 17106 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresis-  
 cyrillic  
 17107 \DeclareTextCompositeCommand{\"}{PU}{\cyrz}{\84\337}% U+04DF  
 17108 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-  
 cyrillic  
 17109 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
 17110 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasian-  
 cyrillic  
 17111 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1

17112 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic  
17113 \DeclareTextCompositeCommand{=} {PU}{\CYRI}{\84\342}% U+04E2  
17114 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic  
17115 \DeclareTextCompositeCommand{\=} {PU}{\cyri}{\84\343}% U+04E3  
17116 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic  
17117 \DeclareTextCompositeCommand{"} {PU}{\CYRI}{\84\344}% U+04E4  
17118 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic  
17119 \DeclareTextCompositeCommand{\"} {PU}{\cyri}{\84\345}% U+04E5  
17120 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyrillic  
17121 \DeclareTextCompositeCommand{\"} {PU}{\CYRO}{\84\346}% U+04E6  
17122 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic  
17123 \DeclareTextCompositeCommand{\"} {PU}{\cyro}{\84\347}% U+04E7  
17124 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic  
17125 \DeclareTextCommand{\CYROTLD} {PU}{\84\350}% U+04E8  
17126 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic  
17127 \DeclareTextCommand{\cyrotld} {PU}{\84\351}% U+04E9  
17128 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS;  
17129 % Obarreddieresiscyrillic  
17130 \DeclareTextCompositeCommand{\"} {PU}{\CYROTLD}{\84\352}% U+04EA  
17131 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS;  
17132 % obarreddieresiscyrillic  
17133 \DeclareTextCompositeCommand{\"} {PU}{\cyrotld}{\84\353}% U+04EB  
17134 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
17135 \DeclareTextCompositeCommand{\"} {PU}{\CYREREV}{\84\354}% U+04EC  
17136 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
17137 \DeclareTextCompositeCommand{\"} {PU}{\cyreref}{\84\355}% U+04ED  
17138 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic  
17139 \DeclareTextCompositeCommand{=} {PU}{\CYRU}{\84\356}% U+04EE  
17140 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic  
17141 \DeclareTextCompositeCommand{=} {PU}{\cyru}{\84\357}% U+04EF  
17142 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic  
17143 \DeclareTextCompositeCommand{\"} {PU}{\CYRU}{\84\360}% U+04F0  
17144 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic  
17145 \DeclareTextCompositeCommand{\"} {PU}{\cyru}{\84\361}% U+04F1  
17146 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhun-  
garumlautcyrillic  
17147 \DeclareTextCompositeCommand{\H} {PU}{\CYRU}{\84\362}% U+04F2  
17148 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhun-  
garumlautcyrillic  
17149 \DeclareTextCompositeCommand{\H} {PU}{\cyru}{\84\363}% U+04F3  
17150 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chediere-  
siscyrillic  
17151 \DeclareTextCompositeCommand{\"} {PU}{\CYRCH}{\84\364}% U+04F4  
17152 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic  
17153 \DeclareTextCompositeCommand{\"} {PU}{\cyrch}{\84\365}% U+04F5  
17154 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
17155 \DeclareTextCommand{\CYRGDSC} {PU}{\84\366}% U+04F6  
17156 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
17157 \DeclareTextCommand{\cyrgdsc} {PU}{\84\367}% U+04F7  
17158 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-  
siscyrillic  
17159 \DeclareTextCompositeCommand{\"} {PU}{\CYRERY}{\84\370}% U+04F8  
17160 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-  
siscyrillic



17161 \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  
 17162 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
 17163 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
 17164 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
 17165 \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`.

17166 % U+05C3 HEBREW PUNCTUATION SOF PASUQ  
 17167 \DeclareTextCommand{\sofpasuq}{PU}{\85\303}% U+05C3  
 17168 % U+05D0 HEBREW LETTER ALEF  
 17169 \DeclareTextCommand{\hebalef}{PU}{\85\320}% U+05D0  
 17170 % U+05D1 HEBREW LETTER BET  
 17171 \DeclareTextCommand{\hebbet}{PU}{\85\321}% U+05D1  
 17172 % U+05D2 HEBREW LETTER GIMEL  
 17173 \DeclareTextCommand{\hebgimel}{PU}{\85\322}% U+05D2  
 17174 % U+05D3 HEBREW LETTER DALET  
 17175 \DeclareTextCommand{\hebdalet}{PU}{\85\323}% U+05D3  
 17176 % U+05D4 HEBREW LETTER HE  
 17177 \DeclareTextCommand{\hebbe}{PU}{\85\324}% U+05D4  
 17178 % U+05D5 HEBREW LETTER VAV  
 17179 \DeclareTextCommand{\hebvav}{PU}{\85\325}% U+05D5  
 17180 % U+05D6 HEBREW LETTER ZAYIN  
 17181 \DeclareTextCommand{\hebzayin}{PU}{\85\326}% U+05D6  
 17182 % U+05D7 HEBREW LETTER HET  
 17183 \DeclareTextCommand{\hebbet}{PU}{\85\327}% U+05D7  
 17184 % U+05D8 HEBREW LETTER TET  
 17185 \DeclareTextCommand{\hebtet}{PU}{\85\330}% U+05D8  
 17186 % U+05D9 HEBREW LETTER YOD  
 17187 \DeclareTextCommand{\hebyod}{PU}{\85\331}% U+05D9  
 17188 % U+05DA HEBREW LETTER FINAL KAF  
 17189 \DeclareTextCommand{\hebfinalkaf}{PU}{\85\332}% U+05DA  
 17190 % U+05DB HEBREW LETTER KAF  
 17191 \DeclareTextCommand{\hebkaf}{PU}{\85\333}% U+05DB  
 17192 % U+05DC HEBREW LETTER LAMED  
 17193 \DeclareTextCommand{\heblamed}{PU}{\85\334}% U+05DC  
 17194 % U+05DD HEBREW LETTER FINAL MEM  
 17195 \DeclareTextCommand{\hebfinalmem}{PU}{\85\335}% U+05DD  
 17196 % U+05DE HEBREW LETTER MEM  
 17197 \DeclareTextCommand{\hebmeme}{PU}{\85\336}% U+05DE  
 17198 % U+05DF HEBREW LETTER FINAL NUN  
 17199 \DeclareTextCommand{\hebfinalnun}{PU}{\85\337}% U+05DF  
 17200 % U+05E0 HEBREW LETTER NUN  
 17201 \DeclareTextCommand{\hebnun}{PU}{\85\340}% U+05E0  
 17202 % U+05E1 HEBREW LETTER SAMEKH  
 17203 \DeclareTextCommand{\hebsamekh}{PU}{\85\341}% U+05E1  
 17204 % U+05E2 HEBREW LETTER AYIN  
 17205 \DeclareTextCommand{\hebayin}{PU}{\85\342}% U+05E2  
 17206 % U+05E3 HEBREW LETTER FINAL PE

17207 \DeclareTextCommand{\hebfinalpe}{PU}{\85\343}% U+05E3  
 17208 % U+05E4 HEBREW LETTER PE  
 17209 \DeclareTextCommand{\hebpe}{PU}{\85\344}% U+05E4  
 17210 % U+05E5 HEBREW LETTER FINAL TSADI  
 17211 \DeclareTextCommand{\hebfinaltsadi}{PU}{\85\345}% U+05E5  
 17212 % U+05E6 HEBREW LETTER TSADI  
 17213 \DeclareTextCommand{\hebtsadi}{PU}{\85\346}% U+05E6  
 17214 % U+05E7 HEBREW LETTER QOF  
 17215 \DeclareTextCommand{\hebqof}{PU}{\85\347}% U+05E7  
 17216 % U+05E8 HEBREW LETTER RESH  
 17217 \DeclareTextCommand{\hebresh}{PU}{\85\350}% U+05E8  
 17218 % U+05E9 HEBREW LETTER SHIN  
 17219 \DeclareTextCommand{\hebshin}{PU}{\85\351}% U+05E9  
 17220 %\* \hebshin -> \hebsin (he8)  
 17221 % U+05EA HEBREW LETTER TAV  
 17222 \DeclareTextCommand{\hebtav}{PU}{\85\352}% U+05EA  
 17223 % U+05F0 HEBREW LIGATURE YIDDISH DOUBLE VAV  
 17224 \DeclareTextCommand{\doublevav}{PU}{\85\360}% U+05F0  
 17225 % U+05F1 HEBREW LIGATURE YIDDISH VAV YOD  
 17226 \DeclareTextCommand{\vavyod}{PU}{\85\361}% U+05F1  
 17227 % U+05F2 HEBREW LIGATURE YIDDISH DOUBLE YOD  
 17228 \DeclareTextCommand{\doubleyod}{PU}{\85\362}% U+05F2

#### 51.2.12 Thai: U+0E00 to U+0E7F

17229 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
 17230 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

#### 51.2.13 Phonetic Extensions: U+1D00 to U+1D7F

17231 % U+1D00 LATIN LETTER SMALL CAPITAL A; \textsc (tipa)  
 17232 \DeclareTextCommand{\textsc}{PU}{\9035\000}% U+1D00  
 17233 % U+1D05 LATIN LETTER SMALL CAPITAL D; \scd (wsuipa)  
 17234 \DeclareTextCommand{\textscd}{PU}{\9035\005}% U+1D05  
 17235 % U+1D07 LATIN LETTER SMALL CAPITAL E; \textsce (tipa)  
 17236 \DeclareTextCommand{\textsce}{PU}{\9035\007}% U+1D07  
 17237 % U+1D0A LATIN LETTER SMALL CAPITAL J; \textscj (tipa)  
 17238 \DeclareTextCommand{\textscj}{PU}{\9035\012}% U+1D0A  
 17239 % U+1D0B LATIN LETTER SMALL CAPITAL K; \textस्क (tipx)  
 17240 \DeclareTextCommand{\textPUस्क}{PU}{\9035\013}% U+1D0B  
 17241 %\* \textPUस्क -> \textस्क (tipx)  
 17242 % U+1D0D LATIN LETTER SMALL CAPITAL M; \textscm (tipx)  
 17243 \DeclareTextCommand{\textPUscm}{PU}{\9035\015}% U+1D0D  
 17244 %\* \textPUscm -> \textscm (tipx)  
 17245 % U+1D18 LATIN LETTER SMALL CAPITAL P; \textscp (tipx)  
 17246 \DeclareTextCommand{\textPUscp}{PU}{\9035\030}% U+1D18  
 17247 %\* \textPUscp -> \textscp (tipx)  
 17248 % U+1D19 LATIN LETTER SMALL CAPITAL REVERSED R; \textrevscr (tipx)  
 17249 \DeclareTextCommand{\textPUrevscr}{PU}{\9035\031}% U+1D19  
 17250 %\* \textPUrevscr -> \textrevscr (tipx)  
 17251 % U+1D1C LATIN LETTER SMALL CAPITAL U; \textscu (tipa), \scu (wsuipa)  
 17252 \DeclareTextCommand{\textscu}{PU}{\9035\034}% U+1D1C  
 17253 % U+1D62 LATIN SUBSCRIPT SMALL LETTER I  
 17254 \DeclareTextCommand{\textiinferior}{PU}{\9035\142}% U+1D62  
 17255 % U+1D63 LATIN SUBSCRIPT SMALL LETTER R  
 17256 \DeclareTextCommand{\textrinferior}{PU}{\9035\143}% U+1D63  
 17257 % U+1D64 LATIN SUBSCRIPT SMALL LETTER U  
 17258 \DeclareTextCommand{\textuinferior}{PU}{\9035\144}% U+1D64

17259 % U+1D65 LATIN SUBSCRIPT SMALL LETTER V  
 17260 \DeclareTextCommand{\textvinferior}{PU}{\9035\145}%\* U+1D65  
 17261 % U+1D66 GREEK SUBSCRIPT SMALL LETTER BETA  
 17262 \DeclareTextCommand{\textbetainferior}{PU}{\9035\146}%\* U+1D66  
 17263 % U+1D67 GREEK SUBSCRIPT SMALL LETTER GAMMA  
 17264 \DeclareTextCommand{\textgammainferior}{PU}{\9035\147}%\* U+1D67  
 17265 % U+1D68 GREEK SUBSCRIPT SMALL LETTER RHO  
 17266 \DeclareTextCommand{\textrhoinferior}{PU}{\9035\150}%\* U+1D68  
 17267 % U+1D69 GREEK SUBSCRIPT SMALL LETTER PHI  
 17268 \DeclareTextCommand{\textphiinferior}{PU}{\9035\151}%\* U+1D69  
 17269 % U+1D6A GREEK SUBSCRIPT SMALL LETTER CHI  
 17270 \DeclareTextCommand{\textchiinferior}{PU}{\9035\152}%\* U+1D6A  
 17271 % U+1D7B LATIN SMALL CAPITAL LETTER I WITH STROKE;  
 17272 % \barsci (wsuipa)  
 17273 \DeclareTextCommand{\textbarsci}{PU}{\9035\173}%\* U+1D7B  
 17274 % U+1D7D LATIN SMALL LETTER P WITH STROKE; \barp (wsuipa)  
 17275 \DeclareTextCommand{\textbarp}{PU}{\9035\175}%\* U+1D7D  
 17276 % U+1D7E LATIN SMALL CAPITAL LETTER U WITH STROKE;  
 17277 % \barscu (wsuipa)  
 17278 \DeclareTextCommand{\textbarscu}{PU}{\9035\176}%\* U+1D7E

#### 51.2.14 Phonetic Extensions Supplement: U+1D80 to U+1DBF

17279 % U+1D8F LATIN SMALL LETTER A WITH RETROFLEX HOOK; \tex-  
 trhooka (tipx)  
 17280 \DeclareTextCommand{\textPURhooka}{PU}{\9035\217}% U+1D8F  
 17281 %\* \textPURhooka -> \textrhooka (tipx)  
 17282 % U+1D91 LATIN SMALL LETTER D WITH HOOK AND TAIL; \texthtr-  
 taild (tipa)  
 17283 \DeclareTextCommand{\texthtrtaild}{PU}{\9035\221}%\* U+1D91  
 17284 % U+1D92 LATIN SMALL LETTER E WITH RETROFLEX HOOK; \tex-  
 trhooke (tipx)  
 17285 \DeclareTextCommand{\textPURhooke}{PU}{\9035\222}% U+1D92  
 17286 %\* \textPURhooke -> \textrhooke (tipx)  
 17287 % U+1D93 LATIN SMALL LETTER OPEN E WITH RETROFLEX HOOK;  
 17288 % \textrhookepsilon (tipx)  
 17289 \DeclareTextCommand{\textPURhookepsilon}{PU}{\9035\223}% U+1D93  
 17290 %\* \textPURhookepsilon -> \textrhookepsilon (tipx)  
 17291 % U+1D97 LATIN SMALL LETTER OPEN O WITH RETROFLEX HOOK;  
 17292 % \textrhookopeno (tipx)  
 17293 \DeclareTextCommand{\textPURhookopeno}{PU}{\9035\227}% U+1D97  
 17294 %\* \textPURhookopeno -> \textrhookopeno (tipx)

#### 51.2.15 Latin Extended Additional: U+1E00 to U+1EFF

17295 % U+1E00 LATIN CAPITAL LETTER A WITH RING BELOW; Aringbelow  
 17296 \DeclareTextCompositeCommand{\textsubring}{PU}{A}{\9036\000}% U+1E00  
 17297 % U+1E01 LATIN SMALL LETTER A WITH RING BELOW; aringbelow  
 17298 \DeclareTextCompositeCommand{\textsubring}{PU}{a}{\9036\001}% U+1E01  
 17299 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
 17300 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02  
 17301 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
 17302 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03  
 17303 % U+1E04 LATIN CAPITAL LETTER B WITH DOT BELOW; Bdotbelow  
 17304 \DeclareTextCompositeCommand{\d}{PU}{B}{\9036\004}% U+1E04  
 17305 % U+1E05 LATIN SMALL LETTER B WITH DOT BELOW; bdotbelow  
 17306 \DeclareTextCompositeCommand{\d}{PU}{b}{\9036\005}% U+1E05  
 17307 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
 17308 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06

17309 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
17310 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
17311 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
17312 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A  
17313 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
17314 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B  
17315 % U+1E0C LATIN CAPITAL LETTER D WITH DOT BELOW; Ddotbelow  
17316 \DeclareTextCompositeCommand{\d}{PU}{D}{\9036\014}% U+1E0C  
17317 % U+1E0D LATIN SMALL LETTER D WITH DOT BELOW; ddotbelow  
17318 \DeclareTextCompositeCommand{\d}{PU}{d}{\9036\015}% U+1E0D  
17319 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
17320 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
17321 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
17322 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
17323 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
17324 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
17325 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
17326 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
17327 % U+1E12 LATIN CAPITAL LETTER D WITH CIRCUMFLEX BELOW; Dcir-  
cumflexbelow  
17328 \DeclareTextCompositeCommand{\textsubcircum}{PU}{D}{\9036\022}% U+1E12  
17329 % U+1E13 LATIN SMALL LETTER D WITH CIRCUMFLEX BELOW; dcir-  
cumflexbelow  
17330 \DeclareTextCompositeCommand{\textsubcircum}{PU}{d}{\9036\023}% U+1E13  
17331 % U+1E14 LATIN CAPITAL LETTER E WITH MACRON AND GRAVE;  
17332 % Emacrongrave  
17333 \DeclareTextCompositeCommand{\textgravemacron}{PU}{E}{\9036\024}% U+1E14  
17334 % U+1E15 LATIN SMALL LETTER E WITH MACRON AND GRAVE;  
17335 % emacrongrave  
17336 \DeclareTextCompositeCommand{\textgravemacron}{PU}{e}{\9036\025}% U+1E15  
17337 % U+1E16 LATIN CAPITAL LETTER E WITH MACRON AND ACUTE;  
17338 % Emacronacute  
17339 \DeclareTextCompositeCommand{\textacutemacron}{PU}{E}{\9036\026}% U+1E16  
17340 % U+1E17 LATIN SMALL LETTER E WITH MACRON AND ACUTE;  
17341 % emacronacute  
17342 \DeclareTextCompositeCommand{\textacutemacron}{PU}{e}{\9036\027}% U+1E17  
17343 % U+1E18 LATIN CAPITAL LETTER E WITH CIRCUMFLEX BELOW; Ecir-  
cumflexbelow  
17344 \DeclareTextCompositeCommand{\textsubcircum}{PU}{E}{\9036\030}% U+1E18  
17345 % U+1E19 LATIN SMALL LETTER E WITH CIRCUMFLEX BELOW; ecir-  
cumflexbelow  
17346 \DeclareTextCompositeCommand{\textsubcircum}{PU}{e}{\9036\031}% U+1E19  
17347 % U+1E1A LATIN CAPITAL LETTER E WITH TILDE BELOW; Etildebelow  
17348 \DeclareTextCompositeCommand{\textsubtilde}{PU}{E}{\9036\032}% U+1E1A  
17349 % U+1E1B LATIN SMALL LETTER E WITH TILDE BELOW; etildebelow  
17350 \DeclareTextCompositeCommand{\textsubtilde}{PU}{e}{\9036\033}% U+1E1B  
17351 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
17352 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
17353 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
17354 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
17355 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
17356 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20  
17357 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
17358 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21  
17359 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
17360 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22  
17361 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent

17362 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
17363 % U+1E24 LATIN CAPITAL LETTER H WITH DOT BELOW; Hdotbelow  
17364 \DeclareTextCompositeCommand{\d}{PU}{H}{\9036\044}% U+1E24  
17365 % U+1E25 LATIN SMALL LETTER H WITH DOT BELOW; hdotbelow  
17366 \DeclareTextCompositeCommand{\d}{PU}{h}{\9036\045}% U+1E25  
17367 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
17368 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26  
17369 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
17370 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27  
17371 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
17372 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
17373 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
17374 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
17375 % U+1E2A LATIN CAPITAL LETTER H WITH BREVE BELOW; Hbrevebelow  
17376 \DeclareTextCompositeCommand{\textsubbreve}{PU}{H}{\9036\052}% U+1E2A  
17377 % U+1E2B LATIN SMALL LETTER H WITH BREVE BELOW; hbrevebelow  
17378 \DeclareTextCompositeCommand{\textsubbreve}{PU}{h}{\9036\053}% U+1E2B  
17379 % U+1E2C LATIN CAPITAL LETTER I WITH TILDE BELOW; Itildebelow  
17380 \DeclareTextCompositeCommand{\textsubtilde}{PU}{I}{\9036\054}% U+1E2C  
17381 % U+1E2D LATIN SMALL LETTER I WITH TILDE BELOW; itildebelow  
17382 \DeclareTextCompositeCommand{\textsubtilde}{PU}{i}{\9036\055}% U+1E2D  
17383 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
17384 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30  
17385 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
17386 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31  
17387 % U+1E32 LATIN CAPITAL LETTER K WITH DOT BELOW; Kdotbelow  
17388 \DeclareTextCompositeCommand{\d}{PU}{K}{\9036\062}% U+1E32  
17389 % U+1E33 LATIN SMALL LETTER K WITH DOT BELOW; kdotbelow  
17390 \DeclareTextCompositeCommand{\d}{PU}{k}{\9036\063}% U+1E33  
17391 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
17392 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
17393 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
17394 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
17395 % U+1E36 LATIN CAPITAL LETTER L WITH DOT BELOW; Ldotbelow  
17396 \DeclareTextCompositeCommand{\d}{PU}{L}{\9036\066}% U+1E36  
17397 % U+1E37 LATIN SMALL LETTER L WITH DOT BELOW; ldotbelow  
17398 \DeclareTextCompositeCommand{\d}{PU}{l}{\9036\067}% U+1E37  
17399 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
17400 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
17401 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
17402 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
17403 % U+1E3C LATIN CAPITAL LETTER L WITH CIRCUMFLEX BELOW; Lcir-  
cumflexbelow  
17404 \DeclareTextCompositeCommand{\textsubcircum}{PU}{L}{\9036\074}% U+1E3C  
17405 % U+1E3D LATIN SMALL LETTER L WITH CIRCUMFLEX BELOW; lcir-  
cumflexbelow  
17406 \DeclareTextCompositeCommand{\textsubcircum}{PU}{l}{\9036\075}% U+1E3D  
17407 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
17408 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E  
17409 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
17410 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F  
17411 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
17412 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
17413 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
17414 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
17415 % U+1E42 LATIN CAPITAL LETTER M WITH DOT BELOW; Mdotbelow  
17416 \DeclareTextCompositeCommand{\d}{PU}{M}{\9036\102}% U+1E42

17417 % U+1E43 LATIN SMALL LETTER M WITH DOT BELOW; mdotbelow  
17418 \DeclareTextCompositeCommand{\d}{PU}{m}{\9036\103}% U+1E43  
17419 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
17420 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
17421 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
17422 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
17423 % U+1E46 LATIN CAPITAL LETTER N WITH DOT BELOW; Ndotbelow  
17424 \DeclareTextCompositeCommand{\d}{PU}{N}{\9036\106}% U+1E46  
17425 % U+1E47 LATIN SMALL LETTER N WITH DOT BELOW; ndotbelow  
17426 \DeclareTextCompositeCommand{\d}{PU}{n}{\9036\107}% U+1E47  
17427 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
17428 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
17429 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
17430 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
17431 % U+1E4A LATIN CAPITAL LETTER N WITH CIRCUMFLEX BELOW; Ncir-  
cumflexbelow  
17432 \DeclareTextCompositeCommand{\textsubcircum}{PU}{N}{\9036\112}% U+1E4A  
17433 % U+1E4B LATIN SMALL LETTER N WITH CIRCUMFLEX BELOW; ncir-  
cumflexbelow  
17434 \DeclareTextCompositeCommand{\textsubcircum}{PU}{n}{\9036\113}% U+1E4B  
17435 % U+1E50 LATIN CAPITAL LETTER O WITH MACRON AND GRAVE;  
17436 % Omacrongrave  
17437 \DeclareTextCompositeCommand{\textgravemacron}{PU}{O}{\9036\120}% U+1E50  
17438 % U+1E51 LATIN SMALL LETTER O WITH MACRON AND GRAVE;  
17439 % omacrongrave  
17440 \DeclareTextCompositeCommand{\textgravemacron}{PU}{o}{\9036\121}% U+1E51  
17441 % U+1E52 LATIN CAPITAL LETTER O WITH MACRON AND ACUTE;  
17442 % Omacronacute  
17443 \DeclareTextCompositeCommand{\textacutemacron}{PU}{O}{\9036\122}% U+1E52  
17444 % U+1E53 LATIN SMALL LETTER O WITH MACRON AND ACUTE;  
17445 % omacronacute  
17446 \DeclareTextCompositeCommand{\textacutemacron}{PU}{o}{\9036\123}% U+1E53  
17447 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
17448 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54  
17449 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
17450 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55  
17451 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
17452 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
17453 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
17454 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
17455 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
17456 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58  
17457 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
17458 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59  
17459 % U+1E5A LATIN CAPITAL LETTER R WITH DOT BELOW; Rdotbelow  
17460 \DeclareTextCompositeCommand{\d}{PU}{R}{\9036\132}% U+1E5A  
17461 % U+1E5B LATIN SMALL LETTER R WITH DOT BELOW; rdotbelow  
17462 \DeclareTextCompositeCommand{\d}{PU}{r}{\9036\133}% U+1E5B  
17463 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
17464 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
17465 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
17466 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
17467 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
17468 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60  
17469 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
17470 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61  
17471 % U+1E62 LATIN CAPITAL LETTER S WITH DOT BELOW; Sdotbelow

17472 \DeclareTextCompositeCommand{\d}{PU}{S}{\9036\142}% U+1E62  
17473 % U+1E63 LATIN SMALL LETTER S WITH DOT BELOW; sdotbelow  
17474 \DeclareTextCompositeCommand{\d}{PU}{s}{\9036\143}% U+1E63  
17475 % U+1E6A LATIN CAPITAL LETTER T WITH DOT ABOVE; Tdotaccent  
17476 \DeclareTextCompositeCommand{\.}{PU}{T}{\9036\152}% U+1E6A  
17477 % U+1E6B LATIN SMALL LETTER T WITH DOT ABOVE; tdotaccent  
17478 \DeclareTextCompositeCommand{\.}{PU}{t}{\9036\153}% U+1E6B  
17479 % U+1E6C LATIN CAPITAL LETTER T WITH DOT BELOW; Tdotbelow  
17480 \DeclareTextCompositeCommand{\d}{PU}{T}{\9036\154}% U+1E6C  
17481 % U+1E6D LATIN SMALL LETTER T WITH DOT BELOW; tdotbelow  
17482 \DeclareTextCompositeCommand{\d}{PU}{t}{\9036\155}% U+1E6D  
17483 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
17484 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E  
17485 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
17486 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F  
17487 % U+1E70 LATIN CAPITAL LETTER T WITH CIRCUMFLEX BELOW; Tcir-  
cumflexbelow  
17488 \DeclareTextCompositeCommand{\textsubcircum}{PU}{T}{\9036\160}% U+1E70  
17489 % U+1E71 LATIN SMALL LETTER T WITH CIRCUMFLEX BELOW; tcir-  
cumflexbelow  
17490 \DeclareTextCompositeCommand{\textsubcircum}{PU}{t}{\9036\161}% U+1E71  
17491 % U+1E72 LATIN CAPITAL LETTER U WITH DIAERESIS BELOW; Udiere-  
sisbelow  
17492 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{U}{\9036\162}% U+1E72  
17493 % U+1E73 LATIN SMALL LETTER U WITH DIAERESIS BELOW; udiere-  
sisbelow  
17494 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{u}{\9036\163}% U+1E73  
17495 % U+1E74 LATIN CAPITAL LETTER U WITH TILDE BELOW; Utildebelow  
17496 \DeclareTextCompositeCommand{\textsubtilde}{PU}{U}{\9036\164}% U+1E74  
17497 % U+1E75 LATIN SMALL LETTER U WITH TILDE BELOW; utildebelow  
17498 \DeclareTextCompositeCommand{\textsubtilde}{PU}{u}{\9036\165}% U+1E75  
17499 % U+1E76 LATIN CAPITAL LETTER U WITH CIRCUMFLEX BELOW; Ucir-  
cumflexbelow  
17500 \DeclareTextCompositeCommand{\textsubcircum}{PU}{U}{\9036\166}% U+1E76  
17501 % U+1E77 LATIN SMALL LETTER U WITH CIRCUMFLEX BELOW; ucir-  
cumflexbelow  
17502 \DeclareTextCompositeCommand{\textsubcircum}{PU}{u}{\9036\167}% U+1E77  
17503 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
17504 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
17505 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
17506 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
17507 % U+1E7E LATIN CAPITAL LETTER V WITH DOT BELOW; Vdotbelow  
17508 \DeclareTextCompositeCommand{\d}{PU}{V}{\9036\176}% U+1E7E  
17509 % U+1E7F LATIN SMALL LETTER V WITH DOT BELOW; vdotbelow  
17510 \DeclareTextCompositeCommand{\d}{PU}{v}{\9036\177}% U+1E7F  
17511 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
17512 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80  
17513 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
17514 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81  
17515 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
17516 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82  
17517 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
17518 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83  
17519 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
17520 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84  
17521 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
17522 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85

17523 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
17524 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86  
17525 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
17526 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
17527 % U+1E88 LATIN CAPITAL LETTER W WITH DOT BELOW; wdotbelow  
17528 \DeclareTextCompositeCommand{\d}{PU}{W}{\9036\210}% U+1E88  
17529 % U+1E89 LATIN SMALL LETTER W WITH DOT BELOW; wdotbelow  
17530 \DeclareTextCompositeCommand{\d}{PU}{w}{\9036\211}% U+1E89  
17531 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
17532 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
17533 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
17534 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
17535 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
17536 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C  
17537 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
17538 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D  
17539 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
17540 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E  
17541 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
17542 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F  
17543 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
17544 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90  
17545 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
17546 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91  
17547 % U+1E92 LATIN CAPITAL LETTER Z WITH DOT BELOW; Zdotbelow  
17548 \DeclareTextCompositeCommand{\d}{PU}{Z}{\9036\222}% U+1E92  
17549 % U+1E93 LATIN SMALL LETTER Z WITH DOT BELOW; zdotbelow  
17550 \DeclareTextCompositeCommand{\d}{PU}{z}{\9036\223}% U+1E93  
17551 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
17552 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
17553 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
17554 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
17555 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
17556 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
17557 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
17558 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97  
17559 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
17560 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
17561 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
17562 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
17563 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotaccent  
17564 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B  
17565 % U+1EA0 LATIN CAPITAL LETTER A WITH DOT BELOW; Adotbelow  
17566 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
17567 % U+1EA1 LATIN SMALL LETTER A WITH DOT BELOW; adotbelow  
17568 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1  
17569 % U+1EB8 LATIN CAPITAL LETTER E WITH DOT BELOW; Edotbelow  
17570 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
17571 % U+1EB9 LATIN SMALL LETTER E WITH DOT BELOW; edotbelow  
17572 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9  
17573 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
17574 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
17575 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
17576 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
17577 % U+1ECA LATIN CAPITAL LETTER I WITH DOT BELOW; Idotbelow  
17578 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA



