

# Hypertext marks in $\LaTeX$

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<https://github.com/latex3/hyperref/issues>

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## 1 Documentation overview for hyperref

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

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

**ChangeLog** This file records the version history.

**Bookmark talk, slides** Slides for the talk “PDF information and navigation elements with hyperref, pdfTeX and thumbpdf” at EuroTeX 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  $\LaTeX$ ”

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### 3 File hyccheck.tex

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

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

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

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

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

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

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

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

`\HyC@checkPackage`

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

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

`\HyC@noValue`

```
85 \def\HyC@noValue{NoValue}
```

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

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

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

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

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

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

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

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

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

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

```

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

```

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

```

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

```

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

```

\HyC@edef
125 \def\HyC@def#1#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
232 \RequirePackage{ltxcmds}[2010/11/12]
233 \RequirePackage{iftex}[2019/10/24]
234 \RequirePackage{pdftexcmds}[2009/04/10]
235 \@ifpackagelater{pdftexcmds}{2010/11/04}{-}{-%
236 \ltx@ifundefined{pdfdraftmode}{-%
237 \let\pdf@ifdraftmode\ltx@secondoftwo
238 }-%
239 \ifpdf
240 \def\pdf@ifdraftmode{%
241 \ifnum\pdfdraftmode=\ltx@one
242 \expandafter\ltx@firstoftwo
243 \else
244 \expandafter\ltx@secondoftwo
245 \fi
246 }%
247 \else
248 \let\pdf@ifdraftmode\ltx@secondoftwo
249 \fi
250 }%
251 }

252 \RequirePackage{infwarerr}[2010/04/08]
253 \RequirePackage{keyval}[1997/11/10]
254 \RequirePackage{kvsetkeys}[2007/09/29]
255 \RequirePackage{kvdefinekeys}[2011/04/07]
256 \RequirePackage{pdfescape}[2007/11/11]
257 \RequirePackage{hycolor}
258 \RequirePackage{letltxmacro}[2008/06/13]
259 \RequirePackage{auxhook}[2009/12/14]
260 \def\Hy@Error{\@PackageError{hyperref}}
261 \def\Hy@Warning{\@PackageWarning{hyperref}}
262 \def\Hy@WarningNoLine{\@PackageWarningNoLine{hyperref}}
263 \def\Hy@Info{\@PackageInfo{hyperref}}
264 \def\Hy@InfoNoLine{\@PackageInfoNoLine{hyperref}}
265 \def\Hy@Message#1{%
266 \GenericWarning{%
267 (hyperref)\@spaces\@spaces\@spaces\@spaces
268 }{%
269 Package hyperref Message: #1\ltx@gobble
270 }%
271 }

```

## 4.2 Version check

\Hy@VersionChecked

```
272 \chardef\Hy@VersionChecked=0 %
```

\Hy@VersionCheck

```
273 \def\Hy@VersionCheck#1{%
274   \begingroup
275   \ltx@ifundefined{ver@hyperref.sty}{%
276     \Hy@Error{%
277       This should not happen!\MessageBreak
278       Missing hyperref version%
279     }\@ehd
280   }{%
281     \ltx@ifundefined{ver@#1}{%
282       \Hy@Error{%
283         This should not happen!\MessageBreak
284         Missing version of `#1'%
285       }\@ehd
286     }{%
287       \def\x##1##2##3{%
288         \expandafter\expandafter\expandafter\Hy@@VersionCheck
289         \expandafter\expandafter\expandafter##2%
290         \csname ver@##3\endcsname##1##1\@nil
291       }%
292       \x{ }\y{hyperref.sty}%
293       \x{ }z{#1}%
294       \ifx\y\z
295       \else
296         \edef\a{#1}%
297         \edef\b{\HyOpt@CustomDriver.def}%
298         \ifx\a\b
299           \Hy@WarningNoLine{%
300             Version mismatch (custom driver)!\MessageBreak
301             * \y: hyperref.sty\MessageBreak
302             * \z: \a
303           }%
304         \else
305           \Hy@Error{%
306             Version mismatch!\MessageBreak
307             * \y: hyperref.sty\MessageBreak
308             * \z: \a
309           }\@ehd
310         \fi
311       \fi
312     }%
313   }%
314 \endgroup
315 \chardef\Hy@VersionChecked=1 %
316 }
```

\Hy@@VersionCheck

```
317 \def\Hy@@VersionCheck #1#2 #3 #4\@nil{%  
318 \def#1{#2 #3}%  
319 }
```

### 4.3 Checks with regular expressions

```
320 \ltx@ifundefined{pdfmatch}{%  
321 \def\Hy@Match#1#2#3#4#5{%  
322 }{%  
323 \def\Hy@Match#1#2#3{%  
324 \begingroup  
325 \edef\~{\ltx@backslashchar\string~}%  
326 \edef\.\{\ltx@backslashchar.}%  
327 \edef\[\{\ltx@backslashchar[}%  
328 \edef\$\{\ltx@backslashchar$}%  
329 \edef\(\{\ltx@backslashchar(}%  
330 \edef\)\{\ltx@backslashchar)}%  
331 \edef\|{\ltx@backslashchar|}%  
332 \edef\*{\ltx@backslashchar*}%  
333 \edef\+{\ltx@backslashchar+}%  
334 \edef\?{\ltx@backslashchar?}%  
335 \edef\{\{\ltx@backslashchar\ltx@leftbracechar}%  
336 \edef\}\{\ltx@rightbracechar}%  
337 \edef\\\{\ltx@backslashchar\ltx@backslashchar}%  
338 \let\ \ltx@space  
339 \ifcase\pdfmatch#2{#3}{#1} %  
340 \endgroup  
341 \expandafter\ltx@secondoftwo  
342 \or  
343 \endgroup  
344 \expandafter\ltx@firstoftwo  
345 \else  
346 \Hy@Warning{%  
347 Internal error: Wrong pattern!\MessageBreak  
348 --> #3 <--\MessageBreak  
349 Pattern check ignored%  
350 }%  
351 \endgroup  
352 \expandafter\ltx@firstoftwo  
353 \fi  
354 }%  
355 \ltx@ifpackagelater{ltxcmds}{2010/09/11}{-}{-}{%  
356 \begingroup  
357 \lccode`0=`\{\relax  
358 \lowercase{\endgroup  
359 \def\ltx@leftbracechar{0}%  
360 }%  
361 \begingroup
```

```

362 \lccode`0=`\}\relax
363 \lowercase{\endgroup
364 \def\ltx@rightbracechar{0}%
365 }%
366 }%
367 }

```

## 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`.

```

368 \@ifundefined{AfterBeginDocument}{%
369 \def\AfterBeginDocument{\AtBeginDocument}%
370 }{}%

```

`\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.

```

371 \def\Hy@AtBeginDocument{%
372 \ltx@LocalAppendToMacro\Hy@AtBeginDocumentHook
373 }

```

`\Hy@AtEndOfPackage`

```

374 \def\Hy@AtEndOfPackage{%
375 \ltx@LocalAppendToMacro\Hy@AtEndOfPackageHook
376 }

```

`\Hy@AtBeginDocumentHook`

```

377 \let\Hy@AtBeginDocumentHook\ltx@empty

```

`\Hy@AtEndOfPackageHook`

```

378 \let\Hy@AtEndOfPackageHook\ltx@empty

```

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

```

379 \AtEndOfPackage{%
380 \Hy@AtEndOfPackageHook
381 \let\Hy@AtEndOfPackageHook\@undefined
382 \AfterBeginDocument{%
383 \Hy@AtBeginDocumentHook}%
384 \let\Hy@AtBeginDocumentHook\@undefined
385 }%
386 }