17579 % U+1ECB LATIN SMALL LETTER I WITH DOT BELOW; idotbelow  
 17580 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
 17581 % U+1ECC LATIN CAPITAL LETTER O WITH DOT BELOW; Odotbelow  
 17582 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC  
 17583 % U+1ECD LATIN SMALL LETTER O WITH DOT BELOW; odotbelow  
 17584 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
 17585 % U+1EE4 LATIN CAPITAL LETTER U WITH DOT BELOW; Udotbelow  
 17586 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4  
 17587 % U+1EE5 LATIN SMALL LETTER U WITH DOT BELOW; udotbelow  
 17588 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
 17589 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
 17590 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}% U+1EF2  
 17591 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
 17592 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3  
 17593 % U+1EF4 LATIN CAPITAL LETTER Y WITH DOT BELOW; Ydotbelow  
 17594 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4  
 17595 % U+1EF5 LATIN SMALL LETTER Y WITH DOT BELOW; ydotbelow  
 17596 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
 17597 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
 17598 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
 17599 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde  
 17600 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

### 51.2.16 General Punctuation: U+2000 to U+206F

17601 % U+200C ZERO WIDTH NON-JOINER; \*afi61664, zerowidthnonjoiner  
 17602 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
 17603 % U+2013 EN DASH; endash  
 17604 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
 17605 % U+2014 EM DASH; emdash  
 17606 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
 17607 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
 17608 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
 17609 %\* \textbardbl -> \textdoublevertline (tipa)  
 17610 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
 17611 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
 17612 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
 17613 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
 17614 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
 17615 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
 17616 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
 17617 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
 17618 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
 17619 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
 17620 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
 17621 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
 17622 % U+2020 DAGGER; dagger  
 17623 \DeclareTextCommand{\textdagger}{PU}{\9040\040}%\* U+2020  
 17624 %\* \textdagger -> \dag (LaTeX)  
 17625 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
 17626 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
 17627 %\* \textdaggerdbl -> \ddagger (LaTeX)  
 17628 %\* \textdaggerdbl -> \ddag (LaTeX)  
 17629 % U+2022 BULLET; bullet  
 17630 \DeclareTextCommand{\textbullet}{PU}{\9040\042}%\* U+2022  
 17631 % U+2025 TWO DOT LEADER; \hdotfor (MnSymbol)  
 17632 \DeclareTextCommand{\texthdotfor}{PU}{\9040\045}%\* U+2025  
 17633 % U+2026 HORIZONTAL ELLIPSIS; ellipsis

17634 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
 17635 %\* \textellipsis -> \mathellipsis  
 17636 % U+2030 PER MILLE SIGN; perthousand  
 17637 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
 17638 % U+2031 PER TEN THOUSAND SIGN  
 17639 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
 17640 % U+2032 PRIME; minute; \prime (MnSymbol)  
 17641 \DeclareTextCommand{\textprime}{PU}{\9040\062}%\* U+2032  
 17642 % U+2033 DOUBLE PRIME; \second (mathabx)  
 17643 \DeclareTextCommand{\textsecond}{PU}{\9040\063}%\* U+2033  
 17644 % U+2034 TRIPLE PRIME; \third (mathabx)  
 17645 \DeclareTextCommand{\textthird}{PU}{\9040\064}%\* U+2034  
 17646 % U+2035 REVERSED PRIME; \backprime (AmS)  
 17647 \DeclareTextCommand{\textbackprime}{PU}{\9040\065}%\* U+2035  
 17648 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
 lingleft  
 17649 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039  
 17650 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
 singlright  
 17651 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A  
 17652 % U+203B REFERENCE MARK; referencemark  
 17653 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
 17654 % U+203D INTERROBANG  
 17655 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
 17656 % U+2044 FRACTION SLASH; fraction  
 17657 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
 17658 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
 17659 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
 17660 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
 17661 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
 17662 % U+2052 COMMERCIAL MINUS SIGN  
 17663 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052  
 17664 % U+2056 THREE DOT PUNCTUATION; \lefttherefore (MnSymbol)  
 17665 \DeclareTextCommand{\textlefttherefore}{PU}{\9040\126}%\* U+2056  
 17666 % U+2057 QUADRUPLE PRIME; \fourth (mathabx)  
 17667 \DeclareTextCommand{\textfourth}{PU}{\9040\127}%\* U+2057  
 17668 % U+2058 FOUR DOT PUNCTUATION; \diamonddots (MnSymbol)  
 17669 \DeclareTextCommand{\textdiamonddots}{PU}{\9040\130}%\* U+2058

### 51.2.17 Superscripts and Subscripts: U+2070 to U+209F

17670 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
 17671 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}%\* U+2070  
 17672 % U+2071 SUPERSCRIPT LATIN SMALL LETTER I  
 17673 \DeclareTextCommand{\textisuperior}{PU}{\9040\161}%\* U+2071  
 17674 % U+2074 SUPERSCRIPT FOUR; foursuperior  
 17675 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}%\* U+2074  
 17676 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
 17677 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}%\* U+2075  
 17678 % U+2076 SUPERSCRIPT SIX; sixsuperior  
 17679 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}%\* U+2076  
 17680 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
 17681 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}%\* U+2077  
 17682 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
 17683 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}%\* U+2078  
 17684 % U+2079 SUPERSCRIPT NINE; ninesuperior  
 17685 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}%\* U+2079  
 17686 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior

17687 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}%\* U+207A  
17688 % U+207B SUPERSCRIPT MINUS  
17689 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}%\* U+207B  
17690 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
17691 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}%\* U+207C  
17692 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
17693 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}%\* U+207D  
17694 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
17695 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}%\* U+207E  
17696 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
17697 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}%\* U+207F  
17698 % U+2080 SUBSCRIPT ZERO; zeroinferior  
17699 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}%\* U+2080  
17700 % U+2081 SUBSCRIPT ONE; oneinferior  
17701 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}%\* U+2081  
17702 % U+2082 SUBSCRIPT TWO; twoinferior  
17703 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}%\* U+2082  
17704 % U+2083 SUBSCRIPT THREE; threeinferior  
17705 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}%\* U+2083  
17706 % U+2084 SUBSCRIPT FOUR; fourinferior  
17707 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}%\* U+2084  
17708 % U+2085 SUBSCRIPT FIVE; fiveinferior  
17709 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}%\* U+2085  
17710 % U+2086 SUBSCRIPT SIX; sixinferior  
17711 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}%\* U+2086  
17712 % U+2087 SUBSCRIPT SEVEN; seveninferior  
17713 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}%\* U+2087  
17714 % U+2088 SUBSCRIPT EIGHT; eightinferior  
17715 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}%\* U+2088  
17716 % U+2089 SUBSCRIPT NINE; nineinferior  
17717 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}%\* U+2089  
17718 % U+208A SUBSCRIPT PLUS SIGN  
17719 \DeclareTextCommand{\textplusinferior}{PU}{\9040\212}%\* U+208A  
17720 % U+208B SUBSCRIPT MINUS  
17721 \DeclareTextCommand{\textminusinferior}{PU}{\9040\213}%\* U+208B  
17722 % U+208C SUBSCRIPT EQUALS SIGN  
17723 \DeclareTextCommand{\textequalsinferior}{PU}{\9040\214}%\* U+208C  
17724 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
17725 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}%\* U+208D  
17726 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
17727 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}%\* U+208E  
17728 % U+2090 LATIN SUBSCRIPT SMALL LETTER A  
17729 \DeclareTextCommand{\textainferior}{PU}{\9040\220}%\* U+2090  
17730 % U+2091 LATIN SUBSCRIPT SMALL LETTER E  
17731 \DeclareTextCommand{\texteinferior}{PU}{\9040\221}%\* U+2091  
17732 % U+2092 LATIN SUBSCRIPT SMALL LETTER O  
17733 \DeclareTextCommand{\textoinferior}{PU}{\9040\222}%\* U+2092  
17734 % U+2093 LATIN SUBSCRIPT SMALL LETTER X  
17735 \DeclareTextCommand{\textxinferior}{PU}{\9040\223}%\* U+2093  
17736 % U+2094 LATIN SUBSCRIPT SMALL LETTER SCHWA  
17737 \DeclareTextCommand{\textschwainferior}{PU}{\9040\224}%\* U+2094  
17738 % U+2095 LATIN SUBSCRIPT SMALL LETTER H  
17739 \DeclareTextCommand{\texthinferior}{PU}{\9040\225}%\* U+2095  
17740 % U+2096 LATIN SUBSCRIPT SMALL LETTER K  
17741 \DeclareTextCommand{\textkinferior}{PU}{\9040\226}%\* U+2096  
17742 % U+2097 LATIN SUBSCRIPT SMALL LETTER L  
17743 \DeclareTextCommand{\textlinferior}{PU}{\9040\227}%\* U+2097

17744 % U+2098 LATIN SUBSCRIPT SMALL LETTER M  
 17745 \DeclareTextCommand{\textminferior}{PU}{\9040\230}%\* U+2098  
 17746 % U+2099 LATIN SUBSCRIPT SMALL LETTER N  
 17747 \DeclareTextCommand{\textninferior}{PU}{\9040\231}%\* U+2099  
 17748 % U+209A LATIN SUBSCRIPT SMALL LETTER P  
 17749 \DeclareTextCommand{\textpinferior}{PU}{\9040\232}%\* U+209A  
 17750 % U+209B LATIN SUBSCRIPT SMALL LETTER S  
 17751 \DeclareTextCommand{\textsinferior}{PU}{\9040\233}%\* U+209B  
 17752 % U+209C LATIN SUBSCRIPT SMALL LETTER T  
 17753 \DeclareTextCommand{\textttinferior}{PU}{\9040\234}%\* U+209C

### 51.2.18 Currency Symbols: U+20A0 to U+20CF

17754 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
 17755 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
 17756 % U+20A4 LIRA SIGN; afii08941, \*lira  
 17757 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
 17758 % U+20A6 NAIRA SIGN  
 17759 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
 17760 % U+20A7 PESETA SIGN; peseta  
 17761 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
 17762 % U+20A9 WON SIGN; won  
 17763 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
 17764 % U+20AB DONG SIGN; dong  
 17765 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
 17766 % U+20AC EURO SIGN; \*Euro, euro  
 17767 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
 17768 % U+20B1 PESO SIGN  
 17769 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
 17770 % U+20B2 GUARANI SIGN  
 17771 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

### 51.2.19 Letterlike Symbols: U+2100 to U+214F

17772 % U+2103 DEGREE CELSIUS; centigrade  
 17773 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
 17774 % U+210F PLANCK CONSTANT OVER TWO PI; \hslash (AmS)  
 17775 \DeclareTextCommand{\texthslash}{PU}{\9041\017}%\* U+210F  
 17776 % U+2111 BLACK-LETTER CAPITAL I (=imaginary part); Ifraktur; \Im (LaTeX)  
 17777 \DeclareTextCommand{\textIm}{PU}{\9041\021}%\* U+2111  
 17778 % U+2113 SCRIPT SMALL L (=ell, liter); afii61289, lsquare; \ell (LaTeX)  
 17779 \DeclareTextCommand{\textell}{PU}{\9041\023}%\* U+2113  
 17780 % U+2116 NUMERO SIGN; \*afii61352, numero  
 17781 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116  
 17782 % U+2117 SOUND RECORDING COPYRIGHT  
 17783 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117  
 17784 % U+2118 SCRIPT CAPITAL P (=Weierstrass elliptic function);  
 17785 % weierstrass; \wp (LaTeX)  
 17786 \DeclareTextCommand{\textwp}{PU}{\9041\030}%\* U+2118  
 17787 % U+211C BLACK-LETTER CAPITAL R (=real part); Rfraktur; \Re (LaTeX)  
 17788 \DeclareTextCommand{\textRe}{PU}{\9041\034}%\* U+211C  
 17789 % U+211E PRESCRIPTION TAKE; prescription  
 17790 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E  
 17791 % U+2120 SERVICE MARK  
 17792 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120  
 17793 % U+2122 TRADE MARK SIGN; trademark  
 17794 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122  
 17795 % U+2126 OHM SIGN; Ohm, Omega

17796 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126  
 17797 % U+2127 INVERTED OHM SIGN  
 17798 \DeclareTextCommand{\textmho}{PU}{\9041\047}%\* U+2127  
 17799 % U+2129 TURNED GREEK SMALL LETTER IOTA; \riota (phonetic)  
 17800 \DeclareTextCommand{\textriota}{PU}{\9041\051}%\* U+2129  
 17801 % U+212B ANGSTROM SIGN; angstrom  
 17802 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B  
 17803 % U+212E ESTIMATED SYMBOL; estimated  
 17804 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E  
 17805 % U+2132 TURNED CAPITAL F; \Finv (AmS)  
 17806 \DeclareTextCommand{\textFinv}{PU}{\9041\062}%\* U+2132  
 17807 % U+2135 ALEF SYMBOL; aleph; \aleph (LaTeX)  
 17808 \DeclareTextCommand{\textaleph}{PU}{\9041\065}%\* U+2135  
 17809 % U+2136 BET SYMBOL; \beth (AmS, MnSymbol)  
 17810 \DeclareTextCommand{\textbeth}{PU}{\9041\066}%\* U+2136  
 17811 % U+2137 GIMEL SYMBOL; \gimel (AmS, MnSymbol)  
 17812 \DeclareTextCommand{\textgimel}{PU}{\9041\067}%\* U+2137  
 17813 % U+2138 DALET SYMBOL; \daleth (AmS, MnSymbol)  
 17814 \DeclareTextCommand{\textdaleth}{PU}{\9041\070}%\* U+2138  
 17815 % U+213B FACSIMILE SIGN; \fax (marvosym)  
 17816 \DeclareTextCommand{\textfax}{PU}{\9041\073}%\* U+213B  
 17817 % U+2141 TURNED SANS-SERIF CAPITAL G (=game); \Game  
 17818 \DeclareTextCommand{\textGame}{PU}{\9041\101}%\* U+2141  
 17819 % U+214B TURNED AMPERSAND; \invamp (txfonts/pxfonts)  
 17820 \DeclareTextCommand{\textinvamp}{PU}{\9041\113}% U+214B  
 17821 %\* \textinvamp -> \bindnasrepma (stmaryrd)  
 17822 %\* \textinvamp -> \parr (cml)

### 51.2.20 Number Forms: U+2150 to U+218F

17823 % U+2150 VULGAR FRACTION ONE SEVENTH  
 17824 \DeclareTextCommand{\textoneseventh}{PU}{\9041\120}% U+2150  
 17825 % U+2151 VULGAR FRACTION ONE NINTH  
 17826 \DeclareTextCommand{\textoneninth}{PU}{\9041\121}% U+2151  
 17827 % U+2152 VULGAR FRACTION ONE TENTH  
 17828 \DeclareTextCommand{\textonetenth}{PU}{\9041\122}% U+2152  
 17829 % U+2153 VULGAR FRACTION ONE THIRD; onethird  
 17830 \DeclareTextCommand{\textonethird}{PU}{\9041\123}% U+2153  
 17831 % U+2154 VULGAR FRACTION TWO THIRDS; twothirds  
 17832 \DeclareTextCommand{\texttwothirds}{PU}{\9041\124}% U+2154  
 17833 % U+2155 VULGAR FRACTION ONE FIFTH  
 17834 \DeclareTextCommand{\textonefifth}{PU}{\9041\125}% U+2155  
 17835 % U+2156 VULGAR FRACTION TWO FIFTHS  
 17836 \DeclareTextCommand{\texttwofifths}{PU}{\9041\126}% U+2156  
 17837 % U+2157 VULGAR FRACTION THREE FIFTHS  
 17838 \DeclareTextCommand{\textthreefifths}{PU}{\9041\127}% U+2157  
 17839 % U+2158 VULGAR FRACTION FOUR FIFTHS  
 17840 \DeclareTextCommand{\textfourfifths}{PU}{\9041\130}% U+2158  
 17841 % U+2159 VULGAR FRACTION ONE SIXTH  
 17842 \DeclareTextCommand{\textonesixth}{PU}{\9041\131}% U+2159  
 17843 % U+215A VULGAR FRACTION FIVE SIXTHS  
 17844 \DeclareTextCommand{\textfivesixths}{PU}{\9041\132}% U+215A  
 17845 % U+215B VULGAR FRACTION ONE EIGHTH; oneeighth  
 17846 \DeclareTextCommand{\textoneeighth}{PU}{\9041\133}% U+215B  
 17847 % U+215C VULGAR FRACTION THREE EIGHTHS; threeeighths  
 17848 \DeclareTextCommand{\textthreeeighths}{PU}{\9041\134}% U+215C  
 17849 % U+215D VULGAR FRACTION FIVE EIGHTHS; fiveeighths  
 17850 \DeclareTextCommand{\textfiveeighths}{PU}{\9041\135}% U+215D

17851 % U+215E VULGAR FRACTION SEVEN EIGHTHS; seveneighths  
17852 \DeclareTextCommand{\textseveneighths}{PU}{\9041\136}% U+215E  
17853 % U+2184 LATIN SMALL LETTER REVERSED C  
17854 \DeclareTextCommand{\textrevc}{PU}{\9041\204}% U+2184  
17855 % U+2189 VULGAR FRACTION ZERO THIRDS  
17856 \DeclareTextCommand{\textzerthirds}{PU}{\9041\211}% U+2189

### 51.2.21 Arrows: U+2190 to U+21FF

17857 % U+2190 LEFTWARDS ARROW; arrowleft  
17858 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}%\* U+2190  
17859 % U+2191 UPWARDS ARROW; arrowup  
17860 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}%\* U+2191  
17861 % U+2192 RIGHTWARDS ARROW; arrowright  
17862 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}%\* U+2192  
17863 % U+2193 DOWNWARDS ARROW; arrowdown  
17864 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}%\* U+2193  
17865 % U+2194 LEFT RIGHT ARROW; arrowboth; \leftrightarrow (LaTeX)  
17866 \DeclareTextCommand{\textleftrightarrow}{PU}{\9041\224}%\* U+2194  
17867 % U+2195 UP DOWN ARROW; arrowupdn; \updownarrow (LaTeX)  
17868 \DeclareTextCommand{\textupdownarrow}{PU}{\9041\225}%\* U+2195  
17869 % U+2196 NORTH WEST ARROW; arrowupleft; \nwarrow (LaTeX)  
17870 \DeclareTextCommand{\textnwarrow}{PU}{\9041\226}%\* U+2196  
17871 % U+2197 NORTH EAST ARROW; arrowupright; \nearrow (LaTeX)  
17872 \DeclareTextCommand{\textnearrow}{PU}{\9041\227}%\* U+2197  
17873 %\* \textnearrow -> \textglobrise (tipa)  
17874 % U+2198 SOUTH EAST ARROW; arrowdownright; \searrow (LaTeX)  
17875 \DeclareTextCommand{\textsearrow}{PU}{\9041\230}%\* U+2198  
17876 %\* \textsearrow -> \textglobfall (tipa)  
17877 % U+2199 SOUTH WEST ARROW; arrowdownleft; \swarrow (LaTeX)  
17878 \DeclareTextCommand{\textswarrow}{PU}{\9041\231}%\* U+2199  
17879 % U+219A LEFTWARDS ARROW WITH STROKE; \leftarrow (AmS)  
17880 \DeclareTextCommand{\textleftarrow}{PU}{\9041\232}%\* U+219A  
17881 % U+219B RIGHTWARDS ARROW WITH STROKE; \rightarrow (AmS)  
17882 \DeclareTextCommand{\textrightarrow}{PU}{\9041\233}%\* U+219B  
17883 % U+219E LEFTWARDS TWO HEADED ARROW; \twoheadleftarrow (AmS)  
17884 \DeclareTextCommand{\texttwoheadleftarrow}{PU}{\9041\236}%\* U+219E  
17885 % U+219F UPWARDS TWO HEADED ARROW; \twoheaduparrow (MnSymbol)  
17886 \DeclareTextCommand{\texttwoheaduparrow}{PU}{\9041\237}%\* U+219F  
17887 % U+21A0 RIGHTWARDS TWO HEADED ARROW;  
17888 % \twoheadrightarrow (AmS)  
17889 \DeclareTextCommand{\texttwoheadrightarrow}{PU}{\9041\240}%\* U+21A0  
17890 % U+21A1 DOWNWARDS TWO HEADED ARROW; \twoheaddownarrow (Mn-  
Symbol)  
17891 \DeclareTextCommand{\texttwoheaddownarrow}{PU}{\9041\241}%\* U+21A1  
17892 % U+21A2 LEFTWARDS ARROW WITH TAIL; \leftarrowtail (AmS)  
17893 \DeclareTextCommand{\textleftarrowtail}{PU}{\9041\242}%\* U+21A2  
17894 % U+21A3 RIGHTWARDS ARROW WITH TAIL; \rightarrowtail (AmS)  
17895 \DeclareTextCommand{\textrightarrowtail}{PU}{\9041\243}%\* U+21A3  
17896 % U+21A6 RIGHTWARDS ARROW FROM BAR; \mapsto (LaTeX)  
17897 \DeclareTextCommand{\textmapsto}{PU}{\9041\246}%\* U+21A6  
17898 % U+21A9 LEFTWARDS ARROW WITH HOOK; \hookleftarrow (LaTeX)  
17899 \DeclareTextCommand{\texthookleftarrow}{PU}{\9041\251}%\* U+21A9  
17900 % U+21AA RIGHTWARDS ARROW WITH HOOK; \hookrightarrow (LaTeX)  
17901 \DeclareTextCommand{\texthookrightarrow}{PU}{\9041\252}%\* U+21AA  
17902 % U+21AB LEFTWARDS ARROW WITH LOOP; \looparrowleft (AmS)  
17903 \DeclareTextCommand{\textlooparrowleft}{PU}{\9041\253}%\* U+21AB  
17904 % U+21AC RIGHTWARDS ARROW WITH LOOP; \looparrowright (AmS)

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17905 \DeclareTextCommand{\textlooparrowright}{PU}{\9041\254}%* U+21AC
17906 % U+21AE LEFT RIGHT ARROW WITH STROKE; \nletrightarrow (AmS)
17907 \DeclareTextCommand{\textnletrightarrow}{PU}{\9041\256}%* U+21AE
17908 % U+21AF DOWNWARDS ZIGZAG ARROW; \lightning (stmaryrd)
17909 \DeclareTextCommand{\textlightning}{PU}{\9041\257}%* U+21AF
17910 %* \textlightning -> \Lightning (marvosym)
17911 % U+21B5 DOWNWARDS ARROW WITH CORNER LEFTWARDS;
17912 % \dls (mathabx)
17913 \DeclareTextCommand{\textdls}{PU}{\9041\265}%* U+21B5
17914 % U+21B6 ANTICLOCKWISE TOP SEMICIRCLE ARROW;
17915 % \curvearrowleft (AmS)
17916 \DeclareTextCommand{\textcurvearrowleft}{PU}{\9041\266}%* U+21B6
17917 % U+21B7 CLOCKWISE TOP SEMICIRCLE ARROW; \curvearrowright (AmS)
17918 \DeclareTextCommand{\textcurvearrowright}{PU}{\9041\267}%* U+21B7
17919 % U+21BC LEFTWARDS HARPOON WITH BARB UPWARDS; harpoonleft-
    barbup;
17920 % \leftharpoonup (LaTeX)
17921 \DeclareTextCommand{\textleftharpoonup}{PU}{\9041\274}%* U+21BC
17922 % U+21BD LEFTWARDS HARPOON WITH BARB DOWNWARDS;
17923 % \leftharpoondown (LaTeX)
17924 \DeclareTextCommand{\textleftharpoondown}{PU}{\9041\275}%* U+21BD
17925 % U+21BE UPWARDS HARPOON WITH BARB RIGHTWARDS;
17926 % \upharpoonright (AmS)
17927 \DeclareTextCommand{\textupharpoonright}{PU}{\9041\276}%* U+21BE
17928 % U+21BF UPWARDS HARPOON WITH BARB LEFTWARDS;
17929 % \upharpoonleft (AmS)
17930 \DeclareTextCommand{\textupharpoonleft}{PU}{\9041\277}%* U+21BF
17931 % U+21C0 RIGHTWARDS HARPOON WITH BARB UPWARDS; harpoonright-
    barbup
17932 % \rightharpoonup (LaTeX)
17933 \DeclareTextCommand{\textrightharpoonup}{PU}{\9041\300}%* U+21C0
17934 % U+21C1 RIGHTWARDS HARPOON WITH BARB DOWNWARDS;
17935 % \rightharpoondown (LaTeX)
17936 \DeclareTextCommand{\textrightharpoondown}{PU}{\9041\301}%* U+21C1
17937 % U+21C2 DOWNWARDS HARPOON WITH BARB RIGHTWARDS;
17938 % \downharpoonright (AmS)
17939 \DeclareTextCommand{\textdownharpoonright}{PU}{\9041\302}%* U+21C2
17940 % U+21C3 DOWNWARDS HARPOON WITH BARB LEFTWARDS;
17941 % \downharpoonleft (AmS)
17942 \DeclareTextCommand{\textdownharpoonleft}{PU}{\9041\303}%* U+21C3
17943 % U+21C4 RIGHTWARDS ARROW OVER LEFTWARDS ARROW;
17944 % \rightarrowoverleft; \rightleftarrows (MnSymbol)
17945 \DeclareTextCommand{\textrightleftarrows}{PU}{\9041\304}%* U+21C4
17946 % U+21C5 UPWARDS ARROW LEFTWARDS OF DOWNWARDS ARROW; ar-
    rowupleftofdown;
17947 % \updownarrows (MnSymbol)
17948 \DeclareTextCommand{\textupdownarrows}{PU}{\9041\305}%* U+21C5
17949 % U+21C6 LEFTWARDS ARROW OVER RIGHTWARDS ARROW; arrowleft-
    overright;
17950 % \leftrightarrows (AmS)
17951 \DeclareTextCommand{\textleftrightarrows}{PU}{\9041\306}%* U+21C6
17952 % U+21C7 LEFTWARDS PAIRED ARROWS; \leftleftarrows (AmS)
17953 \DeclareTextCommand{\textleftleftarrows}{PU}{\9041\307}%* U+21C7
17954 % U+21C8 UPWARDS PAIRED ARROWS; \upuparrows (AmS)
17955 \DeclareTextCommand{\textupuparrows}{PU}{\9041\310}%* U+21C8
17956 % U+21C9 RIGHTWARDS PAIRED ARROWS; \rightrightarrows (AmS)
17957 \DeclareTextCommand{\textrightarrows}{PU}{\9041\311}%* U+21C9

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17958 % U+21CA DOWNWARDS PAIRED ARROWS; \downdownarrows (AmS)
17959 \DeclareTextCommand{\textdowndownarrows}{PU}{\9041\312}%* U+21CA
17960 % U+21CB LEFTWARDS HARPOON OVER RIGHTWARDS HARPOON;
17961 % \leftrightharpoons (AmS);
17962 \DeclareTextCommand{\textleftrightharpoons}{PU}{\9041\313}%* U+21CB
17963 % U+21CC RIGHTWARDS HARPOON OVER LEFTWARDS HARPOON;
17964 % \rightleftharpoons (LaTeX, AmS)
17965 \DeclareTextCommand{\textrightleftharpoons}{PU}{\9041\314}%* U+21CC
17966 % U+21CD LEFTWARDS DOUBLE ARROW WITH STROKE; arrowleftd-
    blstroke;
17967 % \nLeftarrow (AmS)
17968 \DeclareTextCommand{\textnLeftarrow}{PU}{\9041\315}%* U+21CD
17969 % U+21CE LEFT RIGHT DOUBLE ARROW WITH STROKE; \nLeftrightarrow
    (AmS)
17970 \DeclareTextCommand{\textnLeftrightarrow}{PU}{\9041\316}%* U+21CE
17971 % U+21CF RIGHTWARDS DOUBLE ARROW WITH STROKE; arrowrightd-
    blstroke;
17972 % \nRightarrow (AmS)
17973 \DeclareTextCommand{\textnRightarrow}{PU}{\9041\317}%* U+21CF
17974 % U+21D0 LEFTWARDS DOUBLE ARROW; arrowdblleft, arrowleftdbl;
17975 % \Leftarrow (LaTeX)
17976 \DeclareTextCommand{\textLeftarrow}{PU}{\9041\320}%* U+21D0
17977 % U+21D1 UPWARDS DOUBLE ARROW; arrowdblup; \Uparrow (LaTeX)
17978 \DeclareTextCommand{\textUparrow}{PU}{\9041\321}%* U+21D1
17979 % U+21D2 RIGHTWARDS DOUBLE ARROW; arrowdblright, dblarrowright;
17980 % \Rightarrow (LaTeX)
17981 \DeclareTextCommand{\textRightarrow}{PU}{\9041\322}%* U+21D2
17982 % U+21D3 DOWNWARDS DOUBLE ARROW; arrowdbldown; \Downarrow (La-
    TeX)
17983 \DeclareTextCommand{\textDownarrow}{PU}{\9041\323}%* U+21D3
17984 % U+21D4 LEFT RIGHT DOUBLE ARROW; arrowdblboth;
17985 % \Leftrightarrow (LaTeX)
17986 \DeclareTextCommand{\textLeftrightarrow}{PU}{\9041\324}%* U+21D4
17987 % U+21D5 UP DOWN DOUBLE ARROW; \Updownarrow (LaTeX)
17988 \DeclareTextCommand{\textUpdownarrow}{PU}{\9041\325}%* U+21D5
17989 % U+21D6 NORTH WEST DOUBLE ARROW; \Nwarrow (MnSymbol)
17990 \DeclareTextCommand{\textNwarrow}{PU}{\9041\326}%* U+21D6
17991 % U+21D7 NORTH EAST DOUBLE ARROW; \Nearrow (MnSymbol)
17992 \DeclareTextCommand{\textNearrow}{PU}{\9041\327}%* U+21D7
17993 % U+21D8 SOUTH EAST DOUBLE ARROW; \Searrow (MnSymbol)
17994 \DeclareTextCommand{\textSearrow}{PU}{\9041\330}%* U+21D8
17995 % U+21D9 SOUTH WEST DOUBLE ARROW; \Swarrow (MnSymbol)
17996 \DeclareTextCommand{\textSwarrow}{PU}{\9041\331}%* U+21D9
17997 % U+21DA LEFTWARDS TRIPLE ARROW; \Lleftarrow (AmS)
17998 \DeclareTextCommand{\textLleftarrow}{PU}{\9041\332}%* U+21DA
17999 % U+21DB RIGHTWARDS TRIPLE ARROW; \Rrightarrow (MnSymbol)
18000 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\333}%* U+21DB
18001 % U+21DC LEFTWARDS SQUIGGLE ARROW; \leftsquigarrow (mathabx)
18002 \DeclareTextCommand{\textleftsquigarrow}{PU}{\9041\334}%* U+21DC
18003 % U+21DD RIGHTWARDS SQUIGGLE ARROW; \rightsquigarrow (mathabx)
18004 \DeclareTextCommand{\textright squigarrow}{PU}{\9041\335}%* U+21DD
18005 % U+21E0 LEFTWARDS DASHED ARROW; arrowdashleft;
18006 % \dashleftarrow (AmS)
18007 \DeclareTextCommand{\textdashleftarrow}{PU}{\9041\340}%* U+21E0
18008 %* \textdashleftarrow -> \dashedleftarrow (MnSymbol)
18009 % U+21E1 UPWARDS DASHED ARROW; arrowdashup; \dasheduparrow (Mn-
    Symbol)

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18010 \DeclareTextCommand{\textdasheduparrow}{PU}{\9041\341}%* U+21E1
18011 % U+21E2 RIGHTWARDS DASHED ARROW; arrowdashright; \dashrightarrow (AmS)
18012 \DeclareTextCommand{\textdashrightarrow}{PU}{\9041\342}%* U+21E2
18013 %* \textdashrightarrow -> \dashedrightarrow (MnSymbol)
18014 % U+21E3 DOWNWARDS DASHED ARROW; arrowdashdown; \dashedownarrow (MnSymbol)
18015 \DeclareTextCommand{\textdasheddownarrow}{PU}{\9041\343}%* U+21E3
18016 % U+21F5 DOWNWARDS ARROW LEFTWARDS OF UPWARDS ARROW;
18017 % \downuparrows (MnSymbol)
18018 \DeclareTextCommand{\textdownuparrows}{PU}{\9041\365}%* U+21F5

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### 51.2.22 Mathematical Operators: U+2200 to U+22FF

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18019 % U+2200 FOR ALL; forall; \forall (LaTeX)
18020 \DeclareTextCommand{\textforall}{PU}{\9042\000}%* U+2200
18021 % U+2201 COMPLEMENT; \complement (AmS)
18022 \DeclareTextCommand{\textcomplement}{PU}{\9042\001}%* U+2201
18023 % U+2202 PARTIAL DIFFERENTIAL; partialdiff; \partial (LaTeX)
18024 \DeclareTextCommand{\textpartial}{PU}{\9042\002}%* U+2202
18025 % U+2203 THERE EXISTS; existential; \exists (LaTeX)
18026 \DeclareTextCommand{\textexists}{PU}{\9042\003}%* U+2203
18027 % U+2204 THERE DOES NOT EXIST; \nexists (AmS)
18028 \DeclareTextCommand{\textnexists}{PU}{\9042\004}%* U+2204
18029 % U+2205 EMPTY SET; emptyset; \emptyset (LaTeX), \varnothing (AmS)
18030 \DeclareTextCommand{\textemptyset}{PU}{\9042\005}%* U+2205
18031 %* \textemptyset -> \varnothing (AmS)
18032 % U+2206 INCREMENT; increment, Delta; \triangle (LaTeX)
18033 \DeclareTextCommand{\texttriangle}{PU}{\9042\006}%* U+2206
18034 % U+2207 NABLA; nabla, gradient; \nabla (LaTeX)
18035 \DeclareTextCommand{\textnabla}{PU}{\9042\007}%* U+2207
18036 % U+2208 ELEMENT OF; element; \in (LaTeX)
18037 \DeclareTextCommand{\textin}{PU}{\9042\010}%* U+2208
18038 % U+2209 NOT AN ELEMENT OF; notelement, notelementof; \notin (LaTeX)
18039 \DeclareTextCommand{\textnotin}{PU}{\9042\011}%* U+2209
18040 % U+220A SMALL ELEMENT OF; \smallin (mathdesign)
18041 \DeclareTextCommand{\textsmallin}{PU}{\9042\012}%* U+220A
18042 % U+220B CONTAINS AS MEMBER; suchthat; \ni (LaTeX)
18043 \DeclareTextCommand{\textni}{PU}{\9042\013}%* U+220B
18044 %* \textni -> \owns (mathabx)
18045 % U+220C DOES NOT CONTAIN AS MEMBER; \notowner (mathabx)
18046 \DeclareTextCommand{\textnotowner}{PU}{\9042\014}%* U+220C
18047 % U+220D SMALL CONTAINS AS MEMBER; \smallowns (mathdesign)
18048 \DeclareTextCommand{\textsmallowns}{PU}{\9042\015}%* U+220D
18049 % U+220F N-ARY PRODUCT; \prod (LaTeX)
18050 \DeclareTextCommand{\textprod}{PU}{\9042\017}%* U+220F
18051 % U+2210 N-ARY COPRODUCT; \amalg (LaTeX)
18052 \DeclareTextCommand{\textamalg}{PU}{\9042\020}%* U+2210
18053 % U+2211 N-ARY SUMMATION; summation; \sum (LaTeX)
18054 \DeclareTextCommand{\textsum}{PU}{\9042\021}%* U+2211
18055 % U+2212 MINUS SIGN; minus
18056 \DeclareTextCommand{\textminus}{PU}{\9042\022}%* U+2212
18057 % U+2213 MINUS-OR-PLUS SIGN; minusplus; \mp (LaTeX)
18058 \DeclareTextCommand{\textmp}{PU}{\9042\023}%* U+2213
18059 % U+2214 DOT PLUS; \dotplus (AmS)
18060 \DeclareTextCommand{\textdotplus}{PU}{\9042\024}%* U+2214
18061 % U+2216 SET MINUS; \setminus (LaTeX)
18062 \DeclareTextCommand{\textsetminus}{PU}{\9042\026}%* U+2216

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18063 % U+2217 ASTERISK OPERATOR; asteriskmath; \ast (LaTeX)
18064 \DeclareTextCommand{\textast}{PU}{\9042\027}%* U+2217
18065 % U+2218 RING OPERATOR; \circ (LaTeX)
18066 \DeclareTextCommand{\textcirc}{PU}{\9042\030}%* U+2218
18067 % U+2219 BULLET OPERATOR; bulletoperator; \bullet (LaTeX)
18068 \DeclareTextCommand{\textbulletoperator}{PU}{\9042\031}% U+2219
18069 % U+221A SQUARE ROOT; radical
18070 \DeclareTextCommand{\textsurd}{PU}{\9042\032}%* U+221A
18071 % U+221D PROPORTIONAL TO; proportional; \propto (LaTeX)
18072 \DeclareTextCommand{\textpropto}{PU}{\9042\035}%* U+221D
18073 % U+221E INFINITY; infinity; \infty (LaTeX)
18074 \DeclareTextCommand{\textinfty}{PU}{\9042\036}%* U+221E
18075 % U+2220 ANGLE; angle; \angle (LaTeX)
18076 \DeclareTextCommand{\textangle}{PU}{\9042\040}%* U+2220
18077 % U+2221 MEASURED ANGLE; \measuredangle (mathabx, MnSymbol)
18078 \DeclareTextCommand{\textmeasuredangle}{PU}{\9042\041}%* U+2221
18079 % U+2222 SPHERICAL ANGLE; \sphericalangle (AmS)
18080 \DeclareTextCommand{\textsphericalangle}{PU}{\9042\042}%* U+2222
18081 %* \textsphericalangle -> \varangle (wasysym)
18082 %* \textsphericalangle -> \Anglesign (marvosym)
18083 % U+2223 DIVIDES; divides; \mid (LaTeX)
18084 \DeclareTextCommand{\textmid}{PU}{\9042\043}%* U+2223
18085 % U+2224 DOES NOT DIVIDE; \nmid (AmS)
18086 \DeclareTextCommand{\textnmid}{PU}{\9042\044}%* U+2224
18087 % U+2225 PARALLEL TO; parallel; \parallel (LaTeX)
18088 \DeclareTextCommand{\textparallel}{PU}{\9042\045}%* U+2225
18089 % U+2226 NOT PARALLEL TO; notparallel; \nparallel (AmS)
18090 \DeclareTextCommand{\textnparallel}{PU}{\9042\046}%* U+2226
18091 % U+2227 LOGICAL AND; logicaland; \wedge (LaTeX)
18092 \DeclareTextCommand{\textwedge}{PU}{\9042\047}%* U+2227
18093 % U+2228 LOGICAL OR; logicalor; \vee (LaTeX)
18094 \DeclareTextCommand{\textvee}{PU}{\9042\050}%* U+2228
18095 % U+2229 INTERSECTION; intersection; \cap (LaTeX)
18096 \DeclareTextCommand{\textcap}{PU}{\9042\051}%* U+2229
18097 % U+222A UNION; union; \cup (LaTeX)
18098 \DeclareTextCommand{\textcup}{PU}{\9042\052}%* U+222A
18099 % U+222B INTEGRAL; integral; \int (LaTeX)
18100 \DeclareTextCommand{\textint}{PU}{\9042\053}%* U+222B
18101 % U+222C DOUBLE INTEGRAL; dblintegral; \iint (AmS)
18102 \DeclareTextCommand{\textiint}{PU}{\9042\054}%* U+222C
18103 % U+222D TRIPLE INTEGRAL; \iiint (AmS)
18104 \DeclareTextCommand{\textiiint}{PU}{\9042\055}%* U+222D
18105 % U+222E CONTOUR INTEGRAL; contourintegral; \oint (LaTeX)
18106 \DeclareTextCommand{\textoint}{PU}{\9042\056}%* U+222E
18107 % U+222F SURFACE INTEGRAL; \oiint (wasysym)
18108 \DeclareTextCommand{\textoiint}{PU}{\9042\057}%* U+222F
18109 % U+2232 CLOCKWISE CONTOUR INTEGRAL;
18110 % \ointclockwise (txfonts/pxfonts)
18111 \DeclareTextCommand{\textointclockwise}{PU}{\9042\062}%* U+2232
18112 % U+2233 ANTICLOCKWISE CONTOUR INTEGRAL; \ointctrclockwise (tx-
      fonts/pxfonts)
18113 \DeclareTextCommand{\textointctrclockwise}{PU}{\9042\063}%* U+2233
18114 % U+2234 THEREFORE; therefore; \therefore (AmS)
18115 \DeclareTextCommand{\texttherefore}{PU}{\9042\064}%* U+2234
18116 %* \texttherefore -> uptherefore (MnSymbol)
18117 % U+2235 BECAUSE; because; \because (AmS)
18118 \DeclareTextCommand{\textbecause}{PU}{\9042\065}%* U+2235

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18119 %* \textbecause -> \downtherefore (MnSymbol)
18120 % U+2236 RATIO; \vdotdot (MnSymbol)
18121 \DeclareTextCommand{\textvdotdot}{PU}{\9042\066}%* U+2236
18122 % U+2237 PROPORTION; \squaredots (MnSymbol)
18123 \DeclareTextCommand{\textsquaredots}{PU}{\9042\067}%* U+2237
18124 % U+2238 DOT MINUS; \dotminus (MnSymbol)
18125 \DeclareTextCommand{\textdotminus}{PU}{\9042\070}%* U+2238
18126 %* \textdotminus -> \textdotdiv (mathabx)
18127 % U+2239 EXCESS; \eqcolon (txfonts/pxfonts)
18128 \DeclareTextCommand{\texteqcolon}{PU}{\9042\071}%* U+2239
18129 % U+223C TILDE OPERATOR; similar; \sim (LaTeX)
18130 \DeclareTextCommand{\textsim}{PU}{\9042\074}%* U+223C
18131 % U+223D REVERSED TILDE; reversedtilde; \backsim (AmS)
18132 \DeclareTextCommand{\textbacksim}{PU}{\9042\075}%* U+223D
18133 % U+2240 WREATH PRODUCT; \wr (LaTeX)
18134 \DeclareTextCommand{\textwr}{PU}{\9042\100}%* U+2240
18135 %* \textwr -> \wreath (MnSymbol)
18136 % U+2241 NOT TILDE; \nsim (AmS)
18137 \DeclareTextCommand{\textnsim}{PU}{\9042\101}%* U+2241
18138 % U+2243 ASYMPTOTICALLY EQUAL TO; asymptoticallyequal; \simeq (LaTeX)
18139 \DeclareTextCommand{\textsimeq}{PU}{\9042\103}%* U+2243
18140 % U+2245 APPROXIMATELY EQUAL TO; approximatelyequal; \cong (LaTeX)
18141 \DeclareTextCommand{\textcong}{PU}{\9042\105}%* U+2245
18142 % U+2247 NEITHER APPROXIMATELY NOR ACTUALLY EQUAL TO;
18143 % \ncong (AmS)
18144 \DeclareTextCommand{\textncong}{PU}{\9042\107}%* U+2247
18145 % U+2248 ALMOST EQUAL TO; approxequal; \approx (LaTeX)
18146 \DeclareTextCommand{\textapprox}{PU}{\9042\110}%* U+2248
18147 % U+224A ALMOST EQUAL OR EQUAL TO; \approxeq (AmS)
18148 \DeclareTextCommand{\textapproxeq}{PU}{\9042\112}%* U+224A
18149 % U+224B TRIPLE TILDE; \triplesim (MnSymbol)
18150 \DeclareTextCommand{\texttriplesim}{PU}{\9042\113}%* U+224B
18151 % U+224C ALL EQUAL TO; allequal; \backcong (MnSymbol)
18152 \DeclareTextCommand{\textbackcong}{PU}{\9042\114}%* U+224C
18153 % U+224D EQUIVALENT TO; \asymp (LaTeX)
18154 \DeclareTextCommand{\textasymp}{PU}{\9042\115}%* U+224D
18155 % U+224E GEOMETRICALLY EQUIVALENT TO; \Bumpeq (AmS)
18156 \DeclareTextCommand{\textBumpeq}{PU}{\9042\116}%* U+224E
18157 % U+224F DIFFERENCE BETWEEN; \bumpeq (AmS)
18158 \DeclareTextCommand{\textbumpeq}{PU}{\9042\117}%* U+224F
18159 % U+2250 APPROACHES THE LIMIT; approaches; \doteq (LaTeX)
18160 \DeclareTextCommand{\textdoteq}{PU}{\9042\120}%* U+2250
18161 % U+2251 GEOMETRICALLY EQUAL TO; geometricallyequal;
18162 % \doteqdot (AmS)
18163 \DeclareTextCommand{\textdoteqdot}{PU}{\9042\121}%* U+2251
18164 %* \textdoteqdot -> \Doteq (MnSymbol)
18165 % U+2252 APPROXIMATELY EQUAL TO OR THE IMAGE OF; approx-
18166 % equalorimage;
18167 % \fallingdotseq (AmS)
18168 \DeclareTextCommand{\textfallingdotseq}{PU}{\9042\122}%* U+2252
18169 % U+2253 IMAGE OF OR APPROXIMATELY EQUAL TO; imageorapprox-
18170 % imatelyequal;
18171 % \risingdotseq (AmS)
18172 \DeclareTextCommand{\textrisingdotseq}{PU}{\9042\123}%* U+2253
18173 % U+2254 COLON EQUALS; \colonequals (colonequals)
18174 \DeclareTextCommand{\textcolonequals}{PU}{\9042\124}%* U+2254

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18173 % U+2255 EQUALS COLON; \equalscolon (colonequals)
18174 \DeclareTextCommand{\textequalscolon}{PU}{\9042\125}%* U+2255
18175 % U+2256 RING IN EQUAL TO; \eqcirc (AmS)
18176 \DeclareTextCommand{\texteqcirc}{PU}{\9042\126}%* U+2256
18177 % U+2257 RING EQUAL TO; \circeq (AmS)
18178 \DeclareTextCommand{\textcirceq}{PU}{\9042\127}%* U+2257
18179 % U+2259 ESTIMATES; \hateq (MnSymbol)
18180 \DeclareTextCommand{\texthateq}{PU}{\9042\131}%* U+2259
18181 %* \texthateq -> \corresponds (mathabx)
18182 % U+225C DELTA EQUAL TO; \triangleeq (AmS)
18183 \DeclareTextCommand{\texttriangleeq}{PU}{\9042\134}%* U+225C
18184 % U+2260 NOT EQUAL TO; notequal; \ne (LaTeX), \neq (LaTeX)
18185 \DeclareTextCommand{\textneq}{PU}{\9042\140}%* U+2260
18186 \DeclareTextCommand{\textne}{PU}{\9042\140}%* U+2260
18187 % U+2261 IDENTICAL TO; equivalence; \equiv (LaTeX)
18188 \DeclareTextCommand{\textequiv}{PU}{\9042\141}%* U+2261
18189 % U+2262 NOT IDENTICAL TO; notidentical; \nequiv (txfonts/pxfonts)
18190 \DeclareTextCommand{\textnequiv}{PU}{\9042\142}%* U+2262
18191 % U+2264 LESS-THAN OR EQUAL TO; lessequal; \le (LaTeX), \leq (LaTeX)
18192 \DeclareTextCommand{\textleq}{PU}{\9042\144}%* U+2264
18193 \DeclareTextCommand{\textle}{PU}{\9042\144}%* U+2264
18194 % U+2265 GREATER-THAN OR EQUAL TO; greaterequal;
18195 % \ge (LaTeX), \geq (LaTeX)
18196 \DeclareTextCommand{\textgeq}{PU}{\9042\145}%* U+2265
18197 \DeclareTextCommand{\textge}{PU}{\9042\145}%* U+2265
18198 % U+2266 LESS-THAN OVER EQUAL TO; lessorequal; \leqq (AmS)
18199 \DeclareTextCommand{\textleqq}{PU}{\9042\146}%* U+2266
18200 % U+2267 GREATER-THAN OVER EQUAL TO; greaterorequal; \geqq (AmS)
18201 \DeclareTextCommand{\textgeqq}{PU}{\9042\147}%* U+2267
18202 % U+2268 LESS-THAN BUT NOT EQUAL TO; \lneqq (AmS)
18203 \DeclareTextCommand{\textlneqq}{PU}{\9042\150}%* U+2268
18204 % U+2269 GREATER-THAN BUT NOT EQUAL TO; \gneqq (AmS)
18205 \DeclareTextCommand{\textgneqq}{PU}{\9042\151}%* U+2269
18206 % U+226A MUCH LESS-THAN; muchless; \ll (LaTeX)
18207 \DeclareTextCommand{\textll}{PU}{\9042\152}%* U+226A
18208 % U+226B MUCH GREATER-THAN; muchgreater; \gg (LaTeX)
18209 \DeclareTextCommand{\textgg}{PU}{\9042\153}%* U+226B
18210 % U+226C BETWEEN; \between (AmS)
18211 \DeclareTextCommand{\textbetween}{PU}{\9042\154}%* U+226C
18212 % U+226E NOT LESS-THAN; notless; \nless (AmS)
18213 \DeclareTextCommand{\textnless}{PU}{\9042\156}%* U+226E
18214 % U+226F NOT GREATER-THAN; notgreater; \ngtr (AmS)
18215 \DeclareTextCommand{\textngtr}{PU}{\9042\157}%* U+226F
18216 % U+2270 NEITHER LESS-THAN NOR EQUAL TO; notlessnorequal;
18217 % \nleq (AmS)
18218 \DeclareTextCommand{\textnleq}{PU}{\9042\160}%* U+2270
18219 % U+2271 NEITHER GREATER-THAN NOR EQUAL TO; notgreaternorequal; \ngeq (AmS)
18220 \DeclareTextCommand{\textngeq}{PU}{\9042\161}%* U+2271
18221 % U+2272 LESS-THAN OR EQUIVALENT TO; lessorequivalent; \lesssim (AmS)
18222 \DeclareTextCommand{\textlesssim}{PU}{\9042\162}%* U+2272
18223 % U+2273 GREATER-THAN OR EQUIVALENT TO; greaterorequivalent; \gtrsim (AmS)
18224 \DeclareTextCommand{\textgtrsim}{PU}{\9042\163}%* U+2273
18225 % U+2276 LESS-THAN OR GREATER-THAN; lessorgreater; \lessgtr (AmS)
18226 \DeclareTextCommand{\textlessgtr}{PU}{\9042\166}%* U+2276
18227 % U+2277 GREATER-THAN OR LESS-THAN; greaterorless; \gtrless (AmS)

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18228 \DeclareTextCommand{\textgtrless}{PU}{\9042\167}%* U+2277
18229 % U+227A PRECEDES; precedes; \prec (LaTeX)
18230 \DeclareTextCommand{\textprec}{PU}{\9042\172}%* U+227A
18231 % U+227B SUCCEEDS; succeeds; \succ (LaTeX)
18232 \DeclareTextCommand{\textsucc}{PU}{\9042\173}%* U+227B
18233 % U+227C PRECEDES OR EQUAL TO; \preccurlyeq (AmS)
18234 \DeclareTextCommand{\textpreccurlyeq}{PU}{\9042\174}%* U+227C
18235 % U+227D SUCCEEDS OR EQUAL TO; \succcurlyeq (AmS)
18236 \DeclareTextCommand{\textsucccurlyeq}{PU}{\9042\175}%* U+227D
18237 % U+227E PRECEDES OR EQUIVALENT TO; \precsim (AmS)
18238 \DeclareTextCommand{\textprecsim}{PU}{\9042\176}%* U+227E
18239 % U+227F SUCCEEDS OR EQUIVALENT TO; \succsim (AmS)
18240 \DeclareTextCommand{\textsuccsim}{PU}{\9042\177}%* U+227F
18241 % U+2280 DOES NOT PRECEDE; notprecedes; \nprec (AmS)
18242 \DeclareTextCommand{\textnprec}{PU}{\9042\200}%* U+2280
18243 % U+2281 DOES NOT SUCCEED; notsucceeds; \nsucc (AmS)
18244 \DeclareTextCommand{\textnsucc}{PU}{\9042\201}%* U+2281
18245 % U+2282 SUBSET OF; propersubset; \subset (LaTeX)
18246 \DeclareTextCommand{\textsubset}{PU}{\9042\202}%* U+2282
18247 % U+2283 SUPERSET OF; propersuperset; \supset (LaTeX)
18248 \DeclareTextCommand{\textsupset}{PU}{\9042\203}%* U+2283
18249 % U+2284 NOT A SUBSET OF; notsubset; \nsubset (mathabx)
18250 \DeclareTextCommand{\textnsubset}{PU}{\9042\204}%* U+2284
18251 % U+2285 NOT A SUPERSET OF; notsuperset; \nsupset (mathabx)
18252 \DeclareTextCommand{\textnsupset}{PU}{\9042\205}%* U+2285
18253 % U+2286 SUBSET OF OR EQUAL TO; reflexsubset; \subseteq (LaTeX)
18254 \DeclareTextCommand{\textsubseteq}{PU}{\9042\206}%* U+2286
18255 % U+2287 SUPERSET OF OR EQUAL TO; reflexsuperset; \supseteq (LaTeX)
18256 \DeclareTextCommand{\textsupseteq}{PU}{\9042\207}%* U+2287
18257 % U+2288 NEITHER A SUBSET OF NOR EQUAL TO; \nsubseteq (AmS)
18258 \DeclareTextCommand{\textnsubseteq}{PU}{\9042\210}%* U+2288
18259 % U+2289 NEITHER A SUPERSET OF NOR EQUAL TO; \nsupseteq (AmS)
18260 \DeclareTextCommand{\textnsupseteq}{PU}{\9042\211}%* U+2289
18261 % U+228A SUBSET OF WITH NOT EQUAL TO; subsetnotequal; \subsetneq (AmS)
18262 \DeclareTextCommand{\textsubsetneq}{PU}{\9042\212}%* U+228A
18263 % U+228B SUPERSET OF WITH NOT EQUAL TO; supersetnotequal; \supsetneq (AmS)
18264 \DeclareTextCommand{\textsupsetneq}{PU}{\9042\213}%* U+228B
18265 % U+228D MULTISSET MULTIPLICATION; \cupdot (MnSymbol)
18266 \DeclareTextCommand{\textcupdot}{PU}{\9042\215}%* U+228D
18267 % U+228E MULTISSET UNION; \cupplus (MnSymbol)
18268 \DeclareTextCommand{\textcupplus}{PU}{\9042\216}%* U+228E
18269 % U+228F SQUARE IMAGE OF; \sqsubset (latexsym, ...)
18270 \DeclareTextCommand{\textsqsubset}{PU}{\9042\217}%* U+228F
18271 % U+2290 SQUARE ORIGINAL OF; \sqsupset (latexsym, ...)
18272 \DeclareTextCommand{\textsqsupset}{PU}{\9042\220}%* U+2290
18273 % U+2291 SQUARE IMAGE OF OR EQUAL TO; \sqsubseteq (LaTeX)
18274 \DeclareTextCommand{\textsqsubseteq}{PU}{\9042\221}%* U+2291
18275 % U+2292 SQUARE ORIGINAL OF OR EQUAL TO; \sqsupseteq (LaTeX)
18276 \DeclareTextCommand{\textsqsupseteq}{PU}{\9042\222}%* U+2292
18277 % U+2293 SQUARE CAP; \sqcap (LaTeX)
18278 \DeclareTextCommand{\textsqcap}{PU}{\9042\223}%* U+2293
18279 % U+2294 SQUARE CUP; \sqcup (LaTeX)
18280 \DeclareTextCommand{\textsqcup}{PU}{\9042\224}%* U+2294
18281 % U+2295 CIRCLED PLUS; circleplus; \oplus (LaTeX)
18282 \DeclareTextCommand{\textoplus}{PU}{\9042\225}%* U+2295

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18283 %* \textoplus -> \varoplus (stmaryrd)
18284 % U+2296 CIRCLED MINUS; minuscircle; \ominus (LaTeX)
18285 \DeclareTextCommand{\textominus}{PU}{\9042\226}%* U+2296
18286 %* \textominus -> \varominus (stmaryrd)
18287 % U+2297 CIRCLED TIMES; circlemultiply; \otimes (LaTeX)
18288 \DeclareTextCommand{\textotimes}{PU}{\9042\227}%* U+2297
18289 %* \textotimes -> \varotimes (stmaryrd)
18290 % U+2298 CIRCLED DIVISION SLASH; \oslash (LaTeX)
18291 \DeclareTextCommand{\textoslash}{PU}{\9042\230}%* U+2298
18292 %* \textoslash -> \varoslash (stmaryrd)
18293 % U+2299 CIRCLED DOT OPERATOR; circle(d?)ot; \odot (LaTeX)
18294 \DeclareTextCommand{\textodot}{PU}{\9042\231}%* U+2299
18295 %* \textodot -> \varodot (stmaryrd)
18296 % U+229A CIRCLED RING OPERATOR; \circledcirc (AmS)
18297 \DeclareTextCommand{\textcircledcirc}{PU}{\9042\232}%* U+229A
18298 %* \textcircledcirc -> \ocirc (mathabx)
18299 %* \textcircledcirc -> \varocircle (stmaryrd)
18300 % U+229B CIRCLED ASTERISK OPERATOR; \circledast (AmS)
18301 \DeclareTextCommand{\textcircledast}{PU}{\9042\233}%* U+229B
18302 %* \textcircledast -> \varoast (stmaryrd)
18303 %* \textcircledast -> \oasterisk (mathabx)
18304 % U+229D CIRCLED DASH; \circleddash (AmS)
18305 \DeclareTextCommand{\textcircleddash}{PU}{\9042\235}%* U+229D
18306 % U+229E SQUARED PLUS; \boxplus (AmS)
18307 \DeclareTextCommand{\textboxplus}{PU}{\9042\236}%* U+229E
18308 % U+229F SQUARED MINUS; \boxminus (AmS)
18309 \DeclareTextCommand{\textboxminus}{PU}{\9042\237}%* U+229F
18310 % U+22A0 SQUARED TIMES; \boxtimes (AmS)
18311 \DeclareTextCommand{\textboxtimes}{PU}{\9042\240}%* U+22A0
18312 % U+22A1 SQUARED DOT OPERATOR; \boxdot (AmS)
18313 \DeclareTextCommand{\textboxdot}{PU}{\9042\241}%* U+22A1
18314 % U+22A2 RIGHT TACK; \vdash (LaTeX)
18315 \DeclareTextCommand{\textvdash}{PU}{\9042\242}%* U+22A2
18316 %* \textvdash -> \rightvdash (MnSymbol)
18317 % U+22A3 LEFT TACK; tackleft; \dashv (LaTeX)
18318 \DeclareTextCommand{\textdashv}{PU}{\9042\243}%* U+22A3
18319 %* \textdashv -> \leftvdash (MnSymbol)
18320 % U+22A4 DOWN TACK (=top); tackdown; \top (LaTeX)
18321 \DeclareTextCommand{\texttop}{PU}{\9042\244}%* U+22A4
18322 %* \texttop -> \downvdash (MnSymbol)
18323 % U+22A5 UP TACK (=base, bottom); \bot (LaTeX)
18324 \DeclareTextCommand{\textbot}{PU}{\9042\245}%* U+22A5
18325 % U+22A8 TRUE; \vDash (AmS)
18326 \DeclareTextCommand{\textvDash}{PU}{\9042\250}%* U+22A8
18327 %* \textvDash -> \models (LaTeX)
18328 %* \textvDash -> \rightmodels (MnSymbol)
18329 % U+22A9 FORCES; \Vdash (AmS)
18330 \DeclareTextCommand{\textVdash}{PU}{\9042\251}%* U+22A9
18331 %* \textVdash -> \rightVdash (MnSymbol)
18332 % U+22AA TRIPLE VERTICAL BAR RIGHT TURNSTILE; \Vvdash (AmS)
18333 \DeclareTextCommand{\textVvdash}{PU}{\9042\252}%* U+22AA
18334 % U+22AB DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE;
18335 % \VDash (mathabx)
18336 \DeclareTextCommand{\textVDash}{PU}{\9042\253}%* U+22AB
18337 %* \textVDash -> \rightModels (MnSymbol)
18338 % U+22AC DOES NOT PROVE; \nvdash (AmS)
18339 \DeclareTextCommand{\textnvdash}{PU}{\9042\254}%* U+22AC