```

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

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

## 4.5 Switches

```
388 \newif\ifHy@stoppedearly
389 \newif\ifHy@typexml
390 \newif\ifHy@activeanchor
391 \newif\ifHy@backref
392 \newif\ifHy@bookmarks
393 \newif\ifHy@bookmarksnumbered
394 \newif\ifHy@bookmarksopen
395 \newif\ifHy@breaklinks
396 \newif\ifHy@pdfcenterwindow
397 \newif\ifHy@CJKbookmarks
398 \newif\ifHy@colorlinks
399 \newif\ifHy@destlabel
400 \newif\ifHy@draft
401 \let\Hy@finaltrue\Hy@draftfalse
402 \let\Hy@finalfalse\Hy@drafttrue
403 \newif\ifHy@pdfescapeform
404 \newif\ifHy@hyperfigures
405 \newif\ifHy@pdffitwindow
406 \newif\ifHy@frenchlinks
407 \newif\ifHy@hyperfootnotes
408 \newif\ifHy@hyperindex
409 \newif\ifHy@hypertextnames
410 \newif\ifHy@implicit
411 \newif\ifHy@linktopage
412 \newif\ifHy@localanchorname
413 \newif\ifHy@pdfmenubar
414 \newif\ifHy@naturalnames
415 \newif\ifHy@nesting
416 \newif\ifHy@pdfnewwindowset
417 \newif\ifHy@pdfnewwindow
418 \newif\ifHy@ocgcolorlinks
419 \newif\ifHy@pageanchor
420 \newif\ifHy@pdfpagelabels
421 \newif\ifHy@pdfpagehidden
422 \newif\ifHy@pdfstring
423 \newif\ifHy@plainpages
424 \newif\ifHy@psize
425 \newif\ifHy@raiselinks
426 \newif\ifHy@seminarslides
427 \newif\ifHy@setpagesize
428 \newif\ifHy@texht
429 \newif\ifHy@psdextra
```

430 \newif\ifHy@pdftoolbar  
431 \newif\ifHy@unicode  
432 \newif\ifHy@pdfusetitle  
433 \newif\ifHy@verbose  
434 \let\Hy@debugtrue\Hy@verbosetrue  
435 \let\Hy@debugfalse\Hy@verbosefalse  
436 \newif\ifHy@pdfwindowui  
437 \newif\ifHy@pdfdisplaydoctitle  
438 \newif\ifHy@pdfa

Defaults for the switches are now set.

439 \Hy@backreffalse  
440 \Hy@bookmarksnumberedfalse  
441 \Hy@bookmarksopenfalse  
442 \Hy@bookmarkstrue  
443 \Hy@breaklinksfalse  
444 \Hy@pdfcenterwindowfalse  
445 \Hy@CJKbookmarksfalse  
446 \Hy@destlabelfalse  
447 \Hy@pdfescapeformfalse  
448 \Hy@hyperfiguresfalse  
449 \Hy@pdffitwindowfalse  
450 \Hy@hyperfootnotesttrue  
451 \Hy@hyperindextrue  
452 \Hy@hypertextnamestrue  
453 \Hy@implicittrue  
454 \Hy@linktocpagefalse  
455 \Hy@localanchornamfalse  
456 \Hy@pdfmenubartrue  
457 \Hy@naturalnamesfalse  
458 \Hy@nestingfalse  
459 \Hy@pdfnewwindowsetfalse  
460 \Hy@pdfnewwindowfalse  
461 \Hy@pageanchortrue  
462 \Hy@pdfpagelabelstrue  
463 \Hy@pdfpagehiddenfalse  
464 \Hy@pdfstringfalse  
465 \Hy@plainpagesfalse  
466 \Hy@raiselinksfalse  
467 \Hy@setpagesizetrue  
468 \Hy@texhtfalse  
469 \Hy@psdextrafalse  
470 \Hy@pdftoolbartrue  
471 \Hy@typexmlfalse  
472 \Hy@unicodfalse  
473 \Hy@pdfusetitlefalse  
474 \Hy@verbosefalse  
475 \Hy@pdfwindowuitrue  
476 \Hy@pdfdisplaydoctitlefalse  
477 \Hy@pdfafalse

## 5 Common help macros

`\Hy@StepCount`

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

`\Hy@GlobalStepCount`

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

```
480 \newdimen\@linkdim
```

```
481 \let\Hy@driver\ltx@empty
```

```
482 \let\MaybeStopEarly\relax
```

```
483 \newcount\Hy@linkcounter
```

```
484 \newcount\Hy@pagecounter
```

```
485 \Hy@linkcounter0
```

```
486 \Hy@pagecounter0
```

### 5.1 Macros for recursions

```
487 \let\Hy@ReturnEnd\@empty
```

```
488 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
```

```
489 \long\def\Hy@ReturnAfterElseFiFiEnd#1\else#2\Hy@ReturnEnd{\fi\fi#1}
```

### 5.2 Babel's protection of shorthand characters

`\Hy@safe@activestru`

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

`\Hy@safe@activesfal`

```
490 \def\Hy@safe@activestru{\csname @safe@activestru\endcsname}
```

```
491 \def\Hy@safe@activesfal{\csname @safe@activesfal\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).

`\hypercalsbp`

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

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

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

– The expansion of the argument is done at definition time.

Example (T<sub>E</sub>X):

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

\hypercalcbp
492 \begingroup\expandafter\expandafter\expandafter\endgroup
493 \expandafter\ifx\csname dimexpr\endcsname\relax
494 \def\hypercalcbpdef#1#2{%
495   \begingroup
496   \toks@{ }%
497   \HyCal@scan#2\hypercalcbp\@nil
498   \expandafter\endgroup
499   \expandafter\def\expandafter#1\expandafter{\the\toks@}%
500 }%
501 \def\HyCal@scan#1\hypercalcbp#2\@nil{%
502   \toks@\expandafter{\the\toks@ #1}%
503   \ifx\#2\%
504   \else
505     \ltx@ReturnAfterFi{%
506       \HyCal@do#2\@nil
507     }%
508   \fi
509 }%
510 \def\HyCal@do#1#2\@nil{%
511   \@ifpackageloaded{calc}{ }{%
512     \Hy@Warning{%
513       For calculations \string\hypercalcbp\space needs\MessageBreak
514       package calc or e-TeX%
515     }%
516   }%
517   \setlength{\dimen@}{#1}%
518   \setlength{\dimen@}{0.99626401\dimen@}%
519   \edef\x{%
520     \toks@{
521       \the\toks@
522       \strip@pt\dimen@
523     }%
524   }\x
525   \HyCal@scan#2\@nil
526 }%
527 \else
528 \def\hypercalcbp#1{%
529   \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
```

```

530 }%
531 \def\hypercalcbpdef{\def}%
532 \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 `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 processed by  $\TeX$ , because the tokens have only cat-codes 10 until 12.

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

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

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

```
534 \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  $\TeX$  escape character indeed prints as a normal backslash. Eventually this line can be removed, because this is standard  $\LaTeX$  behaviour.

```
535 \escapechar`\\%
```

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

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

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

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

```
539 \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.

```

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

```
552 \@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).

```
553 \let\@inmathwarn\HyPsd@inmathwarn
```

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

```
554 \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. UF 29.09.2017: added a mapping for `\noboundary`, see issue #37 <https://github.com/latex3/hyperref/issues/37> No test for PU, if some definition for PD1 is added it will work too.

```

555 \let\{\textbraceleft
556 \let}\textbraceright
557 \let\\\textbackslash
558 \let\#\textnumbersign
559 \let$\textdollar
560 \let%\textpercent
561 \let&\textampersand
562 % \let~\textasciitilde
563 \let_\textunderscore
564 \let\P\textparagraph

```

```

565 \let\ldots\textellipsis
566 \let\dots\textellipsis
567 \ltx@ifundefined{textEncodingNoboundary}%
568   {\let\noboundary\textEncodingNoboundary}%

```

**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.

```

569 \def\{\pdfstringdefWarn\}%
570 \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.

```

571 \def\TeX{\TeX}%
572 \def\LaTeX{La\TeX}%
573 \def\LaTeXe{%
574   \LaTeX2%
575   \ifHy@unicode\textepsilon\else e\fi
576 }%
577 \def\eTeX{%
578   \ifHy@unicode\textepsilon\else e\fi
579   -\TeX%
580 }%
581 \def\SliTeX{Sli\TeX}%
582 \def\MF{Metafont}%
583 \def\MP{Metapost}%

```

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

```

584 \let\fontencoding\@gobble
585 \let\fontfamily\@gobble
586 \let\fontseries\@gobble
587 \let\fontshape\@gobble
588 \let\fontsize\@gobbletwo
589 \let\selectfont\@empty
590 \let\usefont\@gobblefour
591 \let\emph\@firstofone
592 \let\textnormal\@firstofone

```

```

593 \let\textrm\@firstofone
594 \let\textsf\@firstofone
595 \let\texttt\@firstofone
596 \let\textbf\@firstofone
597 \let\textmd\@firstofone
598 \let\textit\@firstofone
599 \let\textsc\@firstofone
600 \let\textsl\@firstofone
601 \let\textup\@firstofone
602 \let\normalfont\@empty
603 \let\rmfamily\@empty
604 \let\sfamily\@empty
605 \let\ttfamily\@empty
606 \let\bfseries\@empty
607 \let\mdseries\@empty
608 \let\itshape\@empty
609 \let\scshape\@empty
610 \let\slshape\@empty
611 \let\upshape\@empty
612 \let\em\@empty
613 \let\rm\@empty
614 \let\Huge\@empty
615 \let\LARGE\@empty
616 \let\Large\@empty
617 \let\footnotesize\@empty
618 \let\huge\@empty
619 \let\large\@empty
620 \let\normalsize\@empty
621 \let\scriptsize\@empty
622 \let\small\@empty
623 \let\tiny\@empty
624 \let\mathversion\@gobble
625 \let\phantom\@gobble
626 \let\vphantom\@gobble
627 \let\hphantom\@gobble

```

### Package pifont.