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18340 % U+22AD NOT TRUE; \nvDash (AmS)
18341 \DeclareTextCommand{\textnvDash}{PU}{\9042\255}%* U+22AD
18342 % U+22AF NEGATED DOUBLE VERTICAL BAR DOUBLE RIGHT TURN-
      STILE; \nVDash (AmS)
18343 \DeclareTextCommand{\textnVDash}{PU}{\9042\257}%* U+22AF
18344 % U+22B2 NORMAL SUBGROUP OF; \lhd (latexsym, ...)
18345 \DeclareTextCommand{\textlhd}{PU}{\9042\262}%* U+22B2
18346 %* \textlhd -> \lessclosed (MnSymbol)
18347 % U+22B3 CONTAINS AS NORMAL SUBGROUP; \rhd (latexsym, ...)
18348 \DeclareTextCommand{\textrhd}{PU}{\9042\263}%* U+22B3
18349 %* \textrhd -> \gtrclosed (MnSymbol)
18350 % U+22B4 NORMAL SUBGROUP OF OR EQUAL TO; \unlhd (latexsym, ...)
18351 \DeclareTextCommand{\textunlhd}{PU}{\9042\264}%* U+22B4
18352 %* \textunlhd -> \leqclosed (MnSymbol)
18353 %* \textunlhd -> \trianglelefteq (MnSymbol)
18354 % U+22B5 CONTAINS AS NORMAL SUBGROUP OR EQUAL TO; \unrhd (la-
      texsym, ...)
18355 \DeclareTextCommand{\textunrhd}{PU}{\9042\265}%* U+22B5
18356 %* \textunrhd -> \geqclosed (MnSymbol)
18357 %* \textunrhd -> \trianglerighteq (MnSymbol)
18358 % U+22B6 ORIGINAL OF; \multimapdotbothA (txfonts/pxfonts)
18359 \DeclareTextCommand{\textmultimapdotbothA}{PU}{\9042\266}%* U+22B6
18360 % U+22B7 IMAGE OF; \multimapdotbothB (txfonts/pxfonts)
18361 \DeclareTextCommand{\textmultimapdotbothB}{PU}{\9042\267}%* U+22B7
18362 % U+22B8 MULTIMAP; \multimap (AmS, txfonts/pxfonts)
18363 \DeclareTextCommand{\textmultimap}{PU}{\9042\270}%* U+22B8
18364 % U+22BB XOR; \veebar (AmS)
18365 \DeclareTextCommand{\textveebar}{PU}{\9042\273}%* U+22BB
18366 % U+22BC NAND; \barwedge (mathabx)
18367 \DeclareTextCommand{\textbarwedge}{PU}{\9042\274}%* U+22BC
18368 % U+22C6 STAR OPERATOR; \star (LaTeX)
18369 \DeclareTextCommand{\textstar}{PU}{\9042\306}%* U+22C6
18370 % U+22C7 DIVISION TIMES; \divideontimes (AmS)
18371 \DeclareTextCommand{\textdivideontimes}{PU}{\9042\307}%* U+22C7
18372 % U+22C8 BOWTIE; \bowtie (LaTeX)
18373 \DeclareTextCommand{\textbowtie}{PU}{\9042\310}%* U+22C8
18374 % U+22C9 LEFT NORMAL FACTOR SEMIDIRECT PRODUCT; \ltimes (AmS)
18375 \DeclareTextCommand{\textltimes}{PU}{\9042\311}%* U+22C9
18376 % U+22CA RIGHT NORMAL FACTOR SEMIDIRECT PRODUCT;
18377 % \rtimes (AmS)
18378 \DeclareTextCommand{\textrtimes}{PU}{\9042\312}%* U+22CA
18379 % U+22CB LEFT SEMIDIRECT PRODUCT; \leftthreetimes (AmS)
18380 \DeclareTextCommand{\textleftthreetimes}{PU}{\9042\313}%* U+22CB
18381 % U+22CC RIGHT SEMIDIRECT PRODUCT; \rightthreetimes (AmS)
18382 \DeclareTextCommand{\textrightthreetimes}{PU}{\9042\314}%* U+22CC
18383 % U+22CD REVERSED TILDE EQUALS; \backsimeq (AmS)
18384 \DeclareTextCommand{\textbacksimeq}{PU}{\9042\315}%* U+22CD
18385 % U+22CE CURLY LOGICAL OR; curlyor; \curlyvee (AmS)
18386 \DeclareTextCommand{\textcurlyvee}{PU}{\9042\316}%* U+22CE
18387 %* \textcurlyvee -> \varcurlyvee (stmaryrd)
18388 % U+22CF CURLY LOGICAL AND; curlyand; \curlywedge (AmS)
18389 \DeclareTextCommand{\textcurlywedge}{PU}{\9042\317}%* U+22CF
18390 %* \textcurlywedge -> \varcurlywedge (stmaryrd)
18391 % U+22D0 DOUBLE SUBSET; \Subset (AmS)
18392 \DeclareTextCommand{\textSubset}{PU}{\9042\320}%* U+22D0
18393 % U+22D1 DOUBLE SUPERSET; \Supset (AmS)
18394 \DeclareTextCommand{\textSupset}{PU}{\9042\321}%* U+22D1

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18395 % U+22D2 DOUBLE INTERSECTION; \Cap (AmS)
18396 \DeclareTextCommand{\textCap}{PU}{\9042\322}%* U+22D2
18397 %* \textCap -> \doublecap (mathabx)
18398 % U+22D3 DOUBLE UNION; \Cup (AmS)
18399 \DeclareTextCommand{\textCup}{PU}{\9042\323}%* U+22D3
18400 %* \textCup -> \doublecup (mathabx)
18401 % U+22D4 PITCHFORK; \pitchfork (mathabx)
18402 \DeclareTextCommand{\textpitchfork}{PU}{\9042\324}%* U+22D4
18403 % U+22D6 LESS-THAN WITH DOT; \lessdot (AmS)
18404 \DeclareTextCommand{\textlessdot}{PU}{\9042\326}%* U+22D6
18405 % U+22D7 GREATER-THAN WITH DOT; \gtrdot (AmS)
18406 \DeclareTextCommand{\textgtrdot}{PU}{\9042\327}%* U+22D7
18407 % U+22D8 VERY MUCH LESS-THAN; \lll (AmS)
18408 \DeclareTextCommand{\textlll}{PU}{\9042\330}%* U+22D8
18409 % U+22D9 VERY MUCH GREATER-THAN; \ggg (AmS)
18410 \DeclareTextCommand{\textggg}{PU}{\9042\331}%* U+22D9
18411 % U+22DA LESS-THAN EQUAL TO OR GREATER-THAN; lessequalorgreater;
18412 % \lesseqgtr (AmS)
18413 \DeclareTextCommand{\textlesseqgtr}{PU}{\9042\332}%* U+22DA
18414 % U+22DB GREATER-THAN EQUAL TO OR LESS-THAN; greaterequalorless;
18415 % \gtreqless (AmS)
18416 \DeclareTextCommand{\textgtreqless}{PU}{\9042\333}%* U+22DB
18417 % U+22DE EQUAL TO OR PRECEDES; \curlyeqprec (MnSymbol)
18418 \DeclareTextCommand{\textcurlyeqprec}{PU}{\9042\336}%* U+22DE
18419 % U+22DF EQUAL TO OR SUCCEEDS; \curlyeqsucc (MnSymbol)
18420 \DeclareTextCommand{\textcurlyeqsucc}{PU}{\9042\337}%* U+22DF
18421 % U+22E0 DOES NOT PRECEDE OR EQUAL; \npreccurlyeq (txfonts/pxfonts)
18422 \DeclareTextCommand{\textnpreccurlyeq}{PU}{\9042\340}%* U+22E0
18423 % U+22E1 DOES NOT SUCCEED OR EQUAL; \nsucccurlyeq (txfonts/pxfonts)
18424 \DeclareTextCommand{\textnsucccurlyeq}{PU}{\9042\341}%* U+22E1
18425 % U+22E2 NOT SQUARE IMAGE OF OR EQUAL TO; \nsqsubseteq (tx-
    fonts/pxfonts)
18426 \DeclareTextCommand{\textnqsubseteq}{PU}{\9042\342}%* U+22E2
18427 % U+22E3 NOT SQUARE ORIGINAL OF OR EQUAL TO; \nsqsupseteq (tx-
    fonts/pxfonts)
18428 \DeclareTextCommand{\textnqsupseteq}{PU}{\9042\343}%* U+22E3
18429 % U+22E4 SQUARE IMAGE OF OR NOT EQUAL TO; \sqsubsetneq (mathabx)
18430 \DeclareTextCommand{\textsqsubsetneq}{PU}{\9042\344}%* U+22E4
18431 %* \textsqsubsetneq -> \varsqsubsetneq (mathabx)
18432 % U+22E5 SQUARE ORIGINAL OF OR NOT EQUAL TO; \sqsupsetneq (math-
    abx)
18433 \DeclareTextCommand{\textsqsupsetneq}{PU}{\9042\345}%* U+22E5
18434 %* \textsqsupsetneq -> \varsqsupsetneq (mathabx)
18435 % U+22E6 LESS-THAN BUT NOT EQUIVALENT TO; \lnsim (AmS)
18436 \DeclareTextCommand{\textlnsim}{PU}{\9042\346}%* U+22E6
18437 % U+22E7 GREATER-THAN BUT NOT EQUIVALENT TO; \gnsim (AmS)
18438 \DeclareTextCommand{\textgnsim}{PU}{\9042\347}%* U+22E7
18439 % U+22E8 PRECEDES BUT NOT EQUIVALENT TO; \precnsim (AmS)
18440 \DeclareTextCommand{\textprecnsim}{PU}{\9042\350}%* U+22E8
18441 % U+22E9 SUCCEEDS BUT NOT EQUIVALENT TO; \succnsim (AmS)
18442 \DeclareTextCommand{\textsuccnsim}{PU}{\9042\351}%* U+22E9
18443 % U+22EA NOT NORMAL SUBGROUP OF; \ntriangleleft (AmS)
18444 \DeclareTextCommand{\textntriangleleft}{PU}{\9042\352}%* U+22EA
18445 %* \textntriangleleft -> \nlessclosed (MnSymbol)
18446 % U+22EB DOES NOT CONTAIN AS NORMAL SUBGROUP; \ntriang-
    leright (AmS)
18447 \DeclareTextCommand{\textntriangleright}{PU}{\9042\353}%* U+22EB

```



18448 %\* \textntriangleright -> \ngtrclosed (MnSymbol)  
 18449 % U+22EC NOT NORMAL SUBGROUP OF OR EQUAL TO;  
 18450 % \ntrianglelefteq (AmS)  
 18451 \DeclareTextCommand{\textntrianglelefteq}{PU}{\9042\354}%\* U+22EC  
 18452 % U+22ED DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL;  
 18453 % \ntrianglerighteq (AmS)  
 18454 \DeclareTextCommand{\textntrianglerighteq}{PU}{\9042\355}%\* U+22ED  
 18455 %\* \textntrianglerighteq -> textngeqclosed  
 18456 % U+22EE VERTICAL ELLIPSIS; ellipsisvertical; \vdots (LaTeX)  
 18457 \DeclareTextCommand{\textvdots}{PU}{\9042\356}%\* U+22EE  
 18458 % U+22EF MIDLINE HORIZONTAL ELLIPSIS; \cdots (LaTeX)  
 18459 \DeclareTextCommand{\textcdots}{PU}{\9042\357}%\* U+22EF  
 18460 % U+22F0 UP RIGHT DIAGONAL ELLIPSIS; \udots (MnSymbol)  
 18461 \DeclareTextCommand{\textudots}{PU}{\9042\360}%\* U+22F0  
 18462 % U+22F1 DOWN RIGHT DIAGONAL ELLIPSIS; \ddots (LaTeX)  
 18463 \DeclareTextCommand{\textddots}{PU}{\9042\361}%\* U+22F1  
 18464 % U+22F6 ELEMENT OF WITH OVERBAR; \barin (mathabx)  
 18465 \DeclareTextCommand{\textbarin}{PU}{\9042\366}%\* U+22F6

### 51.2.23 Miscellaneous Technical: U+2300 to U+23FF

18466 % U+2300 DIAMETER SIGN; \diameter (mathabx)  
 18467 \DeclareTextCommand{\textdiameter}{PU}{\9043\000}%\* U+2300  
 18468 % U+2310 REVERSED NOT SIGN; \backneg (MnSymbol)  
 18469 \DeclareTextCommand{\textbackneg}{PU}{\9043\020}%\* U+2310  
 18470 % U+2319 TURNED NOT SIGN; \invbackneg (MnSymbol)  
 18471 \DeclareTextCommand{\textinvbackneg}{PU}{\9043\031}%\* U+2319  
 18472 % U+231A WATCH; \clock (wasysym)  
 18473 \DeclareTextCommand{\textclock}{PU}{\9043\032}%\* U+231A  
 18474 %\* \textclock -> \Clocklogo (marvosym)  
 18475 % U+231C TOP LEFT CORNER; \ulcorner (AmS)  
 18476 \DeclareTextCommand{\textulcorner}{PU}{\9043\034}%\* U+231C  
 18477 % U+231D TOP RIGHT CORNER; \urcorner (AmS)  
 18478 \DeclareTextCommand{\texturcorner}{PU}{\9043\035}%\* U+231D  
 18479 % U+231E BOTTOM LEFT CORNER; \llcorner (AmS)  
 18480 \DeclareTextCommand{\textllcorner}{PU}{\9043\036}%\* U+231E  
 18481 % U+231F BOTTOM RIGHT CORNER; \lrcorner (AmS)  
 18482 \DeclareTextCommand{\textlrcorner}{PU}{\9043\037}%\* U+231F  
 18483 % U+2322 FROWN; \frown (LaTeX)  
 18484 \DeclareTextCommand{\textfrown}{PU}{\9043\042}%\* U+2322  
 18485 % U+2323 SMILE; \smile (LaTeX)  
 18486 \DeclareTextCommand{\textsmile}{PU}{\9043\043}%\* U+2323  
 18487 % U+2328 KEYBOARD; \Keyboard (marvosym)  
 18488 \DeclareTextCommand{\textKeyboard}{PU}{\9043\050}%\* U+2328  
 18489 % U+2329 LEFT-POINTING ANGLE BRACKET; \angleleft; \langle (LaTeX)  
 18490 \DeclareTextCommand{\textlangle}{PU}{\9043\051}%\* U+2329  
 18491 % U+232A RIGHT-POINTING ANGLE BRACKET; \angleright; \rangle (LaTeX)  
 18492 \DeclareTextCommand{\textrangle}{PU}{\9043\052}%\* U+232A  
 18493 % U+2339 APL FUNCTIONAL SYMBOL QUAD DIVIDE; \APLinv (wasysym)  
 18494 \DeclareTextCommand{\textAPLinv}{PU}{\9043\071}%\* U+2339  
 18495 % U+233F APL FUNCTIONAL SYMBOL SLASH BAR; \notslash (wasysym)  
 18496 \DeclareTextCommand{\textnotslash}{PU}{\9043\077}%\* U+233F  
 18497 % U+2340 APL FUNCTIONAL SYMBOL BACKSLASH BAR;  
 18498 % \notbackslash (wasysym)  
 18499 \DeclareTextCommand{\textnotbackslash}{PU}{\9043\100}%\* U+2340  
 18500 % U+2342 APL FUNCTIONAL SYMBOL QUAD BACKSLASH; \boxback-  
 slash (mathabx)  
 18501 \DeclareTextCommand{\textboxbackslash}{PU}{\9043\102}%\* U+2342

18502 % U+2347 APL FUNCTIONAL SYMBOL QUAD LEFTWARDS ARROW;  
 18503 % \APLleftarrowbox (wasysym)  
 18504 \DeclareTextCommand{\textAPLleftarrowbox}{PU}{\9043\107}%\* U+2347  
 18505 % U+2348 APL FUNCTIONAL SYMBOL QUAD RIGHTWARDS ARROW;  
 18506 % \APLrightarrowbox (wasysym)  
 18507 \DeclareTextCommand{\textAPLrightarrowbox}{PU}{\9043\110}%\* U+2348  
 18508 % U+2350 APL FUNCTIONAL SYMBOL QUAD UPWARDS ARROW; \APLuparrowbox (wasysym)  
 18509 \DeclareTextCommand{\textAPLuparrowbox}{PU}{\9043\120}%\* U+2350  
 18510 % U+2357 APL FUNCTIONAL SYMBOL QUAD DOWNWARDS ARROW;  
 18511 % \APLdownarrowbox (wasysym)  
 18512 \DeclareTextCommand{\textAPLdownarrowbox}{PU}{\9043\127}%\* U+2357  
 18513 % U+235E APL FUNCTIONAL SYMBOL QUOTE QUAD;  
 18514 % \APLinput (wasysym)  
 18515 \DeclareTextCommand{\textAPLinput}{PU}{\9043\136}%\* U+235E  
 18516 % U+2370 APL FUNCTIONAL SYMBOL QUAD QUESTION; \Request (china2e)  
 18517 \DeclareTextCommand{\textRequest}{PU}{\9043\160}%\* U+2370

#### 51.2.24 Control Pictures: U+2400 to U+243F

18518 % U+2422 BLANK SYMBOL  
 18519 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
 18520 % U+2423 OPEN BOX; blank  
 18521 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

#### 51.2.25 Optical Character Recognition: U+2440 to U+245F

18522 % U+244A OCR DOUBLE BACKSLASH; \bbslash (stmaryrd)  
 18523 \DeclareTextCommand{\textbbslash}{PU}{\9044\112}%\* U+244A  
 18524 %\* \textbbslash -> \varparallelinv (txfonts/pxfonts)

#### 51.2.26 Enclosed Alphanumerics: U+2460 to U+24FF

18525 % U+2460 CIRCLED DIGIT ONE; onecircle  
 18526 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
 18527 % U+2461 CIRCLED DIGIT TWO; twocircle  
 18528 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
 18529 % U+2462 CIRCLED DIGIT THREE; threecircle  
 18530 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
 18531 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
 18532 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
 18533 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
 18534 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
 18535 % U+2465 CIRCLED DIGIT SIX; sixcircle  
 18536 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
 18537 % U+2466 CIRCLED DIGIT SEVEN; sevendigit  
 18538 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
 18539 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
 18540 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
 18541 % U+2468 CIRCLED DIGIT NINE; ninecircle  
 18542 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
 18543 % U+2469 CIRCLED NUMBER TEN; tencircle  
 18544 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
 18545 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
 18546 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
 18547 % U+246B CIRCLED NUMBER TWELVE; twelvecircle  
 18548 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
 18549 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
 18550 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
 18551 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle

18552 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
 18553 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
 18554 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
 18555 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
 18556 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
 18557 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
 18558 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
 18559 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
 18560 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
 18561 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle  
 18562 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
 18563 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
 18564 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
 18565 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
 18566 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
 18567 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
 18568 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
 18569 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
 18570 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
 18571 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
 18572 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
 18573 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
 18574 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
 18575 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
 18576 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
 18577 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
 18578 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
 18579 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
 18580 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
 18581 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
 18582 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
 18583 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
 18584 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
 18585 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
 18586 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
 18587 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
 18588 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
 18589 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
 18590 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
 18591 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
 18592 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
 18593 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
 18594 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
 18595 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
 18596 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
 18597 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
 18598 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
 18599 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
 18600 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7  
 18601 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
 18602 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
 18603 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
 18604 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
 18605 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
 18606 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
 18607 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
 18608 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB

18609 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
 18610 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
 18611 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
 18612 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
 18613 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
 18614 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
 18615 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
 18616 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
 18617 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
 18618 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
 18619 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
 18620 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
 18621 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
 18622 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
 18623 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
 18624 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
 18625 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
 18626 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
 18627 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
 18628 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
 18629 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
 18630 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
 18631 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
 18632 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
 18633 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
 18634 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
 18635 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
 18636 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
 18637 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
 18638 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
 18639 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
 18640 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
 18641 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
 18642 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
 18643 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
 18644 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
 18645 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
 18646 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
 18647 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
 18648 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
 18649 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
 18650 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0  
 18651 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
 18652 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 18653 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
 18654 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
 18655 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
 18656 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 18657 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
 18658 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 18659 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
 18660 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 18661 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
 18662 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
 18663 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle  
 18664 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
 18665 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle

```

18666 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
18667 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
18668 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
18669 % U+24EA CIRCLED DIGIT ZERO
18670 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

```

### 51.2.27 Geometric Shapes: U+25A0 to U+25FF

```

18671 % U+25B3 WHITE UP-POINTING TRIANGLE; whiteuppointingtriangle;
18672 % \bigtriangleup (LaTeX)
18673 \DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}%* U+25B3
18674 % U+25B7 WHITE RIGHT-POINTING TRIANGLE (= z notation range restric-
tion);
18675 % whiterightpointingtriangle; \triangleright (LaTeX)
18676 \DeclareTextCommand{\texttriangleright}{PU}{\9045\267}%* U+25B7
18677 % U+25BD WHITE DOWN-POINTING TRIANGLE; whitedownpointingtri-
angle;
18678 % \bigtriangledown (LaTeX)
18679 \DeclareTextCommand{\textbigtriangledown}{PU}{\9045\275}%* U+25BD
18680 % U+25C1 WHITE RIGHT-POINTING TRIANGLE (= z notation domain re-
striction);
18681 % whiteleftpointingtriangle; \triangleleft (LaTeX)
18682 \DeclareTextCommand{\texttriangleleft}{PU}{\9045\301}%* U+25C1
18683 % U+25C7 WHITE DIAMOND; whitediamond; \diamond (LaTeX)
18684 \DeclareTextCommand{\textdiamond}{PU}{\9045\307}%* U+25C7
18685 % U+25CA LOZENGE; lozenge; \lozenge (AmS)
18686 \DeclareTextCommand{\textlozenge}{PU}{\9045\312}%* U+25CA
18687 % U+25E6 WHITE BULLET; *openbullet, whitebullet
18688 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}%* U+25E6
18689 % U+25EB WHITE SQUARE WITH VERTICAL BISECTING LINE;
18690 % \boxbar (stmaryrd)
18691 \DeclareTextCommand{\textboxbar}{PU}{\9045\353}%* U+25EB
18692 % U+25EF LARGE CIRCLE; largecircle
18693 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}%* U+25EF
18694 %

```

### 51.2.28 Miscellaneous Symbols: U+2600 to U+26FF