```

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

```

### Environments.

```

632 \def\begin#1{\csname#1\endcsname}%
633 \def\end#1{\csname end#1\endcsname}%

```

### Package color.

```

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

```

### Upper- and lowercase.

```
635 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
636 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%
```

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

```
637 \ifHy@psdextra
638 \ifHy@unicode
639 \csname psdmapshortnames\endcsname
640 \csname psdaliasnames\endcsname
641 \fi
642 \fi
```

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

```
643 \let\foreignlanguage\@secondoftwo
644 \let\textlatin\@firstofone
645 \ltx@ifundefined{language@group}{\}%
646 \let\bbl@info\@gobble
647 \csname HyPsd@babel@\language@group\endcsname
648 }%
649 \HyPsd@GreekPatch
650 \HyPsd@SpanishPatch
651 \HyPsd@RussianPatch
652 \HyPsd@BabelPatch
653 \let\@safe@activestrue\relax
654 \let\@safe@activesfalse\relax
```

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

```
655 \let\cyr\relax
```

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

```
656 \let\es@roman\@Roman
```

### Package german.

```
657 \let\glqq\textglqq
658 \let\grqq\textgrqq
659 \let\glq\textglq
660 \let\grq\textgrq
661 \let\flqq\textflqq
662 \let\frqq\textfrqq
663 \let\flq\textflq
664 \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}
```

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

**AMS classes.**

```
666 \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.

```
667 \let\hspace\HyPsd@hspace
```

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

```
668 \let\label\@gobble
669 \let\index\@gobble
670 \let\glossary\@gobble
671 \let\href\HyPsd@href
672 \let\@mkboth\@gobbletwo
```

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

```
673 \let\ref\HyPsd@ref
674 \let\pageref\HyPsd@pageref
675 \let\nameref\HyPsd@nameref
676 \let\autoref\HyPsd@autoref
```

**Miscellaneous commands.**

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

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

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

**Patch for cjk bookmarks.**

```
683 \HyPsd@CJKhook
```

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

```
684 \Hy@pdfstringtrue
685 \pdfstringdefPreHook
```

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

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

**Package `xspace`.**

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

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

```
698 \let\discretionary@gobbletwo
```

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

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

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

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

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

Support for package ‘xargs’:

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

### 6.2.2 Expansion

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

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

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

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

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

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

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

```
708 \ifx\nofrenchguillemets\@undefined
709 \else
710 \nofrenchguillemets
711 \fi
```

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

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

### 6.2.3 Postprocessing

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

```
721 \ifx#1\@empty
722 \else
```

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

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

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

```

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

```

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

```

`\HyPsd@CheckCatcodes` should not have removed the tokens with catcode 3, 4, 7, and 8. Because a parameter token (6) would cause too 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.

```

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

```

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

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

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

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

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

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

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

```

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

```

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

```

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

```

780     \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.

```

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

```

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

```

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

```

**Try conversion back to PDFDocEncoding.**

```

800 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
801 \ltx@ifundefined{StringEncodingConvertTest}{%
802 }{%
803 \EdefUnescapeString\HyPsd@temp#1%
804 \ifxetex
805 \let\HyPsd@UnescapedString\HyPsd@temp
806 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
807 {utf16be}{ascii-print}{%
808 \EdefEscapeString\HyPsd@temp\HyPsd@temp
809 \global\let#1\HyPsd@temp
810 \HyPsd@EscapeTeX#1%
811 \Hy@unicodedefalse
812 }{%
813 \HyPsd@EscapeTeX#1%
814 }%
815 \else
816 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp

```

```

817             {utf16be}{pdfdoc}{%
818     \EdefEscapeString\HyPsd@temp\HyPsd@temp
819     \global\let#1\HyPsd@temp
820     \HyPsd@EscapeTeX#1%
821     \Hy@unicodefalse
822     }{%
823     \fi
824     }%
825     \fi
826     \fi

```

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

```

827     \pdfstringdefPostHook#1%
828     \endgroup
829 }

```

`\Hy@pdfstringdef`

```

830 \def\Hy@pdfstringdef#1#2{%
831 \pdfstringdef\Hy@gtemp{#2}%
832 \let#1\Hy@gtemp
833 }

```

## 6.3 Encodings

### 6.3.1 XeTeX

change 2020-05-13: the special code for XeTeX big chars has been removed as no longer needed.

### 6.3.2 Workaround for package linguex

```

834 \@ifpackageloaded{linguex}{%
835 \let\HyLinguex@OrgB\b
836 \let\HyLinguex@OrgC\c
837 \let\HyLinguex@OrgD\d
838 \def\HyLinguex@Restore{%
839 \let\b\HyLinguex@OrgB
840 \let\c\HyLinguex@OrgC
841 \let\d\HyLinguex@OrgD
842 }%
843 \Hy@AtEndOfPackage{%
844 \pdfstringdefDisableCommands{%
845 \ltx@ifundefined{oldb}{-}{\let\b\oldb}%
846 \ltx@ifundefined{oldc}{-}{\let\c\oldc}%
847 \ltx@ifundefined{oldd}{-}{\let\d\oldd}%
848 }%
849 }%
850 }{%

```

```

851 \let\HyLinguex@Restore\relax
852 }%

```

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

\Hy@SaveCatcodeSettings

```

853 \def\Hy@SaveCatcodeSettings#1{%
854 \expandafter\edef\csname Hy@cat@#1\endcsname{%
855 \endlinechar=\the\endlinechar\relax
856 \catcode32 \the\catcode32\relax % (space)
857 \catcode34 \the\catcode34\relax % "
858 \catcode35 \the\catcode35\relax % #
859 \catcode37 \the\catcode37\relax % (percent)
860 \catcode40 \the\catcode40\relax % (
861 \catcode41 \the\catcode41\relax % )
862 \catcode42 \the\catcode42\relax % *
863 \catcode46 \the\catcode46\relax % .
864 \catcode58 \the\catcode58\relax % :
865 \catcode60 \the\catcode60\relax % <
866 \catcode61 \the\catcode61\relax % =
867 \catcode62 \the\catcode62\relax % >
868 \catcode64 \the\catcode64\relax % @
869 \catcode91 \the\catcode91\relax % [
870 \catcode92 \the\catcode92\relax % \
871 \catcode93 \the\catcode93\relax % ]
872 \catcode123 \the\catcode123\relax % {
873 \catcode124 \the\catcode124\relax % |
874 \catcode125 \the\catcode125\relax % }
875 }%
876 \endlinechar=-1 %
877 \catcode32 10 % (space)
878 \catcode34 12 % "
879 \catcode35 6 % #
880 \catcode37 14 % (percent)
881 \catcode40 12 % (
882 \catcode41 12 % )
883 \catcode42 12 % *
884 \catcode46 12 % .
885 \catcode58 12 % :
886 \catcode60 12 % <
887 \catcode61 12 % =
888 \catcode62 12 % >
889 \catcode91 12 % [
890 \catcode92 0 % \
891 \catcode93 12 % ]
892 \catcode123 1 % {
893 \catcode124 12 % |
894 \catcode125 2 % }
895 \makeatletter
896 }

```

`\Hy@RestoreCatcodeSettings`

```
897 \def\Hy@RestoreCatcodeSettings#1{%
898 \csname Hy@cat@#1\endcsname
899 \expandafter\let\csname Hy@cat@#1\endcsname\relax
900 }
```

### 6.3.4 PD1 encoding

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

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

```
901 \@ifundefined{T@PD1}{%
902 \Hy@SaveCatcodeSettings{pd1}%
903 \input{pd1enc.def}%
904 \Hy@RestoreCatcodeSettings{pd1}%
905 \HyLinguex@Restore
906 }{}
907 \DeclareFontFamily{PD1}{pdf}{}
908 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
909 \DeclareFontSubstitution{PD1}{pdf}{m}{n}
```

### 6.3.5 PU encoding

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

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

```
910 \def\HyPsd@LoadUnicode{%
911 \@ifundefined{T@PU}{%
912 \Hy@SaveCatcodeSettings{pu}%
913 \input{puenc.def}%
914 \Hy@RestoreCatcodeSettings{pu}%
915 \HyLinguex@Restore
916 }{}%
917 \DeclareFontFamily{PU}{pdf}{}%
918 \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
919 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
920 \HyPsd@LoadExtra
921 \let\HyPsd@LoadUnicode\relax
922 }
```

`\HyPsd@LoadExtra`

```

923 \def\HyPsd@LoadExtra{%
924   \ifHy@psdextra
925     \ltx@iffileloaded{puenc.def}{%
926       \Hy@SaveCatcodeSettings{psdextra}%
927       \input{psdextra.def}%
928       \Hy@RestoreCatcodeSettings{psdextra}%
929       \let\HyPsd@LoadExtra\relax
930     }{}%
931   \fi
932 }

```

## 6.4 Additional user commands

### 6.4.1 `\texorpdfstring`

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

```

933 \def\texorpdfstring{%
934   \ifHy@pdfstring
935     \expandafter\@secondoftwo
936   \else
937     \expandafter\@firstoftwo
938   \fi
939 }

```

### 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`.

```

940 \@ifundefined{pdfstringdefPreHook}{%
941   \let\pdfstringdefPreHook\@empty
942 }{}
943 \@ifundefined{pdfstringdefPostHook}{%
944   \let\pdfstringdefPostHook\@gobble
945 }{}

```

`\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`.

```

946 \def\pdfstringdefDisableCommands{%
947   \begingroup
948   \makeatletter
949   \HyPsd@DisableCommands
950 }

```

`\HyPsd@DisableCommands`

```

951 \long\def\HyPsd@DisableCommands#1{%
952   \ltx@GlobalAppendToMacro\pdfstringdefPreHook{#1}%
953   \endgroup
954 }

```

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

```

955 \let\HyPsd@pdfstringdefDisableCommands\pdfstringdefDisableCommands
956 \AtBeginDocument{%
957   \@ifundefined{pdfstringdefDisableCommands}{%
958     \let\pdfstringdefDisableCommands\HyPsd@pdfstringdefDisableCommands
959   }{}%
960 }

```

`\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`.

```

961 \def\pdfstringdefWarn#1{%
962   \expandafter\noexpand\csname<>\string#1\endcsname
963 }

```

## 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.

```

964 \begingroup
965 \catcode0=12 %
966 \def\x{\endgroup
967 \def\HyPsd@ignorespaces{%
968 \romannumeral\expandafter`\expandafter^^@%
969 \romannumeral^^@%
970 }%
971 }%
972 \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`.

```

973 \def\HyPsd@BabelPatch{%
974 \let\HyOrg@languageshorthands\languageshorthands
975 \let\languageshorthands\HyPsd@LanguageShorthands
976 }
977 \begingroup\expandafter\expandafter\expandafter\endgroup
978 \expandafter\ifx\csname pdf@strcmp\endcsname\relax
979 \let\HyPsd@langshort@system\@empty
980 \def\HyPsd@LanguageShorthands#1{%
981 \expandafter\ifx\csname HyPsd@langshort@#1\endcsname
982 \HyPsd@langshort@system
983 \expandafter\@gobble
984 \else
985 \expandafter\@firstofone
986 \fi
987 {%
988 \HyOrg@languageshorthands{#1}%
989 }%
990 }%
991 \else
992 \def\HyPsd@LanguageShorthands#1{%
993 \ifnum\pdf@strcmp{#1}{system}=\z@
994 \expandafter\@gobble
995 \else
996 \expandafter\@firstofone
997 \fi

```

```

998   {%
999   \HyOrg@languageshorthands{#1}%
1000  }%
1001 }%
1002 \fi
1003 \def\Hy@temp{%
1004 \ifpackageloaded{babel}{%
1005 \ifpackagelater{babel}{2008/03/16}{%
1006 \let\Hy@temp\@empty
1007 }{%
1008 \def\HyPsd@BabelPatch{%
1009 \let\HyOrg@languageshorthands\languageshorthands
1010 }%
1011 }%
1012 }{}%
1013 }
1014 \Hy@temp
1015 \expandafter\Hy@AtBeginDocument\expandafter{\Hy@temp}
1016 \newif\ifHy@next

Nothing to do for english.
1017 \ltx@ifundefined{danish@sh@}{}{%
1018 \def\HyPsd@babel@danish{%
1019 \declare@shorthand{danish}{"}{|}{}%
1020 \declare@shorthand{danish}{"}{~}{-}{}%
1021 }%
1022 }
1023 \ltx@ifundefined{dutch@sh@}{}{%
1024 \def\HyPsd@babel@dutch{%
1025 \declare@shorthand{dutch}{"}{|}{}%
1026 \declare@shorthand{dutch}{"}{~}{-}{}%
1027 }%
1028 }
1029 \ltx@ifundefined{finnish@sh@}{}{%
1030 \def\HyPsd@babel@finnish{%
1031 \declare@shorthand{finnish}{"}{|}{}%
1032 }%
1033 }
1034 \ltx@ifundefined{french@sh@}{}{%
1035 \def\HyPsd@babel@frenchb{%
1036 \def\guill@spacing{ }%
1037 }%
1038 }
1039 \ltx@ifundefined{german@sh@}{}{%
1040 \def\HyPsd@babel@german{%
1041 \declare@shorthand{german}{"}{f}{f}{}%
1042 \declare@shorthand{german}{"}{|}{}%
1043 \declare@shorthand{german}{"}{~}{-}{}%
1044 }%
1045 }

```

```

1046 \ltx@ifundefined{macedonian@sh@"@sel}{-}{-}%
1047 \def\HyPsd@babel@macedonian{%
1048 \declare@shorthand{macedonian}{"|}{-}%
1049 \declare@shorthand{macedonian}{"-}{-}%
1050 }%
1051 }{}
1052 \ltx@ifundefined{ngerman@sh@"@sel}{-}{-}%
1053 \def\HyPsd@babel@ngerman{%
1054 \declare@shorthand{ngerman}{"|}{-}%
1055 \declare@shorthand{ngerman}{"-}{-}%
1056 }%
1057 }
1058 \ltx@ifundefined{portuges@sh@"@sel}{-}{-}%
1059 \def\HyPsd@babel@portuges{%
1060 \declare@shorthand{portuges}{"|}{-}%
1061 }%
1062 }
1063 \ltx@ifundefined{russian@sh@"@sel}{-}{-}%
1064 \def\HyPsd@babel@russian{%
1065 \declare@shorthand{russian}{"|}{-}%
1066 \declare@shorthand{russian}{"-}{-}%
1067 }%
1068 }
1069 \ltx@ifundefined{slovene@sh@"@sel}{-}{-}%
1070 \def\HyPsd@babel@slovene{%
1071 \declare@shorthand{slovene}{"|}{-}%
1072 }%
1073 }

```

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

```

1074 \ltx@ifundefined{spanish@sh>@sel}{-}{-}%
1075 \def\HyPsd@babel@spanish{%
1076 \declare@shorthand{spanish}{<<}{\guillemotleft}%
1077 \declare@shorthand{spanish}{>>}{\guillemotright}%
1078 \declare@shorthand{spanish}{="}{-}%
1079 \declare@shorthand{spanish}{"-}{-}%
1080 \declare@shorthand{spanish}{"!}{\textexclamdown}%
1081 \declare@shorthand{spanish}{"?}{\textquestiondown}%
1082 }%
1083 }
1084 \ltx@ifundefined{swedish@sh@"@sel}{-}{-}%
1085 \def\HyPsd@babel@swedish{%
1086 \declare@shorthand{swedish}{"|}{-}%
1087 \declare@shorthand{swedish}{"-}{-}%
1088 }%
1089 }
1090 \ltx@ifundefined{ukrainian@sh@"@sel}{-}{-}%
1091 \def\HyPsd@babel@ukrainian{%
1092 \declare@shorthand{ukrainian}{"|}{-}%
1093 \declare@shorthand{ukrainian}{"-}{-}%