```

18695 % U+2601 CLOUD; \Cloud (ifsym)
18696 \DeclareTextCommand{\textCloud}{PU}{\9046\001}%* U+2601
18697 % U+2605 BLACK STAR; \FiveStar (bding)
18698 \DeclareTextCommand{\textFiveStar}{PU}{\9046\005}%* U+2605
18699 % U+2606 WHITE STAR; \FiveStarOpen (bding)
18700 \DeclareTextCommand{\textFiveStarOpen}{PU}{\9046\006}%* U+2606
18701 % U+260E BLACK TELEPHONE; telephoneblack; \Phone (bding)
18702 \DeclareTextCommand{\textPhone}{PU}{\9046\016}%* U+260E
18703 %* \textPhone -> \Telefon (marvosym)
18704 % U+2611 BALLOT BOX WITH CHECK; \Checkedbox (marvosym)
18705 \DeclareTextCommand{\textCheckedbox}{PU}{\9046\021}%* U+2611
18706 % U+2612 BALLOT BOX WITH X; \Crossedbox (marvosym)
18707 \DeclareTextCommand{\textCrossedbox}{PU}{\9046\022}%* U+2612
18708 % U+2615 HOT BEVERAGE; \Coffeecup (marvosym)
18709 \DeclareTextCommand{\textCoffeecup}{PU}{\9046\025}%* U+2615
18710 % U+261A BLACK LEFT POINTING INDEX; \HandCuffLeft (bding)
18711 \DeclareTextCommand{\textHandCuffLeft}{PU}{\9046\032}%* U+261A
18712 % U+261B BLACK RIGHT POINTING INDEX; \HandCuffRight (bding)
18713 \DeclareTextCommand{\textHandCuffRight}{PU}{\9046\033}%* U+261B
18714 % U+261C WHITE LEFT POINTING INDEX; \HandLeft (bding)
18715 \DeclareTextCommand{\textHandLeft}{PU}{\9046\034}%* U+261C

```

18716 %\* \textHandLeft -> \rightpointleft (fourier)  
18717 % U+261E WHITE RIGHT POINTING INDEX; \HandRight (bbding)  
18718 \DeclareTextCommand{\textHandRight}{PU}{\9046\036}%\* U+261E  
18719 %\* \textHandRight -> \leftpointright (fourier)  
18720 %\* \textHandRight -> \PointingHand (marvosym)  
18721 % U+2622 RADIOACTIVE SIGN; \Radioactivity (marvosym)  
18722 \DeclareTextCommand{\textRadioactivity}{PU}{\9046\042}%\* U+2622  
18723 %\* \textRadioactivity -> \Radiation (ifsym)  
18724 % U+2623 BIOHAZARD SIGN; \Biohazard (marvosym)  
18725 \DeclareTextCommand{\textBiohazard}{PU}{\9046\043}%\* U+2623  
18726 % U+2625 ANKH; \Ankh (marvosym)  
18727 \DeclareTextCommand{\textAnkh}{PU}{\9046\045}%\* U+2625  
18728 % U+262F YIN YANG; \Yinyang (marvosym)  
18729 \DeclareTextCommand{\textYinyang}{PU}{\9046\057}%\* U+262F  
18730 % U+2639 WHITE FROWNING FACE; \frownie (wasysym)  
18731 \DeclareTextCommand{\textfrownie}{PU}{\9046\071}%\* U+2639  
18732 %\* \textfrownie -> \Frowny (marvosym)  
18733 % U+263A WHITE SMILING FACE; \smiley (wasysym)  
18734 \DeclareTextCommand{\textsmiley}{PU}{\9046\072}%\* U+263A  
18735 %\* \textsmiley -> \Smiley (marvosym)  
18736 % U+263B BLACK SMILING FACE; \blacksmiley (wasysym)  
18737 \DeclareTextCommand{\textblacksmiley}{PU}{\9046\073}%\* U+263B  
18738 % U+263C WHITE SUN WITH RAYS; \sun (wasysym)  
18739 \DeclareTextCommand{\textsun}{PU}{\9046\074}%\* U+263C  
18740 % U+263D FIRST QUARTER MOON; \leftmoon (wasysym, mathabx)  
18741 \DeclareTextCommand{\textleftmoon}{PU}{\9046\075}%\* U+263D  
18742 % U+263E LAST QUARTER MOON; \rightmoon (wasysym, mathabx)  
18743 \DeclareTextCommand{\textrightmoon}{PU}{\9046\076}%\* U+263E  
18744 % U+263F MERCURY; \mercury (wasysym)  
18745 \DeclareTextCommand{\textmercury}{PU}{\9046\077}%\* U+263F  
18746 %\* \textmercury -> \Mercury (marvosym)  
18747 % U+2640 FEMALE SIGN; female; \female (wasysym)  
18748 \DeclareTextCommand{\textPUfemale}{PU}{\9046\100}% U+2640  
18749 %\* \textPUfemale -> \textfemale (tipx)  
18750 %\* \textPUfemale -> \female (wasysym)  
18751 %\* \textPUfemale -> \venus (wasysym)  
18752 %\* \textPUfemale -> \Venus (marvosym)  
18753 % U+2641 EARTH; \earth (wasysym)  
18754 \DeclareTextCommand{\textearth}{PU}{\9046\101}%\* U+2641  
18755 %\* \textearth -> \Earth (marvosym)  
18756 % U+2642 MALE SIGN; male, mars; \male (wasysym)  
18757 \DeclareTextCommand{\textmale}{PU}{\9046\102}%\* U+2642  
18758 %\* \textmale -> \mars (wasysym)  
18759 %\* \textmale -> \Mars (marvosym)  
18760 % U+2643 JUPITER; \jupiter (wasysym)  
18761 \DeclareTextCommand{\textjupiter}{PU}{\9046\103}%\* U+2643  
18762 %\* \textjupiter -> \Jupiter (marvosym)  
18763 % U+2644 SATURN; \saturn (wasysym)  
18764 \DeclareTextCommand{\textsaturn}{PU}{\9046\104}%\* U+2644  
18765 %\* \textsaturn -> \Saturn (marvosym)  
18766 % U+2645 URANUS; \uranus (wasysym)  
18767 \DeclareTextCommand{\texturanus}{PU}{\9046\105}%\* U+2645  
18768 %\* \texturanus -> \Uranus (marvosym)  
18769 % U+2646 NEPTUNE; \neptune (wasysym)  
18770 \DeclareTextCommand{\textneptune}{PU}{\9046\106}%\* U+2646  
18771 %\* \textneptune -> \Neptune (marvosym)  
18772 % U+2647 PLUTO; \pluto (wasysym)

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18773 \DeclareTextCommand{\textpluto}{PU}{\9046\107}%* U+2647
18774 %* \textpluto -> \Pluto (marvosym)
18775 % U+2648 ARIES; \aries (wasysym)
18776 \DeclareTextCommand{\textaries}{PU}{\9046\110}%* U+2648
18777 %* \textaries -> \Aries (marvosym)
18778 % U+2649 TAURUS; \taurus (wasysym)
18779 \DeclareTextCommand{\texttaurus}{PU}{\9046\111}%* U+2649
18780 %* \texttaurus -> \Taurus (marvosym)
18781 % U+264A GEMINI; \gemini (wasysym)
18782 \DeclareTextCommand{\textgemini}{PU}{\9046\112}%* U+264A
18783 %* \textgemini -> \Gemini (marvosym)
18784 % U+264B CANCER; \cancer (wasysym)
18785 \DeclareTextCommand{\textcancer}{PU}{\9046\113}%* U+264B
18786 %* \textcancer -> \Cancer (marvosym)
18787 % U+264C LEO; \leo (wasysym)
18788 \DeclareTextCommand{\textleo}{PU}{\9046\114}%* U+264C
18789 %* \textleo -> \Leo (marvosym)
18790 % U+264D VIRGO; \virgo (wasysym)
18791 \DeclareTextCommand{\textvirgo}{PU}{\9046\115}%* U+264D
18792 %* \textvirgo -> \Virgo (marvosym)
18793 % U+264E LIBRA; \libra (wasysym)
18794 \DeclareTextCommand{\textlibra}{PU}{\9046\116}%* U+264E
18795 %* \textlibra -> \Libra (marvosym)
18796 % U+264F SCORPIO; \scorpio (wasysym)
18797 \DeclareTextCommand{\textscorpio}{PU}{\9046\117}%* U+264F
18798 %* \textscorpio -> \Scorpio (marvosym)
18799 % U+2650 SAGITTARIUS; \sagittarius (wasysym)
18800 \DeclareTextCommand{\textsagittarius}{PU}{\9046\120}%* U+2650
18801 %* \textsagittarius -> \Sagittarius (marvosym)
18802 % U+2651 CAPRICORN; \capricorn (wasysym)
18803 \DeclareTextCommand{\textcapricorn}{PU}{\9046\121}%* U+2651
18804 %* \textcapricorn -> \Capricorn (marvosym)
18805 % U+2652 AQUARIUS; \aquarius (wasysym)
18806 \DeclareTextCommand{\textaquarius}{PU}{\9046\122}%* U+2652
18807 %* \textaquarius -> \Aquarius (marvosym)
18808 % U+2653 PISCES; \pisces (wasysym)
18809 \DeclareTextCommand{\textpisces}{PU}{\9046\123}%* U+2653
18810 %* \textpisces -> \Pisces (marvosym)
18811 % U+2660 BLACK SPADE SUIT; spade, spadesuitblack; \spadesuit (LaTeX)
18812 \DeclareTextCommand{\textspadesuitblack}{PU}{\9046\140}% U+2660
18813 %* \textspadesuitblack -> \spadesuit (MnSymbol)
18814 % U+2661 WHITE HEART SUIT; heartsuitwhite; \heartsuit (LaTeX)
18815 \DeclareTextCommand{\textheartsuitwhite}{PU}{\9046\141}% U+2661
18816 %* \textheartsuitwhite -> \heartsuit (MnSymbol)
18817 % U+2662 WHITE DIAMOND SUIT; diamondsuitwhite; \diamondsuit (LaTeX)
18818 \DeclareTextCommand{\textdiamondsuitwhite}{PU}{\9046\142}% U+2662
18819 %* \textdiamondsuitwhite -> \diamondsuit (MnSymbol)
18820 % U+2663 BLACK CLUB SUIT; club, clubsuitblack; \clubsuit (LaTeX)
18821 \DeclareTextCommand{\textclubsuitblack}{PU}{\9046\143}% U+2663
18822 %* \textclubsuitblack -> \clubsuit (MnSymbol)
18823 % U+2664 WHITE SPADE SUIT; spadesuitwhite
18824 \DeclareTextCommand{\textspadesuitwhite}{PU}{\9046\144}% U+2664
18825 % U+2665 BLACK HEART SUIT; heartsuitblack, heart
18826 \DeclareTextCommand{\textheartsuitblack}{PU}{\9046\145}% U+2665
18827 % U+2666 BLACK DIAMOND SUIT; diamond
18828 \DeclareTextCommand{\textdiamondsuitblack}{PU}{\9046\146}% U+2666
18829 % U+2667 WHITE CLUB SUIT; clubsuitwhite

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18830 \DeclareTextCommand{\textclubsuitwhite}{PU}{\9046\147}% U+2667
18831 % U+2669 QUARTER NOTE; quarternote; \quarternote (wasysym, arev)
18832 \DeclareTextCommand{\textquarternote}{PU}{\9046\151}%* U+2669
18833 % U+266A EIGHTH NOTE; musicalnote; \textmusicalnote (textcomp)
18834 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
18835 %* \textmusicalnote -> \eighthnote (wasysym, arev)
18836 % U+266B BEAMED EIGHTH NOTES; eighthnotebeamed; \twonotes (wasysym)
18837 \DeclareTextCommand{\texttwonotes}{PU}{\9046\153}%* U+266B
18838 % U+266C BEAMED SIXTEENTH NOTES; beamedsixteenthnotes; \sixteenth-
      note (arev)
18839 \DeclareTextCommand{\textsixteenthnote}{PU}{\9046\154}%* U+266C
18840 % U+266D MUSIC FLAT SIGN; musicflatsign; \flat (LaTeX)
18841 \DeclareTextCommand{\textflat}{PU}{\9046\155}%* U+266D
18842 % U+266E MUSIC NATURAL SIGN; \natural (LaTeX)
18843 \DeclareTextCommand{\textnatural}{PU}{\9046\156}%* U+266E
18844 % U+266F MUSIC SHARP SIGN; musicsharpsign; \sharp (LaTeX)
18845 \DeclareTextCommand{\textsharp}{PU}{\9046\157}%* U+266F
18846 % U+2672 UNIVERSAL RECYCLING SYMBOL; \recycle (recycle)
18847 \DeclareTextCommand{\textrecycle}{PU}{\9046\162}%* U+2672
18848 % U+267F WHEELCHAIR SYMBOL; \Wheelchair (marvosym)
18849 \DeclareTextCommand{\textWheelchair}{PU}{\9046\177}%* U+267F
18850 % U+2691 BLACK FLAG; \Flag (ifsym)
18851 \DeclareTextCommand{\textFlag}{PU}{\9046\221}%* U+2691
18852 %* \textFlag -> \VarFlag (ifsym)
18853 % U+2694 CROSSED SWORDS; \dsmilitary (dictsym)
18854 \DeclareTextCommand{\textdsmilitary}{PU}{\9046\224}%* U+2694
18855 %* \textdsmilitary -> \textxswup (fourier)
18856 % U+2695 STAFF OF AESCULAPIUS; \dsmedical (dictsym)
18857 \DeclareTextCommand{\textdsmedical}{PU}{\9046\225}%* U+2695
18858 % U+2696 SCALES; \dsjuridical (dictsym)
18859 \DeclareTextCommand{\textdsjuridical}{PU}{\9046\226}%* U+2696
18860 % U+2697 ALEMBIC; \dschemical (dictsym)
18861 \DeclareTextCommand{\textdschemical}{PU}{\9046\227}%* U+2697
18862 % U+2698 FLOWER; \dsbiological (dictsym)
18863 \DeclareTextCommand{\textdsbiological}{PU}{\9046\230}%* U+2698
18864 % U+269A STAFF OF HERMES; \dscommercial (dictsym)
18865 \DeclareTextCommand{\textdscommercial}{PU}{\9046\232}%* U+269A
18866 % U+269D OUTLINED WHITE STAR; \manstar (manfnt)
18867 \DeclareTextCommand{\textmanstar}{PU}{\9046\235}%* U+269D
18868 % U+26A0 WARNING SIGN; \danger (fourier)
18869 \DeclareTextCommand{\textdanger}{PU}{\9046\240}%* U+26A0
18870 % U+26A2 DOUBLED FEMALE SIGN; \FemaleFemale (marvosym)
18871 \DeclareTextCommand{\textFemaleFemale}{PU}{\9046\242}%* U+26A2
18872 % U+26A3 DOUBLED MALE SIGN; \MaleMale (marvosym)
18873 \DeclareTextCommand{\textMaleMale}{PU}{\9046\243}%* U+26A3
18874 % U+26A4 INTERLOCKED FEMALE AND MALE SIGN; \FemaleMale (mar-
      vosym)
18875 \DeclareTextCommand{\textFemaleMale}{PU}{\9046\244}%* U+26A4
18876 % U+26A5 MALE AND FEMALE SIGN; \Hermaphrodite (marvosym)
18877 \DeclareTextCommand{\textHermaphrodite}{PU}{\9046\245}%* U+26A5
18878 % U+26AD MARRIAGE SYMBOL
18879 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
18880 % U+26AE DIVORCE SYMBOL
18881 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE
18882 % U+26B2 NEUTER; \textuncrfemale (tipx)
18883 \DeclareTextCommand{\textPUuncrfemale}{PU}{\9046\262}% U+26B2
18884 %* \textPUuncrfemale -> \textuncrfemale (tipx)

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18885 % U+26BD SOCCER BALL; \Football (marvosym)  
 18886 \DeclareTextCommand{\textSoccerBall}{PU}{\9046\275}% U+26BD  
 18887 %\* \textSoccerBall -> \Football (marvosym)  
 18888 % U+26C5 SUN BEHIND CLOUD; \SunCloud (ifsym)  
 18889 \DeclareTextCommand{\textSunCloud}{PU}{\9046\305}%\* U+26C5  
 18890 % U+26C6 RAIN; \Rain (ifsym)  
 18891 \DeclareTextCommand{\textRain}{PU}{\9046\306}%\* U+26C6  
 18892 % U+26D4 NO ENTRY; \noway (fourier)  
 18893 \DeclareTextCommand{\textnoway}{PU}{\9046\324}%\* U+26D4  
 18894 % U+26F0 MOUNTAIN; \Mountain (ifsym)  
 18895 \DeclareTextCommand{\textMountain}{PU}{\9046\360}%\* U+26F0  
 18896 % U+26FA TENT; \Tent (ifsym)  
 18897 \DeclareTextCommand{\textTent}{PU}{\9046\372}%\* U+26FA

### 51.2.29 Dingbats: U+2700 to U+27BF

18898 % U+2701 UPPER BLADE SCISSORS; \ScissorRightBrokenBottom (bding)  
 18899 \DeclareTextCommand{\textScissorRightBrokenBottom}{PU}{\9047\001}% U+2701  
 18900 %\* \textScissorRightBrokenBottom -> \Cutright (marvosym)  
 18901 % U+2702 BLACK SCISSORS; \ScissorRight (bding)  
 18902 \DeclareTextCommand{\textScissorRight}{PU}{\9047\002}%\* U+2702  
 18903 %\* \textScissorRight -> \Rightsscissors (marvosym)  
 18904 % U+2703 LOWER BLADE SCISSORS; \ScissorRightBrokenTop (bding)  
 18905 \DeclareTextCommand{\textScissorRightBrokenTop}{PU}{\9047\003}%\* U+2703  
 18906 % U+2704 WHITE SCISSORS; \ScissorHollowRight (bding)  
 18907 \DeclareTextCommand{\textScissorHollowRight}{PU}{\9047\004}%\* U+2704  
 18908 % U+2706 TELEPHONE LOCATION SIGN; \PhoneHandset (bding)  
 18909 \DeclareTextCommand{\textPhoneHandset}{PU}{\9047\006}%\* U+2706  
 18910 % U+2707 TAPE DRIVE; \Tape (bding)  
 18911 \DeclareTextCommand{\textTape}{PU}{\9047\007}%\* U+2707  
 18912 % U+2708 AIRPLANE; \Plane (bding)  
 18913 \DeclareTextCommand{\textPlane}{PU}{\9047\010}%\* U+2708  
 18914 % U+2709 ENVELOPE; \Envelope (bding),  
 18915 \DeclareTextCommand{\textEnvelope}{PU}{\9047\011}%\* U+2709  
 18916 %\* \textEnvelope -> \Letter (marvosym)  
 18917 % U+270C VICTORY HAND; \Peace (bding)  
 18918 \DeclareTextCommand{\textPeace}{PU}{\9047\014}%\* U+270C  
 18919 % U+270D WRITING HAND; \Writinghand (marvosym)  
 18920 \DeclareTextCommand{\textWritinghand}{PU}{\9047\015}%\* U+270D  
 18921 % U+270E LOWER RIGHT PENCIL; \PencilRightDown (bding)  
 18922 \DeclareTextCommand{\textPencilRightDown}{PU}{\9047\016}%\* U+270E  
 18923 % U+270F PENCIL; \PencilRight (bding)  
 18924 \DeclareTextCommand{\textPencilRight}{PU}{\9047\017}%\* U+270F  
 18925 % U+2710 UPPER RIGHT PENCIL; \PencilRightUp (bding)  
 18926 \DeclareTextCommand{\textPencilRightUp}{PU}{\9047\020}%\* U+2710  
 18927 % U+2711 WHITE NIB; \NibRight (bding)  
 18928 \DeclareTextCommand{\textNibRight}{PU}{\9047\021}%\* U+2711  
 18929 % U+2712 BLACK NIB; \NibSolidRight (bding)  
 18930 \DeclareTextCommand{\textNibSolidRight}{PU}{\9047\022}%\* U+2712  
 18931 % U+2713 CHECK MARK; \checkmark; \Checkmark (bding)  
 18932 \DeclareTextCommand{\textCheckmark}{PU}{\9047\023}%\* U+2713  
 18933 %\* \textCheckmark -> \checkmark (MnSymbol)  
 18934 % U+2714 HEAVY CHECK MARK; \CheckmarkBold (bding)  
 18935 \DeclareTextCommand{\textCheckmarkBold}{PU}{\9047\024}%\* U+2714  
 18936 % U+2715 MULTIPLICATION X; \XSolid (bding)  
 18937 \DeclareTextCommand{\textXSolid}{PU}{\9047\025}%\* U+2715  
 18938 % U+2716 HEAVY MULTIPLICATION X; \XSolidBold (bding)  
 18939 \DeclareTextCommand{\textXSolidBold}{PU}{\9047\026}%\* U+2716

18940 % U+2717 BALLOT X; \XSolidBrush (bbling)  
 18941 \DeclareTextCommand{\textXSolidBrush}{PU}{\9047\027}%\* U+2717  
 18942 % U+2719 OUTLINED GREEK CROSS; \PlusOutline (bbling)  
 18943 \DeclareTextCommand{\textPlusOutline}{PU}{\9047\031}%\* U+2719  
 18944 % U+271A HEAVY GREEK CROSS; \Plus (bbling)  
 18945 \DeclareTextCommand{\textPlus}{PU}{\9047\032}%\* U+271A  
 18946 % U+271B OPEN CENTRE CROSS; \PlusThinCenterOpen (bbling)  
 18947 \DeclareTextCommand{\textPlusThinCenterOpen}{PU}{\9047\033}%\* U+271B  
 18948 % U+271C HEAVY OPEN CENTRE CROSS; \PlusCenterOpen (bbling)  
 18949 \DeclareTextCommand{\textPlusCenterOpen}{PU}{\9047\034}%\* U+271C  
 18950 % U+271D LATIN CROSS; \Cross (bbling)  
 18951 \DeclareTextCommand{\textCross}{PU}{\9047\035}%\* U+271D  
 18952 % U+271E SHADOWED WHITE LATIN CROSS; \CrossOpenShadow (bbling)  
 18953 \DeclareTextCommand{\textCrossOpenShadow}{PU}{\9047\036}%\* U+271E  
 18954 % U+271F OUTLINED LATIN CROSS; \CrossOutline (bbling)  
 18955 \DeclareTextCommand{\textCrossOutline}{PU}{\9047\037}%\* U+271F  
 18956 % U+2720 MALTESE CROSS; \CrossMaltese (bbling)  
 18957 \DeclareTextCommand{\textCrossMaltese}{PU}{\9047\040}%\* U+2720  
 18958 % U+2721 STAR OF DAVID; \DavidStar (bbling)  
 18959 \DeclareTextCommand{\textDavidStar}{PU}{\9047\041}%\* U+2721  
 18960 %\* \textDavidStar -> \davidstar (wasysym)  
 18961 % U+2722 FOUR TEARDROP-SPOKED ASTERISK; \FourAsterisk (bbling)  
 18962 \DeclareTextCommand{\textFourAsterisk}{PU}{\9047\042}%\* U+2722  
 18963 % U+2723 FOUR BALLOON-SPOKED ASTERISK; \JackStar (bbling)  
 18964 \DeclareTextCommand{\textJackStar}{PU}{\9047\043}%\* U+2723  
 18965 % U+2724 HEAVY FOUR BALLOON-SPOKED ASTERISK; \JackStarBold (bbling)  
 18966 \DeclareTextCommand{\textJackStarBold}{PU}{\9047\044}%\* U+2724  
 18967 % U+2725 FOUR CLUB-SPOKED ASTERISK; \CrossClowerTips (bbling)  
 18968 \DeclareTextCommand{\textClowerTips}{PU}{\9047\045}%\* U+2725  
 18969 % U+2726 BLACK FOUR POINTED STAR; \FourStar (bbling)  
 18970 \DeclareTextCommand{\textFourStar}{PU}{\9047\046}%\* U+2726  
 18971 % U+2727 WHITE FOUR POINTED STAR; \FourStarOpen (bbling)  
 18972 \DeclareTextCommand{\textFourStarOpen}{PU}{\9047\047}%\* U+2727  
 18973 % U+272A CIRCLED WHITE STAR; \FiveStarOpenCircled (bbling)  
 18974 \DeclareTextCommand{\textFiveStarOpenCircled}{PU}{\9047\052}%\* U+272A  
 18975 % U+272B OPEN CENTRE BLACK STAR; \FiveStarCenterOpen (bbling)  
 18976 \DeclareTextCommand{\textFiveStarCenterOpen}{PU}{\9047\053}%\* U+272B  
 18977 % U+272C BLACK CENTRE WHITE STAR; \FiveStarOpenDotted (bbling)  
 18978 \DeclareTextCommand{\textFiveStarOpenDotted}{PU}{\9047\054}%\* U+272C  
 18979 % U+272D OUTLINED BLACK STAR; \FiveStarOutline (bbling)  
 18980 \DeclareTextCommand{\textFiveStarOutline}{PU}{\9047\055}%\* U+272D  
 18981 % U+272E HEAVY OUTLINED BLACK STAR; \FiveStarOutlineHeavy (bbling)  
 18982 \DeclareTextCommand{\textFiveStarOutlineHeavy}{PU}{\9047\056}%\* U+272E  
 18983 % U+272F PINWHEEL STAR; \FiveStarConvex (bbling)  
 18984 \DeclareTextCommand{\textFiveStarConvex}{PU}{\9047\057}%\* U+272F  
 18985 % U+2730 SHADOWED WHITE STAR; \FiveStarShadow (bbling)  
 18986 \DeclareTextCommand{\textFiveStarShadow}{PU}{\9047\060}%\* U+2730  
 18987 % U+2731 HEAVY ASTERISK; \AsteriskBold (bbling)  
 18988 \DeclareTextCommand{\textAsteriskBold}{PU}{\9047\061}%\* U+2731  
 18989 % U+2732 OPEN CENTRE ASTERISK; \AsteriskCenterOpen (bbling)  
 18990 \DeclareTextCommand{\textAsteriskCenterOpen}{PU}{\9047\062}%\* U+2732  
 18991 % U+2734 EIGHT POINTED BLACK STAR; \EightStarTaper (bbling)  
 18992 \DeclareTextCommand{\textEightStarTaper}{PU}{\9047\064}%\* U+2734  
 18993 % U+2735 EIGHT POINTED PINWHEEL STAR; \EightStarConvex (bbling)  
 18994 \DeclareTextCommand{\textEightStarConvex}{PU}{\9047\065}%\* U+2735  
 18995 % U+2736 SIX POINTED BLACK STAR; \SixStar (bbling)

18996 \DeclareTextCommand{\textSixStar}{PU}{\9047\066}%\* U+2736  
18997 % U+2737 EIGHT POINTED RECTILINEAR BLACK STAR; \EightStar (bding)  
18998 \DeclareTextCommand{\textEightStar}{PU}{\9047\067}%\* U+2737  
18999 % U+2738 HEAVY EIGHT POINTED RECTILINEAR BLACK STAR; \EightStarBold (bding)  
19000 \DeclareTextCommand{\textEightStarBold}{PU}{\9047\070}%\* U+2738  
19001 % U+2739 TWELVE POINTED BLACK STAR; \TwelveStar (bding)  
19002 \DeclareTextCommand{\textTwelveStar}{PU}{\9047\071}%\* U+2739  
19003 % U+273A SIXTEEN POINTED ASTERISK; \SixteenStarLight (bding)  
19004 \DeclareTextCommand{\textSixteenStarLight}{PU}{\9047\072}%\* U+273A  
19005 % U+273B TEARDROP-SPOKED ASTERISK; \SixFlowerPetalRemoved (bding)  
19006 \DeclareTextCommand{\textSixFlowerPetalRemoved}{PU}{\9047\073}%\* U+273B  
19007 % U+273C OPEN CENTRE TEARDROP-SPOKED ASTERISK;  
19008 % \SixFlowerOpenCenter (bding)  
19009 \DeclareTextCommand{\textSixFlowerOpenCenter}{PU}{\9047\074}%\* U+273C  
19010 % U+273D HEAVY TEARDROP-SPOKED ASTERISK; \Asterisk (bding)  
19011 \DeclareTextCommand{\textAsterisk}{PU}{\9047\075}%\* U+273D  
19012 % U+273E SIX PETALLED BLACK AND WHITE FLORETTE; \SixFlowerAlternate (bding)  
19013 \DeclareTextCommand{\textSixFlowerAlternate}{PU}{\9047\076}%\* U+273E  
19014 % U+273F BLACK FLORETTE; \FiveFlowerPetal (bding)  
19015 \DeclareTextCommand{\textFiveFlowerPetal}{PU}{\9047\077}%\* U+273F  
19016 % U+2740 WHITE FLORETTE; \FiveFlowerOpen (bding)  
19017 \DeclareTextCommand{\textFiveFlowerOpen}{PU}{\9047\100}%\* U+2740  
19018 % U+2741 EIGHT PETALLED OUTLINED BLACK FLORETTE; \EightFlowerPetal (bding)  
19019 \DeclareTextCommand{\textEightFlowerPetal}{PU}{\9047\101}%\* U+2741  
19020 % U+2742 CIRCLED OPEN CENTRE EIGHT POINTED STAR; \SunshineOpenCircled (bding)  
19021 \DeclareTextCommand{\textSunshineOpenCircled}{PU}{\9047\102}%\* U+2742  
19022 % U+2743 HEAVY TEARDROP-SPOKED PINWHEEL ASTERISK; \SixFlowerAltPetal (bding)  
19023 \DeclareTextCommand{\textSixFlowerAltPetal}{PU}{\9047\103}%\* U+2743  
19024 % U+2744 SNOWFLAKE; \SnowflakeChevron (bding)  
19025 \DeclareTextCommand{\textSnowflakeChevron}{PU}{\9047\104}%\* U+2744  
19026 % U+2745 TIGHT TRIFOLIATE SNOWFLAKE; \Snowflake (bding)  
19027 \DeclareTextCommand{\textSnowflake}{PU}{\9047\105}%\* U+2745  
19028 % U+2746 HEAVY CHEVRON SNOWFLAKE; \SnowflakeChevronBold (bding)  
19029 \DeclareTextCommand{\textSnowflakeChevronBold}{PU}{\9047\106}%\* U+2746  
19030 % U+2747 SPARKLE; \Sparkle (bding)  
19031 \DeclareTextCommand{\textSparkle}{PU}{\9047\107}%\* U+2747  
19032 % U+2748 HEAVY SPARKLE; \SparkleBold (bding)  
19033 \DeclareTextCommand{\textSparkleBold}{PU}{\9047\110}%\* U+2748  
19034 % U+2749 BALLOON-SPOKED ASTERISK; \AsteriskRoundedEnds (bding)  
19035 \DeclareTextCommand{\textAsteriskRoundedEnds}{PU}{\9047\111}%\* U+2749  
19036 % U+274A EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
19037 % \EightFlowerPetalRemoved (bding)  
19038 \DeclareTextCommand{\textEightFlowerPetalRemoved}{PU}{\9047\112}%\* U+274A  
19039 % U+274B HEAVY EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
19040 % \EightAsterisk (bding)  
19041 \DeclareTextCommand{\textEightAsterisk}{PU}{\9047\113}%\* U+274B  
19042 % U+274D SHADOWED WHITE CIRCLE; \CircleShadow (bding)  
19043 \DeclareTextCommand{\textCircleShadow}{PU}{\9047\115}%\* U+274D  
19044 % U+274F LOWER RIGHT DROP-SHADOWED WHITE SQUARE;  
19045 % \SquareShadowBottomRight (bding)

19046 \DeclareTextCommand{\textSquareShadowBottomRight}{PU}{\9047\117}%\* U+274F  
 19047 % U+2750 UPPER RIGHT DROP-SHADOWED WHITE SQUARE;  
 19048 % \SquareShadowTopRight (bbding)  
 19049 \DeclareTextCommand{\textSquareTopRight}{PU}{\9047\120}%\* U+2750  
 19050 % U+2751 LOWER RIGHT SHADOWED WHITE SQUARE;  
 19051 % \SquareCastShadowBottomRight (bbding)  
 19052 \DeclareTextCommand{\textSquareCastShadowBottomRight}{PU}{\9047\121}%\* U+2751  
 19053 % U+2752 UPPER RIGHT SHADOWED WHITE SQUARE;  
 19054 % \SquareCastShadowTopRight (bbding)  
 19055 \DeclareTextCommand{\textSquareCastShadowTopRight}{PU}{\9047\122}%\* U+2752  
 19056 % U+2756 BLACK DIAMOND MINUS WHITE X; \OrnamentDiamandSolid (bbding)  
 19057 \DeclareTextCommand{\textDiamandSolid}{PU}{\9047\126}%\* U+2756  
 19058 % U+2758 LIGHT VERTICAL BAR; \RectangleThin (bbding)  
 19059 \DeclareTextCommand{\textRectangleThin}{PU}{\9047\130}%\* U+2758  