```

```

1094 }%
1095 }
1096 \ltx@ifundefined{usorbian@sh@"@sel}{-}{%
1097 \def\HyPsd@babel@usorbian{%
1098 \declare@shorthand{usorbian}{-}{f}{f}%
1099 \declare@shorthand{usorbian}{-}{|}{|}%
1100 }%
1101 }

1102 \ltx@ifundefined{greek@sh@\string~@sel}{-}{%
1103 \let\HyPsd@GreekPatch\@empty
1104 }{%
1105 \def\HyPsd@GreekPatch{%
1106 \let\greeknumeral\HyPsd@greeknumeral
1107 \let\Greeknatural\HyPsd@Greeknatural
1108 }%
1109 }

1110 \def\HyPsd@greeknumeral#1{%
1111 \HyPsd@GreekNum\@firstoftwo{#1}%
1112 }

1113 \def\HyPsd@Greeknumeral#1{%
1114 \HyPsd@GreekNum\@secondoftwo{#1}%
1115 }

1116 \def\HyPsd@GreekNum#1#2{%
1117 \ifHy@unicode
1118 \ifnum#2<\@one
1119 \@arabic{#2}%
1120 \else
1121 \ifnum#2<1000000 %
1122 \HyPsd@@GreekNum#1{#2}%
1123 \else
1124 \@arabic{#2}%
1125 \fi
1126 \fi
1127 \else
1128 \@arabic{#2}%
1129 \fi
1130 }

1131 \def\HyPsd@@GreekNum#1#2{%
1132 \ifnum#2<\@m
1133 \ifnum#2<10 %
1134 \expandafter\HyPsd@GreekNumI
1135 \expandafter\@gobble\expandafter#1\number#2%
1136 \else
1137 \ifnum#2<100 %
1138 \expandafter\HyPsd@GreekNumII
1139 \expandafter\@gobble\expandafter#1\number#2%
1140 \else
1141 \expandafter\HyPsd@GreekNumIII
1142 \expandafter\@gobble\expandafter#1\number#2%

```

```

1143 \fi
1144 \fi
1145 \ifnum#2>\z@
1146 \textnumeralsigngreek
1147 \fi
1148 \else
1149 \ifnum#2<\@M
1150 \expandafter\HyPsd@GreekNumIV\expandafter#1\number#2%
1151 \else
1152 \ifnum#2<100000 %
1153 \expandafter\HyPsd@GreekNumV\expandafter#1\number#2%
1154 \else
1155 \expandafter\HyPsd@GreekNumVI\expandafter#1\number#2%
1156 \fi
1157 \fi
1158 \fi
1159 }
1160 \def\HyPsd@GreekNumI#1#2#3{%
1161 #1{%
1162 \ifnum#3>\z@
1163 \textnumeralsignlowergreek
1164 \fi
1165 }%
1166 \expandafter#2%
1167 \ifcase#3 %
1168 {}{}%
1169 \or\textalpha\textAlpha
1170 \or\textbeta\textBeta
1171 \or\textgamma\textGamma
1172 \or\textdelta\textDelta
1173 \or\textepsilon\textEpsilon
1174 \or\textstigmagreek\textStigmagreek
1175 \or\textzeta\textZeta
1176 \or\texteta\textEta
1177 \or\texttheta\textTheta
1178 \else
1179 {}{}%
1180 \fi
1181 }
1182 \def\HyPsd@GreekNumII#1#2#3#4{%
1183 #1{%
1184 \ifnum#3>\z@
1185 \textnumeralsignlowergreek
1186 \fi
1187 }%
1188 \expandafter#2%
1189 \ifcase#3 %
1190 {}{}%
1191 \or\textiota\textIota
1192 \or\textkappa\textKappa

```

```

1193 \or\textlambda\textLambda
1194 \or\textmu\textMu
1195 \or\textnu\textNu
1196 \or\textxi\textXi
1197 \or\textomicron\textOmicron
1198 \or\textpi\textPi
1199 \or\textkoppagreek\textKoppagreek
1200 \else
1201   {}{}%
1202 \fi
1203 \HyPsd@GreekNumI#1#2#4%
1204 }
1205 \def\HyPsd@GreekNumIII#1#2#3#4#5{%
1206   #1{%
1207     \ifnum#3>\z@
1208       \textnumeralsignlowergreek
1209       \fi
1210   }%
1211 \expandafter#2%
1212 \ifcase#3 %
1213   {}{}%
1214 \or\textrho\textRho
1215 \or\textsigma\textSigma
1216 \or\texttau\textTau
1217 \or\textupsilon\textUpsilon
1218 \or\textphi\textPhi
1219 \or\textchi\textChi
1220 \or\textpsi\textPsi
1221 \or\textomega\textOmega
1222 \or\textsampigreek\textSampigreek
1223 \else
1224   {}{}%
1225 \fi
1226 \HyPsd@GreekNumII#1#2#4#5%
1227 }
1228 \def\HyPsd@GreekNumIV#1#2#3#4#5{%
1229 \HyPsd@GreekNumI\@firstofone#1#2%
1230 \HyPsd@@GreekNum#1{#3#4#5}%
1231 }
1232 \def\HyPsd@GreekNumV#1#2#3#4#5#6{%
1233 \HyPsd@GreekNumII\@firstofone#1#2#3%
1234 \HyPsd@@GreekNum#1{#4#5#6}%
1235 }
1236 \def\HyPsd@GreekNumVI#1#2#3#4#5#6#7{%
1237 \HyPsd@GreekNumIII\@firstofone#1#2#3#4%
1238 \HyPsd@@GreekNum#1{#5#6#7}%
1239 }
1240 \def\HyPsd@SpanishPatch{%
1241 \ltx@ifundefined{es@save@dot}{%

```

```

1242 }{%
1243   \let\.\es@save@dot
1244 }%
1245 }

```

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

```

1246 \def\HyPsd@RussianPatch{%
1247   \ltx@ifundefined{russian@sh@"@-@}{%
1248     }{%
1249     \@namedef{russian@sh@"@-@}{-}%
1250   }%
1251 }

```

### 6.5.3 CJK patch

```

1252 \RequirePackage{intcalc}[2007/09/27]
\HyPsd@CJKhook

```

```

1253 \def\HyPsd@CJKhook{%
1254   \ltx@ifpackageloaded{CJK}{%
1255     \let\CJK@kern\relax
1256     \let\CJKkern\relax
1257     \let\CJK@CJK\relax
1258     \ifHy@CJKbookmarks
1259       \HyPsd@CJKhook@bookmarks
1260     \fi
1261     \HyPsd@CJKhook@unicode
1262   }{}%
1263 }

```

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

```

1264 \begingroup
1265   \catcode"7F=\active
1266   \toks@{%
1267     \let\CJK@ignorespaces\empty
1268     \def\CJK@char#1{\@gobbletwo}%
1269     \let\CJK@charx\@gobblefour
1270     \let\CJK@punctchar\@gobblefour

```

```

1271 \def\CJK@punctcharx#1{\@gobblefour}%
1272 \catcode"F=\active
1273 \def^^7f#1^^7f#2^^7f{%
1274   \string #1\HyPsd@DecimalToOctal{#2}%
1275 }%
1276 % ... ?
1277 \ifHy@unicode
1278   \def\Hy@cjku{\80}%
1279 \else
1280   \let\Hy@cjku\@empty
1281 \fi
1282 \HyPsd@CJKActiveChars
1283 }%
1284 \count@=127 %
1285 \@whilenum\count@<255 \do{%
1286   \advance\count@ by 1 %
1287   \lccode`~=\count@
1288   \lowercase{%
1289     \toks@\expandafter{\the\toks@ ~}%
1290   }%
1291 }%
1292 \toks@\expandafter{\the\toks@ !}%
1293 \xdef\HyPsd@CJKhook@bookmarks{%
1294   \the\toks@
1295 }%
1296 \endgroup

```

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

```

1297 \def\HyPsd@CJKActiveChars#1{%
1298   \ifx#1!%
1299     \let\HyPsd@CJKActiveChars\relax
1300   \else
1301     \edef#1{\noexpand\Hy@cjku\string#1}%
1302   \fi
1303   \HyPsd@CJKActiveChars
1304 }

```

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

```

1305 \def\HyPsd@DecimalToOctal#1{%
1306   \ifcase #1 %
1307     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1308     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1309     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1310     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1311     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1312     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1313     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1314     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1315     \or @\or A\or B\or C\or D\or E\or F\or G%

```

```

1316 \or H\or I\or J\or K\or L\or M\or N\or O%
1317 \or P\or Q\or R\or S\or T\or U\or V\or W%
1318 \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1319 \or \140\or a\or b\or c\or d\or e\or f\or g%
1320 \or h\or i\or j\or k\or l\or m\or n\or o%
1321 \or p\or q\or r\or s\or t\or u\or v\or w%
1322 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1323 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1324 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1325 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1326 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1327 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1328 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1329 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1330 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1331 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1332 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1333 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1334 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1335 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1336 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1337 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1338 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1339 \fi
1340 }

```

### 6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1341 \def\HyPsd@CJKhook@unicode{%
1342 \let\Unicode\HyPsd@CJK@Unicode
1343 \let\CJKnumber\HyPsd@CJKnumber
1344 \let\CJKdigits\HyPsd@CJKdigits
1345 }

```

\HyPsd@CJK@Unicode

```

1346 \def\HyPsd@CJK@Unicode#1#2{%
1347 \ifnum#1<256 %
1348 \HyPsd@DecimalToOctalFirst{#1}%
1349 \HyPsd@DecimalToOctalSecond{#2}%
1350 \else
1351 \933%
1352 \expandafter\expandafter\expandafter\HyPsd@HighA
1353 \intcalcDiv{#1}{4}!%
1354 \933%
1355 \ifcase\intcalcMod{#1}{4} %
1356 4\or 5\or 6\or 7%
1357 \fi
1358 \HyPsd@DecimalToOctalSecond{#2}%

```

```

1359 \fi
1360 }

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

```

```

1408 \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1409 \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1410 \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1411 \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1412 \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1413 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1414 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1415 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1416 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1417 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1418 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1419 \fi
1420 }
1421 \def\HyPsd@DecimalToOctalSecond#1{%
1422 \ifcase #1 %
1423 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1424 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1425 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1426 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1427 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1428 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1429 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1430 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1431 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1432 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1433 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1434 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1435 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1436 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1437 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1438 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1439 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1440 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1441 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1442 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1443 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1444 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1445 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1446 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1447 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1448 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1449 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1450 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1451 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1452 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1453 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1454 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1455 \fi
1456 }

```

```

1457 \def\HyPsd@CJKnumber#1{%
1458   \ifnum#1<\z@
1459     \CJK@minus
1460     \expandafter\HyPsd@@CJKnumber\expandafter{\number-\number#1}%
1461   \else
1462     \expandafter\HyPsd@@CJKnumber\expandafter{\number#1}%
1463   \fi
1464 }
1465 \def\HyPsd@@CJKnumber#1{%
1466   \ifcase#1 %
1467     \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1468     \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1469     \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or
1470     \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1471     \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1472     \CJK@ten\CJK@nine
1473   \else
1474     \ifnum#1<10000 %
1475       \HyPsd@CJKnumberFour#1!\@empty{20}%
1476     \@empty
1477   \else
1478     \ifnum#1<100000000 %
1479       \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1480         \IntCalcDiv#1!10000!%
1481       !}{20}%
1482     \CJK@tenthousand
1483     \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1484       \IntCalcMod#1!10000!%
1485     !\CJK@zero{10}%
1486     \@empty
1487   \else
1488     \expandafter\HyPsd@CJKnumberLarge
1489     \number\IntCalcDiv#1!100000000!\expandafter!%
1490     \number\IntCalcMod#1!100000000!!%
1491   \fi
1492   \fi
1493   \fi
1494 }
1495 \def\HyPsd@CJKnumberLarge#1!#2!{%
1496   \HyPsd@CJKnumberFour#1!}{20}%
1497   \CJK@hundredmillion
1498   \ifnum#2=\z@
1499   \else
1500     \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1501       \IntCalcDiv#2!10000!%
1502     !\CJK@zero{10}%
1503     \CJK@tenthousand
1504     \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1505       \IntCalcMod#2!10000!%
1506     !\CJK@zero{10}%

```

```

1507 \@empty
1508 \fi
1509 }
1510 \def\HyPsd@CJKnumberFour#1!#2#3{%
1511 \ifnum#1=\z@
1512 \expandafter\@gobble
1513 \else
1514 \ifnum#1<1000 %
1515 #2%
1516 \HyPsd@CJKnumberThree#1!{#{#3}%
1517 \else
1518 \HyPsd@@CJKnumber{\IntCalcDiv#1!1000!}%
1519 \CJK@thousand
1520 \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1521 \IntCalcMod#1!1000!%
1522 !\CJK@zero{10}%
1523 \fi
1524 \fi
1525 }
1526 \def\HyPsd@CJKnumberThree#1!#2#3{%
1527 \ifnum#1=\z@
1528 \else
1529 \ifnum#1<100 %
1530 #2%
1531 \HyPsd@CJKnumberTwo#1!{#{#3}%
1532 \else
1533 \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1534 \CJK@hundred
1535 \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1536 \IntCalcMod#1!100!%
1537 !\CJK@zero{10}%
1538 \fi
1539 \fi
1540 }
1541 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1542 \ifnum#1=\z@
1543 \else
1544 \ifnum#1<#3 %
1545 #2%
1546 \HyPsd@@CJKnumber{#1}%
1547 \else
1548 \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1549 \CJK@ten
1550 \ifnum\IntCalcMod#1!10!=\z@
1551 \else
1552 \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1553 \fi
1554 \fi
1555 \fi
1556 }

```

```

1557 \def\HyPsd@CJKdigits#1{%
1558   \ifx*#1\relax
1559   \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1560   \else
1561   \HyPsd@@CJKdigits\CJK@null{#1}%
1562   \fi
1563 }
1564 \def\HyPsd@@CJKdigits#1#2{%
1565   \ifx\#2\%
1566   \else
1567   \HyPsd@@@CJKdigits#1#2\@nil
1568   \fi
1569 }%
1570 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1571   \HyPsd@CJKdigit#1{#2}%
1572   \ifx\#3\%
1573   \expandafter\@gobble
1574   \else
1575   \expandafter\@firstofone
1576   \fi
1577   {%
1578   \HyPsd@@@CJKdigits#1#3\@nil
1579   }%
1580 }
1581 \def\HyPsd@CJKdigit#1#2{%
1582   \ifcase#2 %
1583     #1\or
1584     \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1585     \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1586   \fi
1587 }

```

### 6.5.6 \@inmathwarn-Patch

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

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

```

\def\@current@cmd#1{%
  \ifx\protect\@typesetprotect
    \@inmathwarn#1%
  \else
    \noexpand#1\expandafter\@gobble

```

```

\fi}
\def\@changed@cmd#1#2{%
\ifx\protect\@typeset@protect
\@inmathwarn#1%
\expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
\expandafter\ifx\csname ?\string#1\endcsname\relax
\expandafter\def\csname ?\string#1\endcsname{%
\TextSymbolUnavailable#1%
}%
\fi
\global\expandafter\let
\csname\cf@encoding\string#1\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}

1588 \def\HyPsd@inmathwarn#1#2{%
1589 \ifx#2\expandafter
1590 \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1591 \HyPsd@GLYPHERR
1592 \expandafter\@gobble\string#1%
1593 >%
1594 \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1595 \else
1596 \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1597 \fi
1598 \else
1599 \expandafter#2%
1600 \fi
1601 }
1602 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1603 \def\HyPsd@EndWithElse#1\else\else}

\HyPsd@add@accent
1604 \def\HyPsd@add@accent#1#2{%
1605 \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1606 #2%
1607 }%

```

### 6.5.7 Unexpandable spaces

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

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

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

```
1608 \def\HyPsd@LetUnexpandableSpace#1{%
1609 \expandafter\futurelet\expandafter#1\expandafter@gobble\space\relax
1610 }
```

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

```
1611 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace
```

### 6.5.8 Marker for commands

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

```
1612 \edef\HyPsd@XSPACE{\string#\string X}
1613 \edef\HyPsd@ITALCORR{\string#\string I}
1614 \edef\HyPsd@GLYPHERR{\string#\string G}
```

### 6.5.9 `\hspace fix`

`\HyPsd@hspace`

```
1615 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}
```

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

```
1616 \def\HyPsd@@hspace#1*#2\END{%
1617 \ifx\#2\%
1618 \HyPsd@hspacetest{#1}%
1619 \else
1620 \expandafter\HyPsd@hspacetest
1621 \fi
1622 }
```

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

```
1623 \def\HyPsd@hspacetest#1{\ifdim#1>\z@\space\fi}
```

### 6.5.10 Fix for AMS classes

```
1624 \ltx@ifundefined{tocsection}{%
1625 \let\HyPsd@AMSclassfix\relax
1626 }{%
1627 \def\HyPsd@AMSclassfix{%
1628 \let\tocpart\HyPsd@tocsection
1629 \let\tocchapter\HyPsd@tocsection
1630 \let\tocappendix\HyPsd@tocsection
1631 \let\tocsection\HyPsd@tocsection
1632 \let\tocsubsection\HyPsd@tocsection
1633 \let\tocsubsubsection\HyPsd@tocsection
1634 \let\tocparagraph\HyPsd@tocsection
1635 }%
1636 \def\HyPsd@tocsection#1#2#3{%
1637 \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
1638 #3%
1639 }%
1640 }
```

### 6.5.11 Reference commands

`\HyPsd@href`