 19060 % U+2759 MEDIUM VERTICAL BAR; \Rectangle (bbding)  
 19061 \DeclareTextCommand{\textRectangle}{PU}{\9047\131}%\* U+2759  
 19062 % U+275A HEAVY VERTICAL BAR; \RectangleBold (bbding)  
 19063 \DeclareTextCommand{\textRectangleBold}{PU}{\9047\132}%\* U+275A

### 51.2.30 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

19064 % U+27C2 PERPENDICULAR; perpendicular; \perp (LaTeX)  
 19065 \DeclareTextCommand{\textperp}{PU}{\9047\302}%\* U+27C2  
 19066 % U+27C7 OR WITH DOT INSIDE; \veedot (MnSymbol)  
 19067 \DeclareTextCommand{\textveedot}{PU}{\9047\307}%\* U+27C7  
 19068 % U+27D1 AND WITH DOT; \wedgedot (MnSymbol)  
 19069 \DeclareTextCommand{\textwedgedot}{PU}{\9047\321}%\* U+27D1  
 19070 % U+27DC LEFT MULTIMAP; \leftspoon (MnSymbol)  
 19071 \DeclareTextCommand{\textleftspoon}{PU}{\9047\334}%\* U+27DC  
 19072 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 19073 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}%\* U+27E6  
 19074 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
 19075 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}%\* U+27E7

### 51.2.31 Supplemental Arrows-A: U+27F0 to U+27FF

19076 % U+27F2 ANTICLOCKWISE GAPPED CIRCLE ARROW;  
 19077 % \circlearrowleft (AmS)  
 19078 \DeclareTextCommand{\textcirclearrowleft}{PU}{\9047\362}%\* U+27F2  
 19079 % U+27F3 CLOCKWISE GAPPED CIRCLE ARROW; \circlearrowright (AmS)  
 19080 \DeclareTextCommand{\textcirclearrowright}{PU}{\9047\363}%\* U+27F3  
 19081 % U+27F5 LONG LEFTWARDS ARROW; \longleftarrow (AmS)  
 19082 \DeclareTextCommand{\textlongleftarrow}{PU}{\9047\365}%\* U+27F5  
 19083 % U+27F6 LONG RIGHTWARDS ARROW; \longrightarrow (AmS)  
 19084 \DeclareTextCommand{\textlongrightarrow}{PU}{\9047\366}%\* U+27F6  
 19085 % U+27F7 LONG LEFT RIGHT ARROW; \longlefttrightarrow (AmS)  
 19086 \DeclareTextCommand{\textlonglefttrightarrow}{PU}{\9047\367}%\* U+27F7  
 19087 % U+27F8 LONG LEFTWARDS DOUBLE ARROW; \Llongleftarrow (AmS)  
 19088 \DeclareTextCommand{\textLlongleftarrow}{PU}{\9047\370}%\* U+27F8  
 19089 % U+27F9 LONG RIGHTWARDS DOUBLE ARROW; \Llongrightarrow (AmS)  
 19090 \DeclareTextCommand{\textLlongrightarrow}{PU}{\9047\371}%\* U+27F9  
 19091 % U+27FA LONG LEFT RIGHT DOUBLE ARROW; \Llonglefttrightarrow (AmS)  
 19092 \DeclareTextCommand{\textLlonglefttrightarrow}{PU}{\9047\372}%\* U+27FA  
 19093 % U+27FC LONG RIGHTWARDS ARROW FROM BAR; \longmapsto (AmS)  
 19094 \DeclareTextCommand{\textlongmapsto}{PU}{\9047\374}%\* U+27FC  
 19095 % U+27FD LONG LEFTWARDS DOUBLE ARROW FROM BAR; \Longmapsfrom (stmaryrd)  
 19096 \DeclareTextCommand{\textLongmapsfrom}{PU}{\9047\375}%\* U+27FD

19097 % U+27FE LONG RIGHTWARDS DOUBLE ARROW FROM BAR; \Longmapsto (stmaryrd)  
 19098 \DeclareTextCommand{\textLongmapsto}{PU}{\9047\376}%\* U+27FE

### 51.2.32 Supplemental Arrows-B

19099 % U+2921 NORTH WEST AND SOUTH EAST ARROW; \nwsearrow (MnSymbol)  
 19100 \DeclareTextCommand{\textnwsearrow}{PU}{\051\041}%\* U+2921  
 19101 % U+2922 NORTH EAST AND SOUTH WEST ARROW; \neswarrow (MnSymbol)  
 19102 \DeclareTextCommand{\textneswarrow}{PU}{\051\042}%\* U+2922  
 19103 % U+2923 NORTH WEST ARROW WITH HOOK; \lhooknwarrow (MnSymbol)  
 19104 \DeclareTextCommand{\textlhooknwarrow}{PU}{\051\043}%\* U+2923  
 19105 % U+2924 NORTH EAST ARROW WITH HOOK; \rhooknearrow (MnSymbol)  
 19106 \DeclareTextCommand{\textrhooknearrow}{PU}{\051\044}%\* U+2924  
 19107 % U+2925 SOUTH EAST ARROW WITH HOOK; \lhooksearrow (MnSymbol)  
 19108 \DeclareTextCommand{\textlhooksearrow}{PU}{\051\045}%\* U+2925  
 19109 % U+2926 SOUTH WEST ARROW WITH HOOK; \rhookswarrow (MnSymbol)  
 19110 \DeclareTextCommand{\textrhookswarrow}{PU}{\051\046}%\* U+2926  
 19111 % U+2934 ARROW POINTING RIGHTWARDS THEN CURVING UPWARDS;  
 19112 % \rcurvearrowne (MnSymbol)  
 19113 \DeclareTextCommand{\textrcurvearrowne}{PU}{\051\064}%\* U+2934  
 19114 % U+2935 ARROW POINTING RIGHTWARDS THEN CURVING DOWNWARDS;  
 19115 % \lcurvearrowse (MnSymbol)  
 19116 \DeclareTextCommand{\textlcurvearrowse}{PU}{\051\065}%\* U+2935  
 19117 % U+2936 ARROW POINTING DOWNWARDS THEN CURVING LEFTWARDS;  
 19118 % \lcurvearrowsw (MnSymbol)  
 19119 \DeclareTextCommand{\textlcurvearrowsw}{PU}{\051\066}%\* U+2936  
 19120 % U+2937 ARROW POINTING DOWNWARDS THEN CURVING RIGHTWARDS;  
 19121 % \rcurvearrowse (MnSymbol)  
 19122 \DeclareTextCommand{\textrcurvearrowse}{PU}{\051\067}%\* U+2937  
 19123 % U+2938 RIGHT-SIDE ARC CLOCKWISE ARROW; \lcurvearrowdown (MnSymbol)  
 19124 \DeclareTextCommand{\textlcurvearrowdown}{PU}{\051\070}%\* U+2938  
 19125 % U+2939 LEFT-SIDE ARC ANTICLOCKWISE ARROW;  
 19126 % \rcurvearrowdown (MnSymbol)  
 19127 \DeclareTextCommand{\textrcurvearrowdown}{PU}{\051\071}%\* U+2939  
 19128 % U+293A TOP ARC ANTICLOCKWISE ARROW; \rcurvearrowleft (MnSymbol)  
 19129 \DeclareTextCommand{\textrcurvearrowleft}{PU}{\051\072}%\* U+293A  
 19130 % U+293B BOTTOM ARC ANTICLOCKWISE ARROW;  
 19131 % \rcurvearrowright (MnSymbol)  
 19132 \DeclareTextCommand{\textrcurvearrowright}{PU}{\051\073}%\* U+293B  
 19133 % U+294A LEFT BARB UP RIGHT BARB DOWN HARPOON; \leftrightharpoon (mathabx)  
 19134 \DeclareTextCommand{\textleftrightharpoon}{PU}{\051\112}%\* U+294A  
 19135 % U+294B LEFT BARB DOWN RIGHT BARB UP HARPOON; \rightleftharpoon (mathabx)  
 19136 \DeclareTextCommand{\textrightleftharpoon}{PU}{\051\113}%\* U+294B  
 19137 % U+294C UP BARB RIGHT DOWN BARB LEFT HARPOON;  
 19138 % \updownharpoonrightleft (MnSymbol)  
 19139 \DeclareTextCommand{\textupdownharpoonrightleft}{PU}{\051\114}%\* U+294C  
 19140 % U+294D UP BARB LEFT DOWN BARB RIGHT HARPOON;  
 19141 % \updownharpoonleftright (MnSymbol)

19142 \DeclareTextCommand{\textupdownharpoonleftright}{PU}{\051\115}%\* U+294D  
 19143 % U+2962 LEFTWARDS HARPOON WITH BARB UP ABOVE LEFTWARDS  
 19144 % HARPOON WITH BARB DOWN; \leftleftharpoons (mathabx)  
 19145 \DeclareTextCommand{\textleftleftharpoons}{PU}{\051\142}%\* U+2962  
 19146 % U+2963 UPWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS  
 19147 % HARPOON WITH BARB RIGHT; \upupharpoons (mathabx)  
 19148 \DeclareTextCommand{\textupupharpoons}{PU}{\051\143}%\* U+2963  
 19149 % U+2964 RIGHTWARDS HARPOON WITH BARB UP ABOVE RIGHT-  
 WARDS HARPOON  
 19150 % WITH BARB DOWN; \rightrightarpoons (mathabx)  
 19151 \DeclareTextCommand{\textrightarpoons}{PU}{\051\144}%\* U+2964  
 19152 % U+2965 DOWNWARDS HARPOON WITH BARB LEFT BESIDE DOWN-  
 WARDS HARPOON  
 19153 % WITH BARB RIGHT; \downdownharpoons (mathabx)  
 19154 \DeclareTextCommand{\textdowndownharpoons}{PU}{\051\145}%\* U+2965  
 19155 % U+296A LEFTWARDS HARPOON WITH BARB UP ABOVE LONG DASH;  
 19156 % \leftbarharpoon (mathabx)  
 19157 \DeclareTextCommand{\textleftbarharpoon}{PU}{\051\152}%\* U+296A  
 19158 % U+296B LEFTWARDS HARPOON WITH BARB DOWN BELOW  
 19159 % LONG DASH; \barleftharpoon (mathabx)  
 19160 \DeclareTextCommand{\textbarleftharpoon}{PU}{\051\153}%\* U+196B  
 19161 % U+296C RIGHTWARDS HARPOON WITH BARB UP ABOVE  
 19162 % LONG DASH; \rightbarharpoon (mathabx)  
 19163 \DeclareTextCommand{\textrightbarharpoon}{PU}{\051\154}%\* U+296C  
 19164 % U+296D RIGHTWARDS HARPOON WITH BARB DOWN BELOW  
 19165 % LONG DASH; \barrightharpoon (mathabx)  
 19166 \DeclareTextCommand{\textbarrightharpoon}{PU}{\051\155}%\* U+296D  
 19167 % U+296E UPWARDS HARPOON WITH BARB LEFT BESIDE DOWN-  
 WARDS HARPOON  
 19168 % WITH BARB RIGHT; \updownharpoons (mathabx)  
 19169 \DeclareTextCommand{\textupdownharpoons}{PU}{\051\156}%\* U+296E  
 19170 % U+296F DOWNWARDS HARPOON WITH BARB LEFT BESIDE UP-  
 WARDS HARPOON  
 19171 % WITH BARB RIGHT; \downupharpoons (mathabx)  
 19172 \DeclareTextCommand{\textdownupharpoons}{PU}{\051\157}%\* U+296F

### 51.2.33 Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF

19173 % U+29B6 CIRCLED VERTICAL BAR; \obar (stmaryrd)  
 19174 \DeclareTextCommand{\textobar}{PU}{\9051\266}%\* U+29B6  
 19175 %\* \textobar -> \textvarobar (stmaryrd)  
 19176 % U+29B8 CIRCLED REVERSE SOLIDUS; \obslash (stmaryrd)  
 19177 \DeclareTextCommand{\textobslash}{PU}{\9051\270}%\* U+29B8  
 19178 %\* \textobslash -> \circledbslash (txfonts/pxfonts)  
 19179 %\* \textobslash -> \obackslash (mathabx)  
 19180 %\* \textobslash -> \varobslash (stmaryrd)  
 19181 % U+29BA CIRCLE DIVIDED BY HORIZONTAL BAR AND TOP HALF  
 19182 % DIVIDED BY VERTICAL BAR; \obot (mathabx)  
 19183 \DeclareTextCommand{\textobot}{PU}{\9051\272}%\* U+29BA  
 19184 %\* \textobot -> \odplus (ulsy)  
 19185 % U+29C0 CIRCLED LESS-THAN; \olessthan (stmaryrd)  
 19186 \DeclareTextCommand{\textolessthan}{PU}{\9051\300}%\* U+29C0  
 19187 %\* \textolessthan -> \varolessthan (stmaryrd)  
 19188 % U+29C1 CIRCLED GREATER-THAN; \ogreaterthan (stmaryrd)  
 19189 \DeclareTextCommand{\textogreaterthan}{PU}{\9051\301}%\* U+29C1  
 19190 %\* \textogreaterthan -> \varogreaterthan (stmaryrd)  
 19191 % U+29C4 SQUARED RISING DIAGONAL SLASH; \boxslash (mathabx, stmaryrd)  
 19192 \DeclareTextCommand{\textboxslash}{PU}{\9051\304}%\* U+29C4

19193 % U+29C5 SQUARED FALLING DIAGONAL SLASH; \boxbslash (stmaryrd)  
 19194 \DeclareTextCommand{\textboxbslash}{PU}{\9051\305}%\* U+29C5  
 19195 % U+29C6 SQUARED ASTERISK; \boxast (stmaryrd)  
 19196 \DeclareTextCommand{\textboxast}{PU}{\9051\306}%\* U+29C6  
 19197 % U+29C7 SQUARED SMALL CIRCLE; \boxcircle (stmaryrd)  
 19198 \DeclareTextCommand{\textboxcircle}{PU}{\9051\307}%\* U+29C7  
 19199 % U+29C8 SQUARED SQUARE; \boxbox (stmaryrd)  
 19200 \DeclareTextCommand{\textboxbox}{PU}{\9051\310}%\* U+29C8  
 19201 % U+29DF DOUBLE-ENDED MULTIMAP; \multimapboth (txfonts/pxfonts)  
 19202 \DeclareTextCommand{\textmultimapboth}{PU}{\9051\337}%\* U+29DF  
 19203 % U+29E2 SHUFFLE PRODUCT; \shuffle (shuffle)  
 19204 \DeclareTextCommand{\textshuffle}{PU}{\9051\342}%\* U+29E2

### 51.2.34 Supplemental Mathematical Operators: U+2A00 to U+2AFF

19205 % U+2A04 N-ARY UNION OPERATOR WITH PLUS; \uplus (LaTeX)  
 19206 \DeclareTextCommand{\textuplus}{PU}{\9052\004}%\* U+2A04  
 19207 % U+2A07 TWO LOGICAL AND OPERATOR; \bigdoublewedge (MnSymbol)  
 19208 \DeclareTextCommand{\textbigdoublewedge}{PU}{\9052\007}%\* U+2A07  
 19209 % U+2A08 TWO LOGICAL OR OPERATOR; \bigdoublevee (MnSymbol)  
 19210 \DeclareTextCommand{\textbigdoublevee}{PU}{\9052\010}%\* U+2A08  
 19211 % U+2A1D JOIN; \Join (latexsym, amssymb, amssymb, mathabx, txfonts,  
 19212 % pxfonts, wasysym)  
 19213 \DeclareTextCommand{\textJoin}{PU}{\9052\035}%\* U+2A1D  
 19214 % U+2A22 PLUS SIGN WITH SMALL CIRCLE ABOVE; \circplus (mathabx)  
 19215 \DeclareTextCommand{\textcircplus}{PU}{\9052\042}%\* U+2A22  
 19216 % U+2A2A MINUS SIGN WITH DOT BELOW; \minusdot (MnSymbol)  
 19217 \DeclareTextCommand{\textminusdot}{PU}{\9052\052}%\* U+2A2A  
 19218 %\* \textminusdot -> \divdot (mathabx)  
 19219 % U+2A30 MULTIPLICATION SIGN WITH DOT ABOVE; \dotimes (math-  
 19220 % abx)  
 19220 \DeclareTextCommand{\textdotimes}{PU}{\9052\060}%\* U+2A30  
 19221 % U+2A32 SEMIDIRECT PRODUCT WITH BOTTOM CLOSED;  
 19222 % \dtimes (mathdesign)  
 19223 \DeclareTextCommand{\textdtimes}{PU}{\9052\062}%\* U+2A32  
 19224 % U+2A38 CIRCLED DIVISION SIGN; \odiv (mathabx)  
 19225 \DeclareTextCommand{\textodiv}{PU}{\9052\070}%\* U+2A38  
 19226 % U+2A3C INTERIOR PRODUCT; \invneg (MnSymbol)  
 19227 \DeclareTextCommand{\textinvneg}{PU}{\9052\074}%\* U+2A3C  
 19228 % U+2A4E DOUBLE SQUARE INTERSECTION; \sqdoublecap (mathabx)  
 19229 \DeclareTextCommand{\textsqdoublecap}{PU}{\9052\116}%\* U+2A4E  
 19230 %\* \textsqdoublecap -> \doublesqcap (MnSymbol)  
 19231 % U+2A40 INTERSECTION WITH DOT; \capdot (MnSymbol)  
 19232 \DeclareTextCommand{\textcapdot}{PU}{\9052\100}%\* U+2A40  
 19233 % U+2A4F DOUBLE SQUARE UNION; \sqdoublecup (mathabx)  
 19234 \DeclareTextCommand{\textsqdoublecup}{PU}{\9052\117}%\* U+2A4F  
 19235 %\* \textsqdoublecup -> \doublesqcup (MnSymbol)  
 19236 % U+2A55 TWO INTERSECTING LOGICAL AND; \doublewedge (MnSymbol)  
 19237 \DeclareTextCommand{\textdoublewedge}{PU}{\9052\125}%\* U+2A55  
 19238 % U+2A56 TWO INTERSECTING LOGICAL OR; \doublevee (MnSymbol)  
 19239 \DeclareTextCommand{\textdoublevee}{PU}{\9052\126}%\* U+2A56  
 19240 %\* \textdoublevee -> \merge (stmaryrd)  
 19241 % U+2A5E LOGICAL AND WITH DOUBLE OVERBAR;  
 19242 % \doublebarwedge (AmS)  
 19243 \DeclareTextCommand{\textdoublebarwedge}{PU}{\9052\136}%\* U+2A5E  
 19244 % U+2A63 LOGICAL OR WITH DOUBLE UNDERBAR;  
 19245 % \veedoublebar (mahtabx)  
 19246 \DeclareTextCommand{\textveedoublebar}{PU}{\9052\143}%\* U+2A63

19247 % U+2A66 EQUALS SIGN WITH DOT BELOW; \eqdot (MnSymbol)  
 19248 \DeclareTextCommand{\texteqdot}{PU}{\9052\146}%\* U+2A66  
 19249 % U+2A74 DOUBLE COLON EQUAL; \coloncolonequals (colonequals)  
 19250 \DeclareTextCommand{\textcoloncolonequals}{PU}{\9052\164}%\* U+2A74  
 19251 % U+2A7D LESS-THAN OR SLANTED EQUAL TO; \leqslant (AmS)  
 19252 \DeclareTextCommand{\textleqslant}{PU}{\9052\175}%\* U+2A7D  
 19253 % U+2A7E GREATER-THAN OR SLANTED EQUAL TO; \geqslant (AmS)  
 19254 \DeclareTextCommand{\textgeqslant}{PU}{\9052\176}%\* U+2A7E  
 19255 % U+2A85 LESS-THAN OR APPROXIMATE; \lessapprox (AmS)  
 19256 \DeclareTextCommand{\textlessapprox}{PU}{\9052\205}%\* U+2A85  
 19257 % U+2A86 GREATER-THAN OR APPROXIMATE; \gtrapprox (AmS)  
 19258 \DeclareTextCommand{\textgtrapprox}{PU}{\9052\206}%\* U+2A86  
 19259 % U+2A87 LESS-THAN AND SINGLE-LINE NOT EQUAL TO; \lneq (AmS)  
 19260 \DeclareTextCommand{\textlneq}{PU}{\9052\207}%\* U+2A87  
 19261 % U+2A88 GREATER-THAN AND SINGLE-LINE NOT EQUAL TO;  
 19262 % \gneq (AmS)  
 19263 \DeclareTextCommand{\textgneq}{PU}{\9052\210}%\* U+2A88  
 19264 % U+2A89 LESS-THAN AND NOT APPROXIMATE; \lnapprox (AmS)  
 19265 \DeclareTextCommand{\textlnapprox}{PU}{\9052\211}%\* U+2A89  
 19266 % U+2A8A GREATER-THAN AND NOT APPROXIMATE; \gnapprox (AmS)  
 19267 \DeclareTextCommand{\textgnapprox}{PU}{\9052\212}%\* U+2A8A  
 19268 % U+2A8B LESS-THAN ABOVE DOUBLE-LINE EQUAL ABOVE GREATER-THAN;  
 19269 % \lesseqqgtr (AmS)  
 19270 \DeclareTextCommand{\textlesseqqgtr}{PU}{\9052\213}%\* U+2A8B  
 19271 % U+2A8C GREATER-THAN ABOVE DOUBLE-LINE EQUAL ABOVE LESS-THAN;  
 19272 % \gtreqqless (AmS)  
 19273 \DeclareTextCommand{\textgtreqqless}{PU}{\9052\214}%\* U+2A8C  
 19274 % U+2A95 SLANTED EQUAL TO OR LESS-THAN; \eqslantless (AmS)  
 19275 \DeclareTextCommand{\texteqslantless}{PU}{\9052\225}%\* U+2A95  
 19276 % U+2A96 SLANTED EQUAL TO OR GREATER-THAN; \eqslantgtr (AmS)  
 19277 \DeclareTextCommand{\texteqslantgtr}{PU}{\9052\226}%\* U+2A96  
 19278 % U+2AA6 LESS-THAN CLOSED BY CURVE; \leftslice (stmaryrd)  
 19279 \DeclareTextCommand{\textleftslice}{PU}{\9052\246}%\* U+2AA6  
 19280 % U+2AA7 GREATER-THAN CLOSED BY CURVE; \rightslice (stmaryrd)  
 19281 \DeclareTextCommand{\textright slice}{PU}{\9052\247}%\* U+2AA7  
 19282 % U+2AAF PRECEDES ABOVE SINGLE-LINE EQUALS SIGN; \preceq (Mn-  
 Symbol)  
 19283 \DeclareTextCommand{\textpreceq}{PU}{\9052\257}%\* U+2AAF  
 19284 % U+2AB0 SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN; \succeq (Mn-  
 Symbol)  
 19285 \DeclareTextCommand{\textsucceq}{PU}{\9052\260}%\* U+2AB0  
 19286 % U+2AB1 PRECEDES ABOVE SINGLE-LINE NOT EQUAL TO; \precneq  
 (mathabx)  
 19287 \DeclareTextCommand{\textprecneq}{PU}{\9052\261}%\* U+2AB1  
 19288 % U+2AB2 SUCCEEDS ABOVE SINGLE-LINE NOT EQUAL TO; \succneq  
 (mathabx)  
 19289 \DeclareTextCommand{\textsuccneq}{PU}{\9052\262}%\* U+2AB2  
 19290 % U+2AB3 PRECEDES ABOVE EQUALS SIGN; \preceqq (txfonts/pxfonts)  
 19291 \DeclareTextCommand{\textpreceqq}{PU}{\9052\263}%\* U+2AB3  
 19292 % U+2AB4 SUCCEEDS ABOVE EQUALS SIGN; \succeqq (txfonts/pxfonts)  
 19293 \DeclareTextCommand{\textsucceqq}{PU}{\9052\264}%\* U+2AB4  
 19294 % U+2AB5 PRECEDES ABOVE NOT EQUAL TO; \precneqq (txfonts/pxfonts)  
 19295 \DeclareTextCommand{\textprecneqq}{PU}{\9052\265}%\* U+2AB5  
 19296 % U+2AB6 SUCCEEDS ABOVE NOT EQUAL TO; \succneqq (txfonts/pxfonts)  
 19297 \DeclareTextCommand{\textsuccneqq}{PU}{\9052\266}%\* U+2AB6  
 19298 % U+2AB7 PRECEDES ABOVE ALMOST EQUAL TO; \precapprox (AmS)  
 19299 \DeclareTextCommand{\textprecapprox}{PU}{\9052\267}%\* U+2AB7



19300 % U+2AB8 SUCCEEDS ABOVE ALMOST EQUAL TO; \succapprox (AmS)  
 19301 \DeclareTextCommand{\textsuccapprox}{PU}{\9052\270}% U+2AB8  
 19302 % U+2AB9 PRECEDES ABOVE NOT ALMOST EQUAL TO; \precnap-  
 prox (AmS)  
 19303 \DeclareTextCommand{\textprecnapprox}{PU}{\9052\271}%\* U+2AB9  
 19304 % U+2ABA SUCCEEDS ABOVE NOT ALMOST EQUAL TO; \succnap-  
 prox (AmS)  
 19305 \DeclareTextCommand{\textsuccnapprox}{PU}{\9052\272}%\* U+2ABA  
 19306 % U+2AC5 SUBSET OF ABOVE EQUALS SIGN; \subseteqq (AmS)  
 19307 \DeclareTextCommand{\textsubseteqq}{PU}{\9052\305}%\* U+2AC5  
 19308 % U+2AC6 SUPERSET OF ABOVE EQUALS SIGN; \supseteqq (AmS)  
 19309 \DeclareTextCommand{\textsupseteqq}{PU}{\9052\306}%\* U+2AC6  
 19310 % U+2AE3 DOUBLE VERTICAL BAR LEFT TURNSTILE  
 19311 \DeclareTextCommand{\textdashV}{PU}{\9052\343}%\* U+2AE3  
 19312 %\* \textdashV -> \leftVdash (MnSymbol)  
 19313 % U+2AE4 VERTICAL BAR DOUBLE LEFT TURNSTILE; \Dashv (mathabx)  
 19314 \DeclareTextCommand{\textDashv}{PU}{\9052\344}%\* U+2AE4  
 19315 %\* \textDashv -> \leftmodels (MnSymbol)  
 19316 % U+2AE5 DOUBLE VERTICAL BAR DOUBLE LEFT TURNSTILE;  
 19317 % \DashV (mathabx)  
 19318 \DeclareTextCommand{\textDashV}{PU}{\9052\345}%\* U+2AE5  
 19319 %\* \textDashV -> \leftModels (MnSymbol)  
 19320 % U+2AEA DOUBLE DOWN TACK; \downmodels (MnSymbol)  
 19321 \DeclareTextCommand{\textdownmodels}{PU}{\9052\352}%\* U+2AEA  
 19322 % U+2AEB DOUBLE UP TACK; \upmodels (MnSymbol)  
 19323 \DeclareTextCommand{\textupmodels}{PU}{\9052\353}%\* U+2AEB  
 19324 % U+2AEF VERTICAL LINE WITH CIRCLE ABOVE; \upspoon (MnSymbol)  
 19325 \DeclareTextCommand{\textupspoon}{PU}{\9052\357}%\* U+2AEF  
 19326 % U+2AF4 TRIPLE VERTICAL BAR BINARY RELATION;  
 19327 % \interleave (stmaryrd)  
 19328 \DeclareTextCommand{\textinterleave}{PU}{\9052\364}%\* U+2AF4  
 19329 % U+2AFD DOUBLE SOLIDUS OPERATOR; \sslash (stmaryrd)  
 19330 \DeclareTextCommand{\textsslash}{PU}{\9052\375}%\* U+2AFD  
 19331 %\* \textsslash -> \varparallel (txfonts\pxfonts)

### 51.2.35 Latin Extended-C: U+2C60 to U+2C7F

19332 % U+2C7C LATIN SUBSCRIPT SMALL LETTER J  
 19333 \DeclareTextCommand{\textjinferior}{PU}{\9054\174}%\* U+2C7C

### 51.2.36 Supplemental Punctuation: U+2E00 to U+2E7F

19334 % U+2E13 DOTTED OBELOS; \slashdiv (MnSymbol)  
 19335 \DeclareTextCommand{\textslashdiv}{PU}{\9056\023}%\* U+2E13  
 19336 % U+2E18 INVERTED INTERROBANG; \textinterrobangdown (textcomp)  
 19337 \DeclareTextCommand{\textinterrobangdown}{PU}{\9056\030}% U+2E18  
 19338 % U+2E2D FIVE DOT MARK; \fivedots (MnSymbol)  
 19339 \DeclareTextCommand{\textfivedots}{PU}{\9056\055}%\* U+2E2D

### 51.2.37 Modifier Tone Letters: U+A700 to U+A71F

19340 % U+A71B MODIFIER LETTER RAISED UP ARROW; \textupstep (tipa)  
 19341 \DeclareTextCommand{\textupstep}{PU}{\9247\033}% U+A71B  
 19342 % U+A71C MODIFIER LETTER RAISED DOWN ARROW;  
 19343 % \textdownstep (tipa)  
 19344 \DeclareTextCommand{\textdownstep}{PU}{\9247\034}% U+A71C

### 51.2.38 Latin Extended-D: U+A720 to U+A7FF

19345 % U+A727 LATIN SMALL LETTER HENG; \textheng (tipx)  
 19346 \DeclareTextCommand{\textPUheng}{PU}{\9247\047}% U+A727

19347 %\* \textPUheng -> \textheng (tipx)  
 19348 % U+A72C LATIN CAPITAL LETTER CUATRILLO; \textlhookfour (tipx)  
 19349 \DeclareTextCommand{\textPULhookfour}{PU}{\9247\054}% U+A72C  
 19350 %\* \textPULhookfour -> \textlhookfour (tipx)  
 19351 % U+A730 LATIN LETTER SMALL CAPITAL F; \textscf (tipx)  
 19352 \DeclareTextCommand{\textPUscf}{PU}{\9247\060}% U+A730  
 19353 %\* \textPUscf -> \textscf (tipx)  
 19354 % U+A735 LATIN SMALL LETTER AO; \textao lig (tipx)  
 19355 \DeclareTextCommand{\textPUaolig}{PU}{\9247\065}% U+A735  
 19356 %\* \textPUaolig -> \textao lig (tipx)  
 19357 % U+A74F LATIN SMALL LETTER OO; \oo (wsuipa)  
 19358 \DeclareTextCommand{\textoo}{PU}{\9247\117}%\* U+A74F  
 19359 % U+A788 MODIFIER LETTER LOW CIRCUMFLEX ACCENT  
 19360 \DeclareTextCommand{\textcircumlow}{PU}{\9247\210}% U+A788

### 51.2.39 Alphabetic Presentation Forms: U+FB00 to U+FB4F

19361 % U+FB01 LATIN SMALL LIGATURE FI; fi  
 19362 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
 19363 % U+FB02 LATIN SMALL LIGATURE FL; fl  
 19364 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

### 51.2.40 Musical Symbols: U+1D100 to U+1D1FF

19365 % U+1D13B MUSICAL SYMBOL WHOLE REST; \GaPa (harmony)  
 19366 \DeclareTextCommand{\textGaPa}{PU}{\9330\064\9335\073}%\* U+1D13B  
 19367 % U+1D13C MUSICAL SYMBOL HALF REST; \HaPa (harmony)  
 19368 \DeclareTextCommand{\textHaPa}{PU}{\9330\064\9335\074}%\* U+1D13C  
 19369 % U+1D13D MUSICAL SYMBOL QUARTER REST; \ViPa (harmony)  
 19370 \DeclareTextCommand{\textViPa}{PU}{\9330\064\9335\075}%\* U+1D13D  
 19371 % U+1D13E MUSICAL SYMBOL EIGHTH REST; \AcPa (harmony)  
 19372 \DeclareTextCommand{\textAcPa}{PU}{\9330\064\9335\076}%\* U+1D13E  
 19373 % U+1D13F MUSICAL SYMBOL SIXTEENTH REST; \SePa (harmony)  
 19374 \DeclareTextCommand{\textSePa}{PU}{\9330\064\9335\077}%\* U+1D13F  
 19375 % U+1D140 MUSICAL SYMBOL THIRTY-SECOND REST; \ZwPa (harmony)  
 19376 \DeclareTextCommand{\textZwPa}{PU}{\9330\064\9335\100}%\* U+1D140  
 19377 % U+1D15D MUSICAL SYMBOL WHOLE NOTE; \fullnote (wasysym)  
 19378 \DeclareTextCommand{\textfullnote}{PU}{\9330\064\9335\135}%\* U+1D15D  
 19379 %\* \textfullnote -> \Ganz (harmony)  
 19380 % U+1D15E MUSICAL SYMBOL HALF NOTE; \halfnote (wasysym)  
 19381 \DeclareTextCommand{\texthalfnote}{PU}{\9330\064\9335\136}%\* U+1D15E  
 19382 %\* \texthalfnote -> \Halb (harmony)  
 19383 % U+1D15F MUSICAL SYMBOL QUARTER NOTE; \Vier (harmony)  
 19384 \DeclareTextCommand{\textVier}{PU}{\9330\064\9335\137}%\* U+1D15F  
 19385 % U+1D160 MUSICAL SYMBOL EIGHTH NOTE; \Acht (harmony)  
 19386 \DeclareTextCommand{\textAcht}{PU}{\9330\064\9335\140}%\* U+1D160  
 19387 % U+1D161 MUSICAL SYMBOL SIXTEENTH NOTE; \Sech (harmony)  
 19388 \DeclareTextCommand{\textSech}{PU}{\9330\064\9335\141}%\* U+1D161  
 19389 % U+1D162 MUSICAL SYMBOL THIRTY-SECOND NOTE; \Zwdr (harmony)  
 19390 \DeclareTextCommand{\textZwdr}{PU}{\9330\064\9335\142}%\* U+1D162

### 51.2.41 Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF

19391 % U+1F30D EARTH GLOBE EUROPE-AFRICA; \Mundus (marvosym)  
 19392 \DeclareTextCommand{\textMundus}{PU}{\9330\074\9337\015}%\* U+1F30D  
 19393 % U+1F469 WOMAN; \Womanface (marvosym)  
 19394 \DeclareTextCommand{\textWomanface}{PU}{\9330\075\9334\151}%\* U+1F469  
 19395 % U+1F525 FIRE; \Fire (ifsym)  
 19396 \DeclareTextCommand{\textFire}{PU}{\9330\075\9335\045}%\* U+1F525

### 51.2.42 Transport and Map Symbols: U+1F680 to U+1F6FF

```
19397 % U+1F6B2 BICYCLE; \Bicycle (marvosym)
19398 \DeclareTextCommand{\textBicycle}{PU}{\9330\075\9336\262}%* U+1F6B2
19399 % U+1F6B9 MENS SYMBOL; \Gentsroom (marvosym)
19400 \DeclareTextCommand{\textGentsroom}{PU}{\9330\075\9336\271}%* U+1F6B9
19401 % U+1F6BA WOMENS SYMBOL; \Ladiesroom (marvosym)
19402 \DeclareTextCommand{\textLadiesroom}{PU}{\9330\075\9336\272}%* U+1F6BA
```

### 51.2.43 Miscellaneous

```
19403 \DeclareTextCommand{\SS}{PU}{SS}
19404 % \textcopyleft (textcomp)
19405 \DeclareTextCommand{\textcopyleft}{PU}{\9041\204\9040\335}% U+2184 U+20DD
19406 % \ccnc (ccllicenses)
19407 \DeclareTextCommand{\textccnc}{PU}{\80\044\9040\340}%* U+0024 U+20E0
19408 % \ccnd (ccllicenses)
19409 \DeclareTextCommand{\textccnd}{PU}{=\9040\335}%* U+003D U+20DD
19410 % \ccsa (ccllicenses)
19411 \DeclareTextCommand{\textccsa}{PU}{\9047\362\9040\335}%* U+27F2 U+20DD
19412 % \CircledA (marvosym)
19413 \DeclareTextCommand{\textCircledA}{PU}{A\9040\335}%* U+0041 U+20DD
19414 % \Info (marvosym, china2e)
19415 \DeclareTextCommand{\textInfo}{PU}{\9330\065\9334\042\940\336}%* U+1D422 U+20DE
```

### 51.2.44 Aliases

Aliases (german.sty)

```
19416 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}
19417 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}
19418 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}
19419 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}
19420 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}
19421 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}
19422 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}
19423 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}
```

Aliases (math names)

```
19424 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}%*
19425 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}%*
19426 \DeclareTextCommand{\textdiv}{PU}{\textdivide}%*
19427 \DeclareTextCommand{\textpm}{PU}{\textplusminus}%*
19428 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}%*
19429 </puenc>
```

## 51.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```
19430 <*puvnenc>
19431 \DeclareTextCommand{\abreve}{PU}{\81\003}% U+0103
19432 \DeclareTextCommand{\acircumflex}{PU}{\80\342}% U+00E2
19433 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}% U+00EA
19434 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}% U+00F4
19435 \DeclareTextCommand{\ohorn}{PU}{\81\241}% U+01A1
19436 \DeclareTextCommand{\uhorn}{PU}{\81\260}% U+01B0
19437 \DeclareTextCommand{\ABREVE}{PU}{\81\002}% U+0102
19438 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}% U+00C2
19439 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}% U+00CA
```

19440 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}% U+00D4  
19441 \DeclareTextCommand{\OHORN}{PU}{\81\240}% U+01A0  
19442 \DeclareTextCommand{\UHORN}{PU}{\81\257}% U+01AF  
  
19443 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
19444 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1  
19445 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\340}% U+00E0  
19446 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}% U+1EA3  
19447 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
19448 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}% U+1EAF  
19449 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}% U+1EB7  
19450 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\261}% U+1EB1  
19451 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}% U+1EB3  
19452 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}% U+1EB5  
19453 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}% U+1EA5  
19454 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}% U+1EAD  
19455 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\247}% U+1EA7  
19456 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}% U+1EA9  
19457 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}% U+1EAB  
19458 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
19459 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9  
19460 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\350}% U+00E8  
19461 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}% U+1EBB  
19462 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
19463 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}% U+1EBF  
19464 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}% U+1EC7  
19465 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\301}% U+1EC1  
19466 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}% U+1EC3  
19467 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}% U+1EC5  
19468 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
19469 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
19470 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC  
19471 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}% U+1EC9  
19472 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
19473 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
19474 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
19475 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\362}% U+00F2  
19476 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}% U+1ECF  
19477 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
19478 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}% U+1ED1  
19479 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}% U+1ED9  
19480 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\323}% U+1ED3  
19481 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}% U+1ED5  
19482 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}% U+1ED7  
19483 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}% U+1EDB  
19484 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}% U+1EE3  
19485 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\335}% U+1EDD  
19486 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}% U+1EDF  
19487 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}% U+1EE1  
19488 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
19489 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
19490 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\371}% U+00F9  
19491 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}% U+1EE7  
19492 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
19493 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}% U+1EE9  
19494 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}% U+1EF1  
19495 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\353}% U+1EEB  
19496 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}% U+1EED

19497 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}% U+1EEF  
 19498 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
 19499 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
 19500 \DeclareTextCompositeCommand{\'}{PU}{y}{\9036\363}% U+1EF3  
 19501 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}% U+1EF7  
 19502 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9  
 19503 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
 19504 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
 19505 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\300}% U+00C0  
 19506 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}% U+1EA2  
 19507 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
 19508 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}% U+1EAE  
 19509 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}% U+1EB6  
 19510 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\260}% U+1EB0  
 19511 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}% U+1EB2  
 19512 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}% U+1EB4  
 19513 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}% U+1EA4  
 19514 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}% U+1EAC  
 19515 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\246}% U+1EA6  
 19516 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}% U+1EA8  
 19517 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}% U+1EAA  
 19518 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
 19519 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
 19520 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\310}% U+00C8  
 19521 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}% U+1EBA  
 19522 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
 19523 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}% U+1EBE  
 19524 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}% U+1EC6  
 19525 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\300}% U+1EC0  
 19526 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}% U+1EC2  
 19527 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}% U+1EC4  
 19528 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
 19529 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA  
 19530 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\314}% U+00CC  
 19531 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}% U+1EC8  
 19532 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
 19533 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
 19534 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC  
 19535 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\322}% U+00D2  
 19536 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}% U+1ECE  
 19537 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
 19538 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}% U+1ED0  
 19539 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}% U+1ED8  
 19540 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\322}% U+1ED2  
 19541 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}% U+1ED4  
 19542 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}% U+1ED6  
 19543 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}% U+1EDA  
 19544 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}% U+1EE2  
 19545 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\334}% U+1EDC  
 19546 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}% U+1EDE  
 19547 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}% U+1EE0  
 19548 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
 19549 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4  
 19550 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\331}% U+00D9  
 19551 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}% U+1EE6  
 19552 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
 19553 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}% U+1EE8