```
1641 \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.

```
1642 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1643 \def\HyPsd@@ref#1*#2\END{%
1644 \ifx\#2\%
1645 \HyPsd@@@ref{#1}%
1646 \else
1647 \expandafter\HyPsd@@@ref
1648 \fi
1649 }%
```

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

```
1650 \def\HyPsd@@@ref#1{%
1651 \expandafter\ifx\csname r@#1\endcsname\relax
1652 ???%
1653 \else
1654 \expandafter\expandafter\expandafter
1655 \@car\csname r@#1\endcsname\@nil
1656 \fi
1657 }
```

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

```
1658 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}
```

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

```
1659 \def\HyPsd@@pageref#1*#2\END{%
1660 \ifx\#2\%
1661 \HyPsd@@@pageref{#1}%
1662 \else
1663 \expandafter\HyPsd@@@pageref
1664 \fi
1665 }
```

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

```
1666 \def\HyPsd@@@pageref#1{%
1667 \expandafter\ifx\csname r@#1\endcsname\relax
1668 ??%
1669 \else
1670 \expandafter\expandafter\expandafter\expandafter
1671 \expandafter\expandafter\expandafter\@car
1672 \expandafter\expandafter\expandafter\@gobble
1673 \csname r@#1\endcsname{}\@nil
1674 \fi
1675 }
```

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

```
1676 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}
```

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

```
1677 \def\HyPsd@@nameref#1*#2\END{%
1678 \ifx\#2\%
1679 \HyPsd@@@nameref{#1}%
1680 \else
1681 \expandafter\HyPsd@@@nameref
1682 \fi
1683 }
```

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

```
1684 \def\HyPsd@@@nameref#1{%
1685 \expandafter\ifx\csname r@#1\endcsname\relax
1686 ??%
1687 \else
1688 \expandafter\expandafter\expandafter\expandafter
1689 \expandafter\expandafter\expandafter\@car
1690 \expandafter\expandafter\expandafter\@gobbletwo
1691 \csname r@#1\endcsname{}\@nil
1692 \fi
1693 }
```

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

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

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

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

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

```
1702 \def\HyPsd@@@autoref#1{%
1703   \expandafter\ifx\csname r@#1\endcsname\relax
1704     ??%
1705   \else
1706     \expandafter\expandafter\expandafter\HyPsd@autorefname
1707     \csname r@#1\endcsname{}{}{}{}@nil
1708     \expandafter\expandafter\expandafter
1709     \@car\csname r@#1\endcsname@nil
1710   \fi
1711 }
```

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

```
1712 \def\HyPsd@autorefname#1#2#3#4#5@nil{%
1713   \ifx\#4\%
1714     \else
1715     \HyPsd@@autorefname#4.@nil
1716   \fi
1717 }
```

`\HyPsd@@autorefname`

```
1718 \def\HyPsd@@autorefname#1.#2@nil{%
1719   \ltx@ifundefined{#1autorefname}{%
1720     \ltx@ifundefined{#1name}{%
1721       }{%
1722         \csname#1name\endcsname\space
1723       }%
1724     }{%
1725       \csname#1autorefname\endcsname\space
1726     }%
1727 }
```

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

```

\HyPsd@DefCommand
\HyPsd@LetCommand 1728 \begingroup
1729 \def\x#1#2{%
1730 \endgroup
1731 \let#1\def
1732 \def\HyPsd@DefCommand##1##2###{%
1733 #1%
1734 \expandafter\noexpand
1735 \csname\expandafter\@gobble\string##1\@empty\endcsname
1736 \@gobble
1737 }%
1738 \let#2\let
1739 \def\HyPsd@@LetCommand##1{%
1740 \expandafter\ifx\csname##1\expandafter\endcsname
1741 \csname iftrue\endcsname
1742 \pdfstringdefWarn\let
1743 \expandafter\@gobble
1744 \else
1745 \expandafter\ifx\csname##1\expandafter\endcsname
1746 \csname iffalse\endcsname
1747 \pdfstringdefWarn\let
1748 \expandafter\expandafter\expandafter\@gobble
1749 \else
1750 #2%
1751 \expandafter\noexpand
1752 \csname##1\expandafter\expandafter\expandafter\endcsname

```

```

1753     \fi
1754     \fi
1755   }%
1756 }%
1757 \expandafter\x\csname <def>-command\expandafter\endcsname
1758     \csname <let>-command\endcsname
1759 \def\HyPsd@LetCommand#1{%
1760 \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1761 \expandafter\expandafter\expandafter{%
1762 \expandafter\@gobble\string#1\@empty
1763 }%
1764 }

```

### 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).

```

1765 \def\HyPsd@ifnextchar#1{%
1766 \pdfstringdefWarn#1%
1767 \expandafter\@gobbletwo\@gobble
1768 }

```

### 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`.

```

1769 \def\HyPsd@protected@testopt#1{%
1770 \pdfstringdefWarn#1%
1771 \@gobbletwo
1772 }

```

## 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:

```
1773 \def\HyPsd@Warning#1{%
1774   \begingroup
1775   \let\space\tx@space
1776   \Hy@Warning{#1}%
1777   \endgroup
1778 }
```

### 6.6.2 Protecting spaces

```
1779 \RequirePackage{etexcmds}[2007/09/09]
1780 \ifetex@unexpanded
1781   \expandafter\@secondoftwo
1782 \else
1783   \expandafter\@firstoftwo
1784 \fi
1785 {%
```

`\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`.

```
1786 \def\HyPsd@ProtectSpaces#1{%
1787   \iftrue
1788     \expandafter\HyPsd@@ProtectSpacesFi
1789     \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1790   \fi
1791   }%
```

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

```
1792 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1793   \fi
1794   \ifx\scrollmode#2\scrollmode
1795     \HyPsd@RemoveMask#1\HyPsd@End#3%
1796   \else
1797     \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1798     \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1799   \fi
1800   }%
```

**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.

```

1801 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1802   \toks@\expandafter{#1}%
1803   \xdef#2{\the\toks@}%
1804 }%

1805 }{%
1806 \let\HyPsd@fi\fi
1807 \def\HyPsd@ProtectSpaces#1{%
1808   \xdef#1{%
1809     \iftrue
1810       \expandafter\HyPsd@@ProtectSpacesFi
1811       \expandafter|\expandafter\@empty#1| %
1812     \HyPsd@fi
1813   }%
1814   \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1815 }%
1816 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1817   \fi
1818   \etex@unexpanded{#1}%
1819   \ifx\scrollmode#2\scrollmode
1820   \else
1821     \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1822   \HyPsd@fi
1823 }%
1824 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1825   \xdef#2{\etex@unexpanded\expandafter{#1}}%
1826 }%
1827 }

```

### 6.6.3 Remove grouping braces

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

```

1828 \def\HyPsd@RemoveBraces#1{%
1829   \ifx\scrollmode#1\scrollmode
1830   \else
1831     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1832   \fi
1833 }

```

`\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`.

```

1834 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1835 \fi
1836 \def\Hy@temp@A{#1#2}%
1837 \def\Hy@temp@B{#3}%
1838 \ifx\Hy@temp@A\Hy@temp@B
1839 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1840 \HyPsd@String#1%
1841 }%
1842 \ifx\scrollmode#2\scrollmode
1843 \else
1844 \Hy@ReturnAfterFiFiEnd{%
1845 \HyPsd@RemoveBraces{#2}%
1846 }%
1847 \fi
1848 \else
1849 \def\Hy@temp@A{#1}%
1850 \HyPsd@AppendItalcorr\HyPsd@String
1851 \ifx\Hy@temp@A\@empty
1852 \Hy@ReturnAfterElseFiFiEnd{%
1853 \HyPsd@RemoveBraces{#2}%
1854 }%
1855 \else
1856 \HyPsd@ProtectSpaces\Hy@temp@A
1857 \HyPsd@AppendItalcorr\Hy@temp@A
1858 \Hy@ReturnAfterFiFiEnd{%
1859 \expandafter\HyPsd@RemoveBraces\expandafter
1860 {\Hy@temp@A#2}%
1861 }%
1862 \fi
1863 \fi
1864 \Hy@ReturnEnd
1865 }

```

`\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`.

```

1866 \def\HyPsd@AppendItalcorr#1{%
1867 \expandafter\HyPsd@@AppendItalcorr\expandafter{\}#1%
1868 }
1869 \def\HyPsd@@AppendItalcorr#1#2{%
1870 \expandafter\def\expandafter#2\expandafter{#2#1}%
1871 }