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19554 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}% U+1EF0
19555 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\352}% U+1EEA
19556 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}% U+1EEC
19557 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}% U+1EEE
19558 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
19559 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4
19560 \DeclareTextCompositeCommand{\'}{PU}{Y}{\9036\362}% U+1EF2
19561 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}% U+1EF6
19562 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
19563 </p>

```

## 51.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

19564 (*puarenc)

19565 % U+0621;afii57409;ARABIC LETTER HAMZA
19566 \DeclareTextCommand{\hamza}{PU}{\86\041}% U+0621
19567 % U+0622;afii57410;ARABIC LETTER ALEF WITH MADDA ABOVE
19568 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% U+0622
19569 % U+0623;afii57411;ARABIC LETTER ALEF WITH HAMZA ABOVE
19570 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% U+0623
19571 % U+0624;afii57412;ARABIC LETTER WAW WITH HAMZA ABOVE
19572 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% U+0624
19573 % U+0625;afii57413;ARABIC LETTER ALEF WITH HAMZA BELOW
19574 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% U+0625
19575 % U+0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
19576 \DeclareTextCommand{\yahamza}{PU}{\86\046}% U+0626
19577 % U+0627;afii57415;ARABIC LETTER ALEF
19578 \DeclareTextCommand{\alef}{PU}{\86\047}% U+0627
19579 % U+0628;afii57416;ARABIC LETTER BEH
19580 \DeclareTextCommand{\baa}{PU}{\86\050}% U+0628
19581 % U+0629;afii57417;ARABIC LETTER TEH MARBUTA
19582 \DeclareTextCommand{\T}{PU}{\86\051}% U+0629
19583 % U+062A;afii57418;ARABIC LETTER TEH
19584 \DeclareTextCommand{\taa}{PU}{\86\052}% U+062A
19585 % U+062B;afii57419;ARABIC LETTER THEH
19586 \DeclareTextCommand{\thaa}{PU}{\86\053}% U+062B
19587 % U+062C;afii57420;ARABIC LETTER JEEM
19588 \DeclareTextCommand{\jeem}{PU}{\86\054}% U+062C
19589 % U+062D;afii57421;ARABIC LETTER HAH
19590 \DeclareTextCommand{\Haa}{PU}{\86\055}% U+062D
19591 % U+062E;afii57422;ARABIC LETTER KHAH
19592 \DeclareTextCommand{\kha}{PU}{\86\056}% U+062E
19593 % U+062F;afii57423;ARABIC LETTER DAL
19594 \DeclareTextCommand{\dal}{PU}{\86\057}% U+062F
19595 % U+0630;afii57424;ARABIC LETTER THAL
19596 \DeclareTextCommand{\dhal}{PU}{\86\060}% U+0630
19597 % U+0631;afii57425;ARABIC LETTER REH
19598 \DeclareTextCommand{\ra}{PU}{\86\061}% U+0631
19599 % U+0632;afii57426;ARABIC LETTER ZAIN
19600 \DeclareTextCommand{\zay}{PU}{\86\062}% U+0632
19601 % U+0633;afii57427;ARABIC LETTER SEEN
19602 \DeclareTextCommand{\seen}{PU}{\86\063}% U+0633
19603 % U+0634;afii57428;ARABIC LETTER SHEEN
19604 \DeclareTextCommand{\sheen}{PU}{\86\064}% U+0634
19605 % U+0635;afii57429;ARABIC LETTER SAD

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19606 \DeclareTextCommand{\sad}{PU}{\86\065}% U+0635  
 19607 % U+0636;afii57430;ARABIC LETTER DAD  
 19608 \DeclareTextCommand{\dad}{PU}{\86\066}% U+0636  
 19609 % U+0637;afii57431;ARABIC LETTER TAH  
 19610 \DeclareTextCommand{\Ta}{PU}{\86\067}% U+0637  
 19611 % U+0638;afii57432;ARABIC LETTER ZAH  
 19612 \DeclareTextCommand{\za}{PU}{\86\070}% U+0638  
 19613 % U+0639;afii57433;ARABIC LETTER AIN  
 19614 \DeclareTextCommand{\ayn}{PU}{\86\071}% U+0639  
 19615 % U+063A;afii57434;ARABIC LETTER GHAIN  
 19616 \DeclareTextCommand{\ghayn}{PU}{\86\072}% U+063A  
 19617 % U+0640;afii57440;ARABIC TATWEEL  
 19618 \DeclareTextCommand{\tatweel}{PU}{\86\100}% U+0640  
 19619 % U+0641;afii57441;ARABIC LETTER FEH  
 19620 \DeclareTextCommand{\fa}{PU}{\86\101}% U+0641  
 19621 % U+0642;afii57442;ARABIC LETTER QAF  
 19622 \DeclareTextCommand{\qaf}{PU}{\86\102}% U+0642  
 19623 % U+0643;afii57443;ARABIC LETTER KAF  
 19624 \DeclareTextCommand{\kaf}{PU}{\86\103}% U+0643  
 19625 % U+0644;afii57444;ARABIC LETTER LAM  
 19626 \DeclareTextCommand{\lam}{PU}{\86\104}% U+0644  
 19627 % U+0645;afii57445;ARABIC LETTER MEEM  
 19628 \DeclareTextCommand{\meem}{PU}{\86\105}% U+0645  
 19629 % U+0646;afii57446;ARABIC LETTER NOON  
 19630 \DeclareTextCommand{\nun}{PU}{\86\106}% U+0646  
 19631 % U+0647;afii57470;ARABIC LETTER HEH  
 19632 \DeclareTextCommand{\ha}{PU}{\86\107}% U+0647  
 19633 % U+0648;afii57448;ARABIC LETTER WAW  
 19634 \DeclareTextCommand{\waw}{PU}{\86\110}% U+0648  
 19635 % U+0649;afii57449;ARABIC LETTER ALEF MAKSURA  
 19636 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% U+0649  
 19637 % U+064A;afii57450;ARABIC LETTER YEH  
 19638 \DeclareTextCommand{\ya}{PU}{\86\112}% U+064A  
  
 19639 % U+064B;afii57451;ARABIC FATHATAN  
 19640 \DeclareTextCommand{\nasb}{PU}{\86\113}% U+064B  
 19641 % U+064C;afii57452;ARABIC DAMMATAN  
 19642 \DeclareTextCommand{\raff}{PU}{\86\114}% U+064C  
 19643 % U+064D;afii57453;ARABIC KASRATAN  
 19644 \DeclareTextCommand{\jarr}{PU}{\86\115}% U+064D  
 19645 % U+064E;afii57454;ARABIC FATHA  
 19646 \DeclareTextCommand{\fatha}{PU}{\86\116}% U+064E  
 19647 % U+064F;afii57455;ARABIC DAMMA  
 19648 \DeclareTextCommand{\damma}{PU}{\86\117}% U+064F  
 19649 % U+0650;afii57456;ARABIC KASRA  
 19650 \DeclareTextCommand{\kasra}{PU}{\86\120}% U+0650  
 19651 % U+0651;afii57457;ARABIC SHADDA  
 19652 \DeclareTextCommand{\shadda}{PU}{\86\121}% U+0651  
 19653 % U+0652;afii57458;ARABIC SUKUN  
 19654 \DeclareTextCommand{\sukun}{PU}{\86\122}% U+0652  
  
 Farsi  
 19655 % U+067E ARABIC LETTER PEH; afii57506  
 19656 \DeclareTextCommand{\peh}{PU}{\86\176}% U+067E  
 19657 % U+0686 ARABIC LETTER TCHEH; afii57507  
 19658 \DeclareTextCommand{\tcheh}{PU}{\86\206}% U+0686  
 19659 % U+0698 ARABIC LETTER JEH; afii57508  
 19660 \DeclareTextCommand{\jeh}{PU}{\86\230}% U+0698

19661 % U+06A9 ARABIC LETTER KEHEH  
 19662 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% U+06A9  
 19663 % U+06AF ARABIC LETTER GAF; afi57509  
 19664 \DeclareTextCommand{\gaf}{PU}{\86\257}% U+06AF  
 19665 % U+06CC ARABIC LETTER FARSI YEH  
 19666 \DeclareTextCommand{\farsiya}{PU}{\86\314}% U+06CC  
  
 19667 % U+200C ZERO WIDTH NON-JOINER; afi61664  
 19668 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% U+200C  
 19669 % U+200D ZERO WIDTH JOINER; afi301  
 19670 \DeclareTextCommand{\noboundary}{PU}{\9040\015}% U+200D  
  
 19671 </puarenc>  
 19672 <\*psdextra>  
 19673 \Hy@VersionCheck{psdextra.def}  
 19674 \newcommand\*{\psdmapshortnames}{%  
 19675 \let\copyright\textcopyright  
 19676 \let\twosuperior\texttwosuperior  
 19677 \let\threesuperior\textthreesuperior  
 19678 \let\onesuperior\textonesuperior  
 19679 \let\Thorn\textThorn  
 19680 \let\thorn\textthorn  
 19681 \let\hbar\texthbar  
 19682 \let\hausA\texthausA  
 19683 \let\hausD\texthausD  
 19684 \let\hausK\texthausK  
 19685 \let\barl\textbarl  
 19686 \let\inve\textinve  
 19687 \let\slashc\textslashc  
 19688 \let\scripta\textscripta  
 19689 \let\openo\textopeno  
 19690 \let\rtaild\textrtaild  
 19691 \let\reve\textreve  
 19692 \let\schwa\textschwa  
 19693 \let\niepsilon\textniepsilon  
 19694 \let\reveysilon\textreveysilon  
 19695 \let\rhookreveysilon\texthookreveysilon  
 19696 \let\scriptg\textscriptg  
 19697 \let\scg\textscg  
 19698 \let\ipagamma\textipagamma  
 19699 \let\babygamma\textbabygamma  
 19700 \let\bari\textbari  
 19701 \let\niiota\textniiota  
 19702 \let\sci\textsci  
 19703 \let\scn\textscn  
 19704 \let\baro\textbaro  
 19705 \let\niphi\textniphi  
 19706 \let\longlegr\textlonglegr  
 19707 \let\scr\textscr  
 19708 \let\invscr\textinvscr  
 19709 \let\esh\textesh  
 19710 \let\baru\textbaru  
 19711 \let\niupsilon\textniupsilon  
 19712 \let\scriptv\textscriptv  
 19713 \let\turnv\textturnv  
 19714 \let\turnw\textturnw  
 19715 \let\turny\textturny  
 19716 \let\scy\textscy



19717 \let\yogh\textyogh  
 19718 \let\glotstop\textglotstop  
 19719 \let\revglotstop\textrevglotstop  
 19720 \let\invglotstop\textinvglotstop  
 19721 \let\Gamma\textGamma  
 19722 \let\Delta\textDelta  
 19723 \let\Theta\textTheta  
 19724 \let\Lambda\textLambda  
 19725 \let\Xi\textXi  
 19726 \let\Pi\textPi  
 19727 \let\Sigma\textSigma  
 19728 \let\Upsilon\textUpsilon  
 19729 \let\Phi\textPhi  
 19730 \let\Psi\textPsi  
 19731 \let\Omega\textOmega  
 19732 \let\alpha\textalpha  
 19733 \let\beta\textbeta  
 19734 \let\gamma\textgamma  
 19735 \let\delta\textdelta  
 19736 \let\epsilon\textepsilon  
 19737 \let\zeta\textzeta  
 19738 \let\eta\texteta  
 19739 \let\theta\texttheta  
 19740 \let\iota\textiota  
 19741 \let\kappa\textkappa  
 19742 \let\lambda\textlambda  
 19743 \let\mugreek\textmugreek  
 19744 \let\nu\textnu  
 19745 \let\xi\textxi  
 19746 \let\pi\textpi  
 19747 \let\rho\rho  
 19748 \let\varsigma\textvarsigma  
 19749 \let\sigma\textsigma  
 19750 \let\tau\texttau  
 19751 \let\upsilon\textupsilon  
 19752 \let\phi\textphi  
 19753 \let\chi\textchi  
 19754 \let\psi\textpsi  
 19755 \let\omega\textomega  
 19756 \let\scd\textscd  
 19757 \let\scu\textscu  
 19758 \let\iinferior\textiinferior  
 19759 \let\rinferior\extrinferior  
 19760 \let\uiinferior\textuiinferior  
 19761 \let\vinferior\textvinferior  
 19762 \let\betainferior\textbetainferior  
 19763 \let\gammainferior\textgammainferior  
 19764 \let\rhoinferior\extrhoinferior  
 19765 \let\phiinferior\textphiinferior  
 19766 \let\chiinferior\textchiinferior  
 19767 \let\barsci\textbarsci  
 19768 \let\barp\textbarp  
 19769 \let\barscu\textbarscu  
 19770 \let\htrtaild\texthtrtaild  
 19771 \let\dagger\textdagger  
 19772 \let\bullet\textbullet  
 19773 \let\hdotfor\texthdotfor

19774  $\backslash\text{let}\backslash\text{prime}\backslash\text{textprime}$   
 19775  $\backslash\text{let}\backslash\text{second}\backslash\text{textsecond}$   
 19776  $\backslash\text{let}\backslash\text{third}\backslash\text{textthird}$   
 19777  $\backslash\text{let}\backslash\text{backprime}\backslash\text{textbackprime}$   
 19778  $\backslash\text{let}\backslash\text{lefttherefore}\backslash\text{textlefttherefore}$   
 19779  $\backslash\text{let}\backslash\text{fourth}\backslash\text{textfourth}$   
 19780  $\backslash\text{let}\backslash\text{diamonddots}\backslash\text{textdiamonddots}$   
 19781  $\backslash\text{let}\backslash\text{zerosuperior}\backslash\text{textzerosuperior}$   
 19782  $\backslash\text{let}\backslash\text{isuperior}\backslash\text{textisuperior}$   
 19783  $\backslash\text{let}\backslash\text{foursuperior}\backslash\text{textfoursuperior}$   
 19784  $\backslash\text{let}\backslash\text{fivesuperior}\backslash\text{textfivesuperior}$   
 19785  $\backslash\text{let}\backslash\text{sixsuperior}\backslash\text{textsixsuperior}$   
 19786  $\backslash\text{let}\backslash\text{sevensuperior}\backslash\text{textsevensuperior}$   
 19787  $\backslash\text{let}\backslash\text{eightsuperior}\backslash\text{texteightsuperior}$   
 19788  $\backslash\text{let}\backslash\text{ninesuperior}\backslash\text{textninesuperior}$   
 19789  $\backslash\text{let}\backslash\text{plussuperior}\backslash\text{textplussuperior}$   
 19790  $\backslash\text{let}\backslash\text{minussuperior}\backslash\text{textminussuperior}$   
 19791  $\backslash\text{let}\backslash\text{equalsuperior}\backslash\text{tequalsuperior}$   
 19792  $\backslash\text{let}\backslash\text{parenleftsuperior}\backslash\text{textparenleftsuperior}$   
 19793  $\backslash\text{let}\backslash\text{parenrightsuperior}\backslash\text{textparenrightsuperior}$   
 19794  $\backslash\text{let}\backslash\text{nsuperior}\backslash\text{textnsuperior}$   
 19795  $\backslash\text{let}\backslash\text{zeroinferior}\backslash\text{textzeroinferior}$   
 19796  $\backslash\text{let}\backslash\text{oneinferior}\backslash\text{textoneinferior}$   
 19797  $\backslash\text{let}\backslash\text{twoinferior}\backslash\text{texttwoinferior}$   
 19798  $\backslash\text{let}\backslash\text{threeinferior}\backslash\text{textthreeinferior}$   
 19799  $\backslash\text{let}\backslash\text{fourinferior}\backslash\text{textfourinferior}$   
 19800  $\backslash\text{let}\backslash\text{fiveinferior}\backslash\text{textfiveinferior}$   
 19801  $\backslash\text{let}\backslash\text{sixinferior}\backslash\text{textsixinferior}$   
 19802  $\backslash\text{let}\backslash\text{seveninferior}\backslash\text{textseveninferior}$   
 19803  $\backslash\text{let}\backslash\text{eightinferior}\backslash\text{teightinferior}$   
 19804  $\backslash\text{let}\backslash\text{nineinferior}\backslash\text{textnineinferior}$   
 19805  $\backslash\text{let}\backslash\text{plusinferior}\backslash\text{textplusinferior}$   
 19806  $\backslash\text{let}\backslash\text{minusinferior}\backslash\text{textminusinferior}$   
 19807  $\backslash\text{let}\backslash\text{equalsinferior}\backslash\text{tequalsinferior}$   
 19808  $\backslash\text{let}\backslash\text{parenleftinferior}\backslash\text{textparenleftinferior}$   
 19809  $\backslash\text{let}\backslash\text{parenrightinferior}\backslash\text{textparenrightinferior}$   
 19810  $\backslash\text{let}\backslash\text{ainferior}\backslash\text{textainferior}$   
 19811  $\backslash\text{let}\backslash\text{einferior}\backslash\text{texteinferior}$   
 19812  $\backslash\text{let}\backslash\text{oinferior}\backslash\text{textoinferior}$   
 19813  $\backslash\text{let}\backslash\text{xinferior}\backslash\text{textxinferior}$   
 19814  $\backslash\text{let}\backslash\text{schwainferior}\backslash\text{textschwainferior}$   
 19815  $\backslash\text{let}\backslash\text{hinferior}\backslash\text{texthinferior}$   
 19816  $\backslash\text{let}\backslash\text{kinferior}\backslash\text{textkinferior}$   
 19817  $\backslash\text{let}\backslash\text{linferior}\backslash\text{textlinferior}$   
 19818  $\backslash\text{let}\backslash\text{mininferior}\backslash\text{textmininferior}$   
 19819  $\backslash\text{let}\backslash\text{ninferior}\backslash\text{textninferior}$   
 19820  $\backslash\text{let}\backslash\text{pinferior}\backslash\text{textpinferior}$   
 19821  $\backslash\text{let}\backslash\text{sinferior}\backslash\text{textsinferior}$   
 19822  $\backslash\text{let}\backslash\text{tinferior}\backslash\text{texttinferior}$   
 19823  $\backslash\text{let}\backslash\text{hslash}\backslash\text{texthslash}$   
 19824  $\backslash\text{let}\backslash\text{Im}\backslash\text{textIm}$   
 19825  $\backslash\text{let}\backslash\text{ell}\backslash\text{textell}$   
 19826  $\backslash\text{let}\backslash\text{wp}\backslash\text{textwp}$   
 19827  $\backslash\text{let}\backslash\text{Re}\backslash\text{textRe}$   
 19828  $\backslash\text{let}\backslash\text{mho}\backslash\text{textmho}$   
 19829  $\backslash\text{let}\backslash\text{riota}\backslash\text{textriota}$   
 19830  $\backslash\text{let}\backslash\text{Finv}\backslash\text{textFinv}$

19831 \let\aleph\textaleph  
 19832 \let\beth\textbeth  
 19833 \let\gimel\textgimel  
 19834 \let\daleth\textdaleth  
 19835 \let\xfax\textfax  
 19836 \let\Game\textGame  
 19837 \let\leftarrow\textleftarrow  
 19838 \let\uparrow\textuparrow  
 19839 \let\rightarrow\textrightarrow  
 19840 \let\downarrow\textdownarrow  
 19841 \let\leftrightarrow\textleftrightarrow  
 19842 \let\updownarrow\textupdownarrow  
 19843 \let\nwarrow\textnwarrow  
 19844 \let\nearrow\textnearrow  
 19845 \let\searrow\textsearrow  
 19846 \let\swarrow\textswarrow  
 19847 \let\nleftarrow\textnleftarrow  
 19848 \let\nrightarrow\textnrightarrow  
 19849 \let\twoheadleftarrow\texttwoheadleftarrow  
 19850 \let\twoheaduparrow\texttwoheaduparrow  
 19851 \let\twoheadrightarrow\texttwoheadrightarrow  
 19852 \let\twoheaddownarrow\texttwoheaddownarrow  
 19853 \let\leftarrowtail\textleftarrowtail  
 19854 \let\rightarrowtail\textrightarrowtail  
 19855 \let\mapsto\textmapsto  
 19856 \let\hookleftarrow\texthookleftarrow  
 19857 \let\hookrightarrow\texthookrightarrow  
 19858 \let\looparrowleft\textlooparrowleft  
 19859 \let\looparrowright\textlooparrowright  
 19860 \let\nleftrightarrow\textnleftrightarrow  
 19861 \let\lightning\textlightning  
 19862 \let\dlsh\textdlsh  
 19863 \let\curvearrowleft\textcurvearrowleft  
 19864 \let\curvearrowright\textcurvearrowright  
 19865 \let\leftharpoonup\textleftharpoonup  
 19866 \let\leftharpoondown\textleftharpoondown  
 19867 \let\upharpoonright\textupharpoonright  
 19868 \let\upharpoonleft\textupharpoonleft  
 19869 \let\rightharpoonup\textrightharpoonup  
 19870 \let\rightharpoondown\textrightharpoondown  
 19871 \let\downharpoonright\textdownharpoonright  
 19872 \let\downharpoonleft\textdownharpoonleft  
 19873 \let\rightleftarrows\textrightleftarrows  
 19874 \let\updownarrows\textupdownarrows  
 19875 \let\leftrightarrows\textleftrightarrows  
 19876 \let\leftleftarrows\textleftleftarrows  
 19877 \let\upuparrows\textupuparrows  
 19878 \let\rightrightarrows\textrightrightarrows  
 19879 \let\downdownarrows\textdowndownarrows  
 19880 \let\leftrightharpoons\textleftrightharpoons  
 19881 \let\rightleftharpoons\textrightleftharpoons  
 19882 \let\nLeftarrow\textnLeftarrow  
 19883 \let\nLeftrightarrow\textnLeftrightarrow  
 19884 \let\nRrightarrow\textnRrightarrow  
 19885 \let\Leftarrow\textLeftarrow  
 19886 \let\Uparrow\textUparrow  
 19887 \let\Rrightarrow\textRrightarrow

19888  $\Downarrow$   
19889  $\Leftrightarrow$   
19890  $\Uparrow$   
19891  $\Nrightarrow$   
19892  $\Nearrow$   
19893  $\Searrow$   
19894  $\Swarrow$   
19895  $\Lleftarrow$   
19896  $\Rrightarrow$   
19897  $\leftsquigarrow$   
19898  $\rightsquigarrow$   
19899  $\dashleftarrow$   
19900  $\dasheduparrow$   
19901  $\dashrightarrow$   
19902  $\dasheddownarrow$   
19903  $\downuparrows$   
19904  $\forall$   
19905  $\complement$   
19906  $\partial$   
19907  $\exists$   
19908  $\nexists$   
19909  $\emptyset$   
19910  $\triangle$   
19911  $\nabla$   
19912  $\in$   
19913  $\notin$   
19914  $\smallin$   
19915  $\ni$   
19916  $\notowner$   
19917  $\smallowns$   
19918  $\prod$   
19919  $\amalg$   
19920  $\sum$   
19921  $\mp$   
19922  $\dotplus$   
19923  $\setminus$   
19924  $\ast$   
19925  $\circ$   
19926  $\surd$   
19927  $\propto$   
19928  $\infty$   
19929  $\angle$   
19930  $\measuredangle$   
19931  $\sphericalangle$   
19932  $\mid$   
19933  $\nmid$   
19934  $\parallel$   
19935  $\nparallel$   
19936  $\wedge$   
19937  $\vee$   
19938  $\cap$   
19939  $\cup$   
19940  $\int$   
19941  $\iint$   
19942  $\iiint$   
19943  $\oint$   
19944  $\oiint$

19945 \let\ointclockwise\textointclockwise  
 19946 \let\ointctrckwise\textointctrckwise  
 19947 \let\therefore\texttherefore  
 19948 \let\because\textbecause  
 19949 \let\vdotdot\textvdotdot  
 19950 \let\squaredots\textsquaredots  
 19951 \let\dotminus\textdotminus  
 19952 \let\eqcolon\texteqcolon  
 19953 \let\sim\textsim  
 19954 \let\backsim\textbacksim  
 19955 \let\wr\textwr  
 19956 \let\nsim\textnsim  
 19957 \let\simeq\textsimeq  
 19958 \let\cong\textcong  
 19959 \let\ncong\textncong  
 19960 \let\approx\textapprox  
 19961 \let\approxeq\textapproxeq  
 19962 \let\triplesim\texttriplesim  
 19963 \let\backcong\textbackcong  
 19964 \let\asympt\textasympt  
 19965 \let\Bumpeq\textBumpeq  
 19966 \let\bumpeq\textbumpeq  
 19967 \let\doteq\textdoteq  
 19968 \let\doteqdot\textdoteqdot  
 19969 \let\fallingdoteq\textfallingdoteq  
 19970 \let\risingdoteq\textrisingdoteq  
 19971 \let\colonequals\textcolonequals  
 19972 \let\equalscolon\textequalscolon  
 19973 \let\eqcirc\texteqcirc  
 19974 \let\circeq\textcirceq  
 19975 \let\hateq\texthateq  
 19976 \let\triangleeq\texttriangleeq  
 19977 \let\neq\textneq  
 19978 \let\ne\textne  
 19979 \let\equiv\textequiv  
 19980 \let\nequiv\textnequiv  
 19981 \let\leq\textleq  
 19982 \let\le\textle  
 19983 \let\geq\textgeq  
 19984 \let\ge\textge  
 19985 \let\leqq\textleqq  
 19986 \let\geqq\textgeqq  
 19987 \let\lneqq\textlneqq  
 19988 \let\gneqq\textgneqq  
 19989 \let\ll\textll  
 19990 \let\gg\textgg  
 19991 \let\between\textbetween  
 19992 \let\nless\textnless  
 19993 \let\ngtr\textngtr  
 19994 \let\nleq\textnleq  
 19995 \let\ngeq\textngeq  
 19996 \let\lesssim\textlesssim  
 19997 \let\gtrsim\textgtrsim  
 19998 \let\lessgtr\textlessgtr  
 19999 \let\gtrless\textgtrless  
 20000 \let\prec\textprec  
 20001 \let\succ\textsucc

20002 \let\preccurlyeq\textpreccurlyeq  
 20003 \let\succcurlyeq\textsucccurlyeq  
 20004 \let\precsim\textprecsim  
 20005 \let\succsim\textsuccsim  
 20006 \let\nprec\textnprec  
 20007 \let\nsucc\textnsucc  
 20008 \let\subset\textsubset  
 20009 \let\supset\textsupset  
 20010 \let\subset\textsubset  
 20011 \let\supset\textsupset  
 20012 \let\subseteq\textsubseteq  
 20013 \let\supseteq\textsupseteq  
 20014 \let\nsubseteq\textnsubseteq  
 20015 \let\nsupseteq\textnsupseteq  
 20016 \let\subsetneq\textsubsetneq  
 20017 \let\supsetneq\textsupsetneq  
 20018 \let\cupdot\textcupdot  
 20019 \let\cupplus\textcupplus  
 20020 \let\sqsubset\textsqssubset  
 20021 \let\sqsupset\textsqsupset  
 20022 \let\sqsubseteq\textsqssubseteq  
 20023 \let\sqsupseteq\textsqsupseteq  
 20024 \let\sqcap\textsqcap  
 20025 \let\sqcup\textsqcup  
 20026 \let\oplus\textoplus  
 20027 \let\ominus\textominus  
 20028 \let\otimes\textotimes  
 20029 \let\oslash\textoslash  
 20030 \let\odot\textodot  
 20031 \let\circledcirc\textcircledcirc  
 20032 \let\circledast\textcircledast  
 20033 \let\circleddash\textcircleddash  
 20034 \let\boxplus\textboxplus  
 20035 \let\boxminus\textboxminus  
 20036 \let\boxtimes\textboxtimes  
 20037 \let\boxdot\textboxdot  
 20038 \let\vdash\textvdash  
 20039 \let\dashv\textdashv  
 20040 \let\top\texttop  
 20041 \let\bot\textbot  
 20042 \let\vDash\textvDash  
 20043 \let\Vdash\textVdash  
 20044 \let\Vvdash\textVvdash  
 20045 \let\VDash\textVDash  
 20046 \let\nvdash\textnvdash  
 20047 \let\nvDash\textnvDash  
 20048 \let\NVdash\textNVdash  
 20049 \let\lhd\textlhd  
 20050 \let\rhd\textrhd  
 20051 \let\unlhd\textunlhd  
 20052 \let\unrhd\textunrhd  
 20053 \let\multimapdotbothA\textmultimapdotbothA  
 20054 \let\multimapdotbothB\textmultimapdotbothB  
 20055 \let\multimap\textmultimap  
 20056 \let\veebar\textveebar  
 20057 \let\barwedge\textbarwedge  
 20058 \let\star\textstar

20059  $\backslash\text{let}\backslash\text{divideontimes}\backslash\text{textdivideontimes}$   
 20060  $\backslash\text{let}\backslash\text{bowtie}\backslash\text{textbowtie}$   
 20061  $\backslash\text{let}\backslash\text{ltimes}\backslash\text{textltimes}$   
 20062  $\backslash\text{let}\backslash\text{rtimes}\backslash\text{textrtimes}$   
 20063  $\backslash\text{let}\backslash\text{leftthreetimes}\backslash\text{textleftthreetimes}$   
 20064  $\backslash\text{let}\backslash\text{rightthreetimes}\backslash\text{textrightthreetimes}$   
 20065  $\backslash\text{let}\backslash\text{backsimeq}\backslash\text{textbacksimeq}$   
 20066  $\backslash\text{let}\backslash\text{curlyvee}\backslash\text{textcurlyvee}$   
 20067  $\backslash\text{let}\backslash\text{curlywedge}\backslash\text{textcurlywedge}$   
 20068  $\backslash\text{let}\backslash\text{Subset}\backslash\text{textSubset}$   
 20069  $\backslash\text{let}\backslash\text{Supset}\backslash\text{textSupset}$   
 20070  $\backslash\text{let}\backslash\text{Cap}\backslash\text{textCap}$   
 20071  $\backslash\text{let}\backslash\text{Cup}\backslash\text{textCup}$   
 20072  $\backslash\text{let}\backslash\text{pitchfork}\backslash\text{textpitchfork}$   
 20073  $\backslash\text{let}\backslash\text{lessdot}\backslash\text{textlessdot}$   
 20074  $\backslash\text{let}\backslash\text{gtrdot}\backslash\text{textgtrdot}$   
 20075  $\backslash\text{let}\backslash\text{lll}\backslash\text{textlll}$   
 20076  $\backslash\text{let}\backslash\text{ggg}\backslash\text{textggg}$   
 20077  $\backslash\text{let}\backslash\text{lesseqgtr}\backslash\text{textlesseqgtr}$   
 20078  $\backslash\text{let}\backslash\text{gtreqless}\backslash\text{textgtreqless}$   
 20079  $\backslash\text{let}\backslash\text{curlyeqprec}\backslash\text{textcurlyeqprec}$   
 20080  $\backslash\text{let}\backslash\text{curlyeqsucc}\backslash\text{textcurlyeqsucc}$   
 20081  $\backslash\text{let}\backslash\text{npreccurlyeq}\backslash\text{textnpreccurlyeq}$   
 20082  $\backslash\text{let}\backslash\text{nsucccurlyeq}\backslash\text{textnsucccurlyeq}$   
 20083  $\backslash\text{let}\backslash\text{nqsubseteq}\backslash\text{textnqsubseteq}$   
 20084  $\backslash\text{let}\backslash\text{nqsupseteq}\backslash\text{textnqsupseteq}$   
 20085  $\backslash\text{let}\backslash\text{sqsubsetneq}\backslash\text{textsqsubsetneq}$   
 20086  $\backslash\text{let}\backslash\text{sqsupsetneq}\backslash\text{textsqsupsetneq}$   
 20087  $\backslash\text{let}\backslash\text{lnsim}\backslash\text{textlnsim}$   
 20088  $\backslash\text{let}\backslash\text{gnsim}\backslash\text{textgnsim}$   
 20089  $\backslash\text{let}\backslash\text{precnsim}\backslash\text{textprecnsim}$   
 20090  $\backslash\text{let}\backslash\text{succnsim}\backslash\text{textsuccnsim}$   
 20091  $\backslash\text{let}\backslash\text{ntriangleleft}\backslash\text{textntriangleleft}$   
 20092  $\backslash\text{let}\backslash\text{ntriangleright}\backslash\text{textntriangleright}$   
 20093  $\backslash\text{let}\backslash\text{ntrianglelefteq}\backslash\text{textntrianglelefteq}$   
 20094  $\backslash\text{let}\backslash\text{ntrianglerighteq}\backslash\text{textntrianglerighteq}$   
 20095  $\backslash\text{let}\backslash\text{vdots}\backslash\text{textvdots}$   
 20096  $\backslash\text{let}\backslash\text{cdots}\backslash\text{textcdots}$   
 20097  $\backslash\text{let}\backslash\text{udots}\backslash\text{textudots}$   
 20098  $\backslash\text{let}\backslash\text{ddots}\backslash\text{textddots}$   
 20099  $\backslash\text{let}\backslash\text{barin}\backslash\text{textbarin}$   
 20100  $\backslash\text{let}\backslash\text{diameter}\backslash\text{textdiameter}$   
 20101  $\backslash\text{let}\backslash\text{backneg}\backslash\text{textbackneg}$   
 20102  $\backslash\text{let}\backslash\text{invbackneg}\backslash\text{textinvbackneg}$   
 20103  $\backslash\text{let}\backslash\text{clock}\backslash\text{textclock}$   
 20104  $\backslash\text{let}\backslash\text{ulcorner}\backslash\text{textulcorner}$   
 20105  $\backslash\text{let}\backslash\text{urcorner}\backslash\text{texturcorner}$   
 20106  $\backslash\text{let}\backslash\text{llcorner}\backslash\text{textllcorner}$   
 20107  $\backslash\text{let}\backslash\text{lrcorner}\backslash\text{textlrcorner}$   
 20108  $\backslash\text{let}\backslash\text{frown}\backslash\text{textfrown}$   
 20109  $\backslash\text{let}\backslash\text{smile}\backslash\text{textsmile}$   
 20110  $\backslash\text{let}\backslash\text{Keyboard}\backslash\text{textKeyboard}$   
 20111  $\backslash\text{let}\backslash\text{langle}\backslash\text{textlangle}$   
 20112  $\backslash\text{let}\backslash\text{rangle}\backslash\text{textrangle}$   
 20113  $\backslash\text{let}\backslash\text{APLinv}\backslash\text{textAPLinv}$   
 20114  $\backslash\text{let}\backslash\text{notslash}\backslash\text{textnotslash}$   
 20115  $\backslash\text{let}\backslash\text{notbackslash}\backslash\text{textnotbackslash}$

20116 \let\boxbackslash\textboxbackslash  
 20117 \let\APLleftarrowbox\textAPLleftarrowbox  
 20118 \let\APLrightarrowbox\textAPLrightarrowbox  
 20119 \let\APLuparrowbox\textAPLuparrowbox  
 20120 \let\APLdownarrowbox\textAPLdownarrowbox  
 20121 \let\APLinput\textAPLinput  
 20122 \let\Request\textRequest  
 20123 \let\bbslash\textbbslash  
 20124 \let\bigtriangleup\textbigtriangleup  
 20125 \let\triangleright\texttriangleright  
 20126 \let\bigtriangledown\textbigtriangledown  
 20127 \let\triangleleft\texttriangleleft  
 20128 \let\diamond\textdiamond  
 20129 \let\lozenge\textlozenge  
 20130 \let\openbullet\textopenbullet  
 20131 \let\boxbar\textboxbar  
 20132 \let\bigcircle\textbigcircle  
 20133 \let\Cloud\textCloud  
 20134 \let\FiveStar\textFiveStar  
 20135 \let\FiveStarOpen\textFiveStarOpen  
 20136 \let\Phone\textPhone  
 20137 \let\Checkedbox\textCheckedbox  
 20138 \let\Crossedbox\textCrossedbox  
 20139 \let\Coffeecup\textCoffeecup  
 20140 \let\HandCuffLeft\textHandCuffLeft  
 20141 \let\HandCuffRight\textHandCuffRight  
 20142 \let\HandLeft\textHandLeft  
 20143 \let\HandRight\textHandRight  
 20144 \let\Radioactivity\textRadioactivity  
 20145 \let\Biohazard\textBiohazard  
 20146 \let\Ankh\textAnkh  
 20147 \let\Yinyang\textYinyang  
 20148 \let\frownie\textfrownie  
 20149 \let\smiley\textsmiley  
 20150 \let\blacksmiley\textblacksmiley  
 20151 \let\sun\textsun  
 20152 \let\leftmoon\textleftmoon  
 20153 \let\rightmoon\textrightmoon  
 20154 \let\mercury\textmercury  
 20155 \let\earth\textearth  
 20156 \let\male\textmale  
 20157 \let\jupiter\textjupiter  
 20158 \let\saturn\textsaturn  
 20159 \let\uranus\texturanus  
 20160 \let\neptune\textneptune  
 20161 \let\pluto\textpluto  
 20162 \let\aries\textaries  
 20163 \let\taurus\texttaurus  
 20164 \let\gemini\textgemini  
 20165 \let\cancer\textcancer  
 20166 \let\leo\textleo  
 20167 \let\virgo\textvirgo  
 20168 \let\libra\textlibra  
 20169 \let\scorpio\textscorpio  
 20170 \let\sagittarius\textsagittarius  
 20171 \let\capricorn\textcapricorn  
 20172 \let\aquarius\textaquarius



20173 \let\pisces\textpisces  
 20174 \let\quarternote\textquarternote  
 20175 \let\twonotes\texttwonotes  
 20176 \let\sixteenthnote\textsixteenthnote  
 20177 \let\flat\textflat  
 20178 \let\natural\textnatural  
 20179 \let\sharp\textsharp  
 20180 \let\recycle\textrecycle  
 20181 \let\Wheelchair\textWheelchair  
 20182 \let\Flag\textFlag  
 20183 \let\ds military\textds military  
 20184 \let\ds medical\textds medical  
 20185 \let\ds juridical\textds juridical  
 20186 \let\ds chemical\textds chemical  
 20187 \let\ds biological\textds biological  
 20188 \let\ds commercial\textds commercial  
 20189 \let\manstar\textmanstar  
 20190 \let\danger\textdanger  
 20191 \let\FemaleFemale\textFemaleFemale  
 20192 \let\MaleMale\textMaleMale  
 20193 \let\FemaleMale\textFemaleMale  
 20194 \let\Hermaphrodite\textHermaphrodite  
 20195 \let\SunCload\textSunCload  
 20196 \let\Rain\textRain  
 20197 \let\noway\textnoway  
 20198 \let\Mountain\textMountain  
 20199 \let\Tent\textTent  
 20200 \let\ScissorRight\textScissorRight  
 20201 \let\ScissorRightBrokenTop\textScissorRightBrokenTop  
 20202 \let\ScissorHollowRight\textScissorHollowRight  
 20203 \let\PhoneHandset\textPhoneHandset  
 20204 \let\Tape\textTape  
 20205 \let\Plane\textPlane  
 20206 \let\Envelope\textEnvelope  
 20207 \let\Peace\textPeace  
 20208 \let\Writinghand\textWritinghand  
 20209 \let\PencilRightDown\textPencilRightDown  
 20210 \let\PencilRight\textPencilRight  
 20211 \let\PencilRightUp\textPencilRightUp  
 20212 \let\NibRight\textNibRight  
 20213 \let\NibSolidRight\textNibSolidRight  
 20214 \let\Checkmark\textCheckmark  
 20215 \let\CheckmarkBold\textCheckmarkBold  
 20216 \let\XSolid\textXSolid  
 20217 \let\XSolidBold\textXSolidBold  
 20218 \let\XSolidBrush\textXSolidBrush  
 20219 \let\PlusOutline\textPlusOutline  
 20220 \let\Plus\textPlus  
 20221 \let\PlusThinCenterOpen\textPlusThinCenterOpen  
 20222 \let\PlusCenterOpen\textPlusCenterOpen  
 20223 \let\Cross\textCross  
 20224 \let\CrossOpenShadow\textCrossOpenShadow  
 20225 \let\CrossOutline\textCrossOutline  
 20226 \let\CrossMaltese\textCrossMaltese  
 20227 \let\DavidStar\textDavidStar  
 20228 \let\FourAsterisk\textFourAsterisk  
 20229 \let\JackStar\textJackStar

20230 \let\JackStarBold\textJackStarBold  
 20231 \let\ClowerTips\textClowerTips  
 20232 \let\FourStar\textFourStar  
 20233 \let\FourStarOpen\textFourStarOpen  
 20234 \let\FiveStarOpenCircled\textFiveStarOpenCircled  
 20235 \let\FiveStarCenterOpen\textFiveStarCenterOpen  
 20236 \let\FiveStarOpenDotted\textFiveStarOpenDotted  
 20237 \let\FiveStarOutline\textFiveStarOutline  
 20238 \let\FiveStarOutlineHeavy\textFiveStarOutlineHeavy  
 20239 \let\FiveStarConvex\textFiveStarConvex  
 20240 \let\FiveStarShadow\textFiveStarShadow  
 20241 \let\AsteriskBold\textAsteriskBold  
 20242 \let\AsteriskCenterOpen\textAsteriskCenterOpen  
 20243 \let\EightStarTaper\textEightStarTaper  
 20244 \let\EightStarConvex\textEightStarConvex  
 20245 \let\SixStar\textSixStar  
 20246 \let\EightStar\textEightStar  
 20247 \let\EightStarBold\textEightStarBold  
 20248 \let\TwelveStar\textTwelveStar  
 20249 \let\SixteenStarLight\textSixteenStarLight  
 20250 \let\SixFlowerPetalRemoved\textSixFlowerPetalRemoved  
 20251 \let\SixFlowerOpenCenter\textSixFlowerOpenCenter  
 20252 \let\Asterisk\textAsterisk  
 20253 \let\SixFlowerAlternate\textSixFlowerAlternate  
 20254 \let\FiveFlowerPetal\textFiveFlowerPetal  
 20255 \let\FiveFlowerOpen\textFiveFlowerOpen  
 20256 \let\EightFlowerPetal\textEightFlowerPetal  
 20257 \let\SunshineOpenCircled\textSunshineOpenCircled  
 20258 \let\SixFlowerAltPetal\textSixFlowerAltPetal  
 20259 \let\SnowflakeChevron\textSnowflakeChevron  
 20260 \let\Snowflake\textSnowflake  
 20261 \let\SnowflakeChevronBold\textSnowflakeChevronBold  
 20262 \let\Sparkle\textSparkle  
 20263 \let\SparkleBold\textSparkleBold  
 20264 \let\AsteriskRoundedEnds\textAsteriskRoundedEnds  
 20265 \let\EightFlowerPetalRemoved\textEightFlowerPetalRemoved  
 20266 \let\EightAsterisk\textEightAsterisk  
 20267 \let\CircleShadow\textCircleShadow  
 20268 \let\SquareShadowBottomRight\textSquareShadowBottomRight  
 20269 \let\SquareTopRight\textSquareTopRight  
 20270 \let\SquareCastShadowBottomRight\textSquareCastShadowBottomRight  
 20271 \let\SquareCastShadowTopRight\textSquareCastShadowTopRight  
 20272 \let\DiamandSolid\textDiamandSolid  
 20273 \let\RectangleThin\textRectangleThin  
 20274 \let\Rectangle\textRectangle  
 20275 \let\RectangleBold\textRectangleBold  
 20276 \let\perp\textperp  
 20277 \let\veedot\textveedot  
 20278 \let\wedgedot\textwedgedot  
 20279 \let\leftspoon\textleftspoon  
 20280 \let\lbrackdbl\textlbrackdbl  
 20281 \let\rbrackdbl\textrbrackdbl  
 20282 \let\circlearrowleft\textcirclearrowleft  
 20283 \let\circlearrowright\textcirclearrowright  
 20284 \let\longleftarrow\textlongleftarrow  
 20285 \let\longrightarrow\textlongrightarrow  
 20286 \let\longleftarrow\textlongleftarrow

20287  $\backslash\text{let}\backslash\text{Longleftarrow}\backslash\text{textLongleftarrow}$   
 20288  $\backslash\text{let}\backslash\text{Longrightarrow}\backslash\text{textLongrightarrow}$   
 20289  $\backslash\text{let}\backslash\text{Longleftrightarrow}\backslash\text{textLongleftrightarrow}$   
 20290  $\backslash\text{let}\backslash\text{longmapsto}\backslash\text{textlongmapsto}$   
 20291  $\backslash\text{let}\backslash\text{Longmapsfrom}\backslash\text{textLongmapsfrom}$   
 20292  $\backslash\text{let}\backslash\text{Longmapsto}\backslash\text{textLongmapsto}$   
 20293  $\backslash\text{let}\backslash\text{nwsearrow}\backslash\text{textnwsearrow}$   
 20294  $\backslash\text{let}\backslash\text{neswarrow}\backslash\text{textneswarrow}$   
 20295  $\backslash\text{let}\backslash\text{hookrightarrow}\backslash\text{texthookrightarrow}$   
 20296  $\backslash\text{let}\backslash\text{hookleftarrow}\backslash\text{texthookleftarrow}$   
 20297  $\backslash\text{let}\backslash\text{hooksearrow}\backslash\text{texthooksearrow}$   
 20298  $\backslash\text{let}\backslash\text{hookswarrow}\backslash\text{texthookswarrow}$   
 20299  $\backslash\text{let}\backslash\text{curvearrowright}\backslash\text{textcurvearrowright}$   
 20300  $\backslash\text{let}\backslash\text{curvearrowleft}\backslash\text{textcurvearrowleft}$   
 20301  $\backslash\text{let}\backslash\text{curvearrowright}\backslash\text{textcurvearrowright}$   
 20302  $\backslash\text{let}\backslash\text{curvearrowleft}\backslash\text{textcurvearrowleft}$   
 20303  $\backslash\text{let}\backslash\text{curvearrowdown}\backslash\text{textcurvearrowdown}$   
 20304  $\backslash\text{let}\backslash\text{curvearrowdown}\backslash\text{textcurvearrowdown}$   
 20305  $\backslash\text{let}\backslash\text{curvearrowleft}\backslash\text{textcurvearrowleft}$   
 20306  $\backslash\text{let}\backslash\text{curvearrowright}\backslash\text{textcurvearrowright}$   
 20307  $\backslash\text{let}\backslash\text{leftrightharpoon}\backslash\text{textleftrightharpoon}$   
 20308  $\backslash\text{let}\backslash\text{rightleftharpoon}\backslash\text{textrightleftharpoon}$   
 20309  $\backslash\text{let}\backslash\text{updownharpoonleftright}\backslash\text{textupdownharpoonleftright}$   
 20310  $\backslash\text{let}\backslash\text{updownharpoonleftright}\backslash\text{textupdownharpoonleftright}$   
 20311  $\backslash\text{let}\backslash\text{leftleftharpoons}\backslash\text{textleftleftharpoons}$   
 20312  $\backslash\text{let}\backslash\text{upupharpoons}\backslash\text{textupupharpoons}$   
 20313  $\backslash\text{let}\backslash\text{rightrightarpoons}\backslash\text{textrightarpoons}$   
 20314  $\backslash\text{let}\backslash\text{downdownharpoons}\backslash\text{textdowndownharpoons}$   
 20315  $\backslash\text{let}\backslash\text{leftbarharpoon}\backslash\text{textleftbarharpoon}$   
 20316  $\backslash\text{let}\backslash\text{barleftharpoon}\backslash\text{textbarleftharpoon}$   
 20317  $\backslash\text{let}\backslash\text{rightbarharpoon}\backslash\text{textrightbarharpoon}$   
 20318  $\backslash\text{let}\backslash\text{barriharpoon}\backslash\text{textbarriharpoon}$   
 20319  $\backslash\text{let}\backslash\text{updownharpoons}\backslash\text{textupdownharpoons}$   
 20320  $\backslash\text{let}\backslash\text{downupharpoons}\backslash\text{textdownupharpoons}$   
 20321  $\backslash\text{let}\backslash\text{obar}\backslash\text{textobar}$   
 20322  $\backslash\text{let}\backslash\text{obslash}\backslash\text{textobslash}$   
 20323  $\backslash\text{let}\backslash\text{obot}\backslash\text{textobot}$   
 20324  $\backslash\text{let}\backslash\text{olessthan}\backslash\text{textolessthan}$   
 20325  $\backslash\text{let}\backslash\text{ogreaterthan}\backslash\text{textogreaterthan}$   
 20326  $\backslash\text{let}\backslash\text{boxslash}\backslash\text{textboxslash}$   
 20327  $\backslash\text{let}\backslash\text{boxbslash}\backslash\text{textboxbslash}$   
 20328  $\backslash\text{let}\backslash\text{boxast}\backslash\text{textboxast}$   
 20329  $\backslash\text{let}\backslash\text{boxcircle}\backslash\text{textboxcircle}$   
 20330  $\backslash\text{let}\backslash\text{boxbox}\backslash\text{textboxbox}$   
 20331  $\backslash\text{let}\backslash\text{multimapboth}\backslash\text{textmultimapboth}$   
 20332  $\backslash\text{let}\backslash\text{shuffle}\backslash\text{textshuffle}$   
 20333  $\backslash\text{let}\backslash\text{upplus}\backslash\text{textupplus}$   
 20334  $\backslash\text{let}\backslash\text{bigdoublewedge}\backslash\text{textbigdoublewedge}$   
 20335  $\backslash\text{let}\backslash\text{bigdoublevee}\backslash\text{textbigdoublevee}$   
 20336  $\backslash\text{let}\backslash\text{Join}\backslash\text{textJoin}$   
 20337  $\backslash\text{let}\backslash\text{circplus}\backslash\text{textcircplus}$   
 20338  $\backslash\text{let}\backslash\text{minusdot}\backslash\text{textminusdot}$   
 20339  $\backslash\text{let}\backslash\text{dotimes}\backslash\text{textdotimes}$   
 20340  $\backslash\text{let}\backslash\text{dimes}\backslash\text{textdimes}$   
 20341  $\backslash\text{let}\backslash\text{odiv}\backslash\text{textodiv}$   
 20342  $\backslash\text{let}\backslash\text{invneg}\backslash\text{textinvneg}$   
 20343  $\backslash\text{let}\backslash\text{sqdoublecap}\backslash\text{textsqdoublecap}$

20344  $\backslash\mathrm{capdot}\backslash\mathrm{textcapdot}$   
 20345  $\backslash\mathrm{sqdoublecup}\backslash\mathrm{textsdoublecup}$   
 20346  $\backslash\mathrm{doublewedge}\backslash\mathrm{textdoublewedge}$   
 20347  $\backslash\mathrm{doublevee}\backslash\mathrm{textdoublevee}$   
 20348  $\backslash\mathrm{doublebarwedge}\backslash\mathrm{textdoublebarwedge}$   
 20349  $\backslash\mathrm{veedoublebar}\backslash\mathrm{textveedoublebar}$   
 20350  $\backslash\mathrm{eqdot}\backslash\mathrm{texteqdot}$   
 20351  $\backslash\mathrm{coloncolonequals}\backslash\mathrm{textcoloncolonequals}$   
 20352  $\backslash\mathrm{leqslant}\backslash\mathrm{textleqslant}$   
 20353  $\backslash\mathrm{geqslant}\backslash\mathrm{textgeqslant}$   
 20354  $\backslash\mathrm{lessapprox}\backslash\mathrm{textlessapprox}$   
 20355  $\backslash\mathrm{gtrapprox}\backslash\mathrm{textgtrapprox}$   
 20356  $\backslash\mathrm{lneq}\backslash\mathrm{textlneq}$   
 20357  $\backslash\mathrm{gneq}\backslash\mathrm{textgneq}$   
 20358  $\backslash\mathrm{lnapprox}\backslash\mathrm{textlnapprox}$   
 20359  $\backslash\mathrm{gnapprox}\backslash\mathrm{textgnapprox}$   
 20360  $\backslash\mathrm{lesseqqgtr}\backslash\mathrm{textlesseqqgtr}$   
 20361  $\backslash\mathrm{gtreqqlless}\backslash\mathrm{textgtreqqlless}$   
 20362  $\backslash\mathrm{eqslantless}\backslash\mathrm{texteqslantless}$   
 20363  $\backslash\mathrm{eqslantgtr}\backslash\mathrm{texteqslantgtr}$   
 20364  $\backslash\mathrm{leftslice}\backslash\mathrm{textleftslice}$   
 20365  $\backslash\mathrm{rightslice}\backslash\mathrm{textrightslice}$   
 20366  $\backslash\mathrm{preceq}\backslash\mathrm{textpreceq}$   
 20367  $\backslash\mathrm{succeq}\backslash\mathrm{textsucceq}$   
 20368  $\backslash\mathrm{precneq}\backslash\mathrm{textprecneq}$   
 20369  $\backslash\mathrm{succneq}\backslash\mathrm{textsuccneq}$   
 20370  $\backslash\mathrm{preceqq}\backslash\mathrm{textpreceqq}$   
 20371  $\backslash\mathrm{succeqq}\backslash\mathrm{textsucceqq}$   
 20372  $\backslash\mathrm{precneqq}\backslash\mathrm{textprecneqq}$   
 20373  $\backslash\mathrm{succneqq}\backslash\mathrm{textsuccneqq}$   
 20374  $\backslash\mathrm{precapprox}\backslash\mathrm{textprecapprox}$   
 20375  $\backslash\mathrm{precnapprox}\backslash\mathrm{textprecnapprox}$   
 20376  $\backslash\mathrm{succnapprox}\backslash\mathrm{textsuccnapprox}$   
 20377  $\backslash\mathrm{subseteqq}\backslash\mathrm{textsubseteqq}$   
 20378  $\backslash\mathrm{supseteqq}\backslash\mathrm{textsupseteqq}$   
 20379  $\backslash\mathrm{dashV}\backslash\mathrm{textdashV}$   
 20380  $\backslash\mathrm{Dashv}\backslash\mathrm{textDashv}$   
 20381  $\backslash\mathrm{DashV}\backslash\mathrm{textDashV}$   
 20382  $\backslash\mathrm{downmodels}\backslash\mathrm{textdownmodels}$   
 20383  $\backslash\mathrm{upmodels}\backslash\mathrm{textupmodels}$   
 20384  $\backslash\mathrm{upspoon}\backslash\mathrm{textupspoon}$   
 20385  $\backslash\mathrm{interleave}\backslash\mathrm{textinterleave}$   
 20386  $\backslash\mathrm{slash}\backslash\mathrm{textslash}$   
 20387  $\backslash\mathrm{jinferior}\backslash\mathrm{textjinferior}$   
 20388  $\backslash\mathrm{slashdiv}\backslash\mathrm{textslashdiv}$   
 20389  $\backslash\mathrm{fivedots}\backslash\mathrm{textfivedots}$   
 20390  $\backslash\mathrm{oo}\backslash\mathrm{textoo}$   
 20391  $\backslash\mathrm{GaPa}\backslash\mathrm{textGaPa}$   
 20392  $\backslash\mathrm{HaPa}\backslash\mathrm{textHaPa}$   
 20393  $\backslash\mathrm{ViPa}\backslash\mathrm{textViPa}$   
 20394  $\backslash\mathrm{AcPa}\backslash\mathrm{textAcPa}$   
 20395  $\backslash\mathrm{SePa}\backslash\mathrm{textSePa}$   
 20396  $\backslash\mathrm{ZwPa}\backslash\mathrm{textZwPa}$   
 20397  $\backslash\mathrm{fullnote}\backslash\mathrm{textfullnote}$   
 20398  $\backslash\mathrm{halfnote}\backslash\mathrm{texthalfnote}$   
 20399  $\backslash\mathrm{Vier}\backslash\mathrm{textVier}$   
 20400  $\backslash\mathrm{Acht}\backslash\mathrm{textAcht}$

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20401 \let\Sech\textSech
20402 \let\Zwdr\textZwdr
20403 \let\Mundus\textMundus
20404 \let\Womanface\textWomanface
20405 \let\Fire\textFire
20406 \let\Bicycle\textBicycle
20407 \let\Gentsroom\textGentsroom
20408 \let\Ladiesroom\textLadiesroom
20409 \let\ccnc\textccnc
20410 \let\ccsa\textccsa
20411 \let\CircledA\textCircledA
20412 \let\Info\textInfo
20413 \let\neg\textneg
20414 \let\times\texttimes
20415 \let\div\textdiv
20416 \let\pm\textpm
20417 \let\cdot\textcdot
20418 }% \psdmapshortnames
20419 \newcommand*{\psdaliasnames}{%
20420 \let\epsdice\HyPsd@DieFace
20421 \let\fcdice\HyPsd@DieFace
20422 \let\MoonPha\HyPsd@MoonPha
20423 \let\mathdollar\textdollar
20424 \let\binampersand\textampersand
20425 \let\with\textampersand
20426 \let\mathunderscore\textunderscore
20427 \let\textvertline\textbar
20428 \let\mathsterling\textsterling
20429 \let\pounds\textsterling
20430 \let\brokenvert\textbrokenbar
20431 \let\mathsection\textsection
20432 \let\S\textsection
20433 \let\mathparagraph\textparagraph
20434 \let\vartimes\textmultiply
20435 \let\eth\dh
20436 \let\crossd\textcrd
20437 \let\textbard\textcrd
20438 \let\bard\textcrd
20439 \let\textcrh\texthbar
20440 \let\crossh\texthbar
20441 \let\planck\texthbar
20442 \let\eng\ng
20443 \let\engma\ng
20444 \let\crossb\textcrb
20445 \let\textbarb\textcrb
20446 \let\barb\textcrb
20447 \let\hv\texthvligh
20448 \let\hausak\texthtk
20449 \let\crossnilambda\textcrlambda
20450 \let\barlambda\textcrlambda
20451 \let\lambdabar\textcrlambda
20452 \let\lambdaslash\textcrlambda
20453 \let\textnrleg\textPUnrleg
20454 \let\textpipevar\textpipe
20455 \let\textdoublepipevar\textdoublepipe
20456 \let\textdoublebarpipevar\textdoublebarpipe
20457 \let\textcrg\textgslash

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20458 \let\textdblig\textPUdblig  
 20459 \let\textqplig\textPUqplig  
 20460 \let\textcentoldstyle\textslashc  
 20461 \let\textbarc\textslashc  
 20462 \let\inva\textturna  
 20463 \let\vara\textscripta  
 20464 \let\invscripta\textturnscripta  
 20465 \let\rotvara\textturnscripta  
 20466 \let\hookb\texthtb  
 20467 \let\hausab\texthtb  
 20468 \let\varopeno\textopeno  
 20469 \let\curlyc\textctc  
 20470 \let\taild\textrtaild  
 20471 \let\hookd\texthtd  
 20472 \let\hausad\texthtd  
 20473 \let\er\textrhooschwa  
 20474 \let\epsi\textniepsilon  
 20475 \let\hookrepsilon\textrhoosepsilon  
 20476 \let\closedrepsilon\textcloserepsilon  
 20477 \let\barj\textbardotlessj  
 20478 \let\hookg\texthtg  
 20479 \let\varg\textscriptg  
 20480 \let\vod\textipagamma  
 20481 \let\invh\textturnh  
 20482 \let\udesc\textturnh  
 20483 \let\hookh\texthth  
 20484 \let\voicedh\texthth  
 20485 \let\hookheng\texththeng  
 20486 \let\ibar\textbari  
 20487 \let\vari\textniota  
 20488 \let\tildel\textltilde  
 20489 \let\latfric\textbeltl  
 20490 \let\tail\textrtail  
 20491 \let\lz\textlyoghlig  
 20492 \let\invm\textturnm  
 20493 \let\rotm\textturnm  
 20494 \let\legm\textturnmrleg  
 20495 \let\labdentalnas\textltailm  
 20496 \let\emgma\textltailm  
 20497 \let\nj\textltailn  
 20498 \let\enya\textltailn  
 20499 \let\tailn\textrtailn  
 20500 \let\closedniomega\textcloseomega  
 20501 \let\varomega\textcloseomega  
 20502 \let\invr\textturnr  
 20503 \let\rotr\textturnr  
 20504 \let\invlegr\textturnlonglegr  
 20505 \let\tailinvr\textturnrrtail  
 20506 \let\legr\textlonglegr  
 20507 \let\tailr\textrtailr  
 20508 \let\flapr\textfishhookr  
 20509 \let\flap\textfishhookr  
 20510 \let\tails\textrtails  
 20511 \let\curlyesh\textctesh  
 20512 \let\clickt\textturnt  
 20513 \let\tailt\textrtailt  
 20514 \let\ubar\textbaru

20515 \let\rotOmega\textniupsilon  
 20516 \let\invv\textturnv  
 20517 \let\pwedge\textturnv  
 20518 \let\invw\textturnw  
 20519 \let\rotw\textturnw  
 20520 \let\invy\textturny  
 20521 \let\roty\textturny  
 20522 \let\tailz\textrtailz  
 20523 \let\curlyz\textctz  
 20524 \let\curlyyogh\textctyogh  
 20525 \let\ejective\textglotstop  
 20526 \let\glottal\textglotstop  
 20527 \let\reveject\textrevglotstop  
 20528 \let\clickc\textstretchc  
 20529 \let\textstretchcvar\textstretchc  
 20530 \let\clickb\textbullseye  
 20531 \let\textObullseye\textbullseye  
 20532 \let\textctjvar\textctj  
 20533 \let\textturnsck\textturnk  
 20534 \let\dz\textdzlig  
 20535 \let\tesh\textteshlig  
 20536 \let\digamma\textdigammagreek  
 20537 \let\hardsign\cyrhrdsn  
 20538 \let\softsign\cyrsoftsn  
 20539 \let\hebsin\hebshin  
 20540 \let\textsck\textPUsc  
 20541 \let\textscm\textPUscm  
 20542 \let\textscp\textPUscp  
 20543 \let\textrevscr\textPUrevscr  
 20544 \let\textrhooca\textPURhooka  
 20545 \let\textrhooke\textPURhooka  
 20546 \let\textrhookepsilon\textPURhookepsilon  
 20547 \let\textrhoookopeno\textPURhookopeno  
 20548 \let\textdoublevertline\textbardbl  
 20549 \let\dag\textdagger  
 20550 \let\ddagger\textdaggerdbl  
 20551 \let\ddag\textdaggerdbl  
 20552 \let\mathellipsis\textellipsis  
 20553 \let\bindnasrepma\textinvamp  
 20554 \let\parr\textinvamp  
 20555 \let\textglobrise\textnearrow  
 20556 \let\textglobfall\textsearrow  
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 20558 \let\dashedleftarrow\textdashleftarrow  
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 20561 \let\owns\textni  
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20666 \let\Ganz\textfullnote
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20668 }% \psdaliasnames
20669 </psdextra>

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## 52 End of file hycheck.tex

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