```

#### 6.6.4 Catcode check

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

```
1872 \ltx@ifundefined{directlua}{%
1873 }{%
1874 \expandafter\ifx\csname\endcsname\relax\fi
1875 }
```

#### 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`.

```
1876 \begingroup
1877 \catcode`Q=\active
1878 \let Q\ltx@empty
1879 \gdef\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1880 \global\let\HyPsd@Rest\relax
1881 \ifcat\relax\noexpand#1\relax
1882 \ifx#1\protect
1883 \else
1884 \ifx#1\penalty
1885 \setbox\z@=\hbox{%
1886 \afterassignment\HyPsd@AfterCountRemove
1887 \count@=#2\HyPsd@End
1888 }%
1889 \else
1890 \ifx#1\kern
1891 \setbox\z@=\hbox{%
1892 \afterassignment\HyPsd@AfterDimenRemove
1893 \dimen@=#2\HyPsd@End
1894 }%
1895 \else
1896 \ifx#1\hskip
1897 \setbox\z@=\hbox{%
1898 \afterassignment\HyPsd@AfterSkipRemove
1899 \skip@=#2\HyPsd@End
```

```

1900     }%
1901     \else
1902         \HyPsd@CatcodeWarning{#1}%
1903     \fi
1904 \fi
1905 \fi
1906 \fi
1907 \else
1908 \ifcat\noexpand#1\noexpandQ% active character
1909 \expandafter\expandafter\expandafter\def
1910 \expandafter\expandafter\expandafter\HyPsd@String
1911 \expandafter\expandafter\expandafter{%
1912 \expandafter\HyPsd@String\string#1%
1913 }%
1914 \else
1915 \ifcat#1A% letter
1916 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1917 \HyPsd@String#1%
1918 }%
1919 \else
1920 \ifcat#1 % SPACE
1921 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1922 \HyPsd@String\HyPsd@SPACEOPTI
1923 }%
1924 \else
1925 \ifcat$#1%
1926 \HyPsd@CatcodeWarning{math shift}%
1927 \else
1928 \ifcat&#1%
1929 \HyPsd@CatcodeWarning{alignment tab}%
1930 \else
1931 \ifcat^#1%
1932 \HyPsd@CatcodeWarning{superscript}%
1933 \else
1934 \ifcat_#1%
1935 \HyPsd@CatcodeWarning{subscript}%
1936 \else
1937 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1938 \HyPsd@String#1%
1939 }%
1940 \fi
1941 \fi
1942 \fi
1943 \fi
1944 \fi
1945 \fi
1946 \fi
1947 \fi
1948 \ifx\HyPsd@Rest\relax
1949 \ifx\scrollmode#2\scrollmode

```

```

1950     \else
1951     \Hy@ReturnAfterFiFiEnd{%
1952         \HyPsd@CheckCatcodes#2\HyPsd@End
1953     }%
1954     \fi
1955     \else
1956     \ifx\HyPsd@Rest\@empty
1957     \else
1958     \Hy@ReturnAfterFiFiEnd{%
1959         \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1960     }%
1961     \fi
1962     \fi
1963     \Hy@ReturnEnd
1964 }%
1965 \endgroup

```

### Remove counts, dimens, skips.

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

```

1966 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1967     \gdef\HyPsd@Rest{#1}%
1968 }

```

`\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.

```

1969 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1970     \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1971         \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1972     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1973     \else
1974         \ifdim\dimen@=\z@
1975         \else
1976             \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1977         \fi
1978     \gdef\HyPsd@Rest{#1}%
1979     \fi
1980 }

```

`\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).

```

1981 \def\HyPsd@AfterSkipRemove#1\HyPsd@End{%
1982     \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
1983         \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1984     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1985     \else
1986         \ifdim\skip@=\z@

```

```

1987 \else
1988 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1989 \fi
1990 \gdef\HyPsd@Rest{#1}%
1991 \fi
1992 }

```

### Catcode warnings.

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

```

1993 \def\HyPsd@CatcodeWarning#1{%
1994 \HyPsd@Warning{%
1995 Token not allowed in a PDF string (%
1996 \ifHy@unicode
1997 Unicode%
1998 \else
1999 PDFDocEncoding%
2000 \fi
2001 ):%
2002 \MessageBreak removing `\'HyPsd@RemoveCmdPrefix#1'%
2003 }%
2004 }
2005 \begingroup
2006 \catcode`\|=0 %
2007 \catcode`\|=12 %
2008 |gdef|HyPsd@RemoveCmdPrefix#1{%
2009 |expandafter|HyPsd@@RemoveCmdPrefix
2010 |string#1|@empty\<>-|@empty|@empty
2011 }%
2012 |gdef|HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
2013 |endgroup

```

`\HyPsd@RemoveSpaceWarning`

```

2014 \def\HyPsd@RemoveSpaceWarning#1{%
2015 \HyPsd@Warning{%
2016 Token not allowed in a PDF string (%
2017 \ifHy@unicode
2018 Unicode%
2019 \else
2020 PDFDocEncoding%
2021 \fi
2022 ):%
2023 \MessageBreak #1\MessageBreak
2024 removed%
2025 }%
2026 }

```

`\HyPsd@ReplaceSpaceWarning`

```

2027 \def\HyPsd@ReplaceSpaceWarning#1{%

```

```

2028 \HyPsd@Warning{%
2029   Token not allowed in a PDF string (%)
2030   \ifHy@unicode
2031     Unicode%
2032   \else
2033     PDFDocEncoding%
2034   \fi
2035   }:%
2036   \MessageBreak #1\MessageBreak
2037   replaced by space%
2038 }%
2039 }

```

### 6.6.5 Check for wrong glyphs

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

```

2040 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
2041   \expandafter\def\expandafter\HyPsd@String\expandafter{%
2042     \HyPsd@String#1%
2043   }%
2044   \ifx\#2\%
2045   \else
2046     \ltx@ReturnAfterFi{%
2047       \HyPsd@GlyphProcessWarning#2\@empty
2048     }%
2049   \fi
2050 }
2051 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
2052   \HyPsd@@GlyphProcessWarning#1++>%
2053   \HyPsd@GlyphProcess#2\@empty
2054 }
2055 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
2056   \ifx\#2\%
2057   \HyPsd@Warning{%
2058     Glyph not defined in %
2059     P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
2060     removing ` \@backslashchar#1'%
2061   }%
2062   \else
2063   \HyPsd@Warning{%
2064     Composite letter ` \@backslashchar#1+#2'\MessageBreak
2065     not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
2066     \MessageBreak
2067     removing ` \@backslashchar#1'%
2068   }%
2069   \fi
2070 }

```

## 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`.

```
2071 \def\HyPsd@spaceopti#1{ % first space
2072 \ifx\HyPsd@spaceopti#1%
2073 \040%
2074 \else
2075 #1%
2076 \fi
2077 }%
```

## 6.6.6 Replacing tokens

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

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

```
2078 \def\HyPsd@Subst#1#2#3{%
2079 \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
2080 \fi
2081 ##1%
2082 \ifx\scrollmode##2\scrollmode
2083 \else
2084 #2%
2085 \HyPsd@@ReplaceFi##2\END
2086 \fi
2087 }%
2088 \xdef#3{%
2089 \iftrue
2090 \expandafter\HyPsd@@ReplaceFi#3#1\END
2091 \fi
2092 }%
2093 }
```

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

```
2094 \def\HyPsd@StringSubst#1{%
2095 \expandafter\HyPsd@Subst\expandafter{\string#1}%
2096 }
```

`\HyPsd@EscapeTeX`

```
2097 \begingroup
2098 \lccode`|=`\%
2099 \lccode`|=``\%
```

```

2100 \lccode`\(=\`\{%
2101 \lccode`\)=`\}%
2102 \lccode`0=\ltx@zero
2103 \lccode`1=\ltx@zero
2104 \lccode`3=\ltx@zero
2105 \lccode`4=\ltx@zero
2106 \lccode`5=\ltx@zero
2107 \lccode`7=\ltx@zero
2108 \lowercase{\endgroup
2109 \def\HyPsd@EscapeTeX#1{%
2110 \HyPsd@Subst!{|045}#1%
2111 \HyPsd@Subst({|173}#1%
2112 \HyPsd@Subst){|175}#1%
2113 }%
2114 }

```

### 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.

```

2115 \def\HyPsd@doxspace#1{%
2116 \ifx#1\relax\else
2117 \ifx#1.\else
2118 \ifx#1:\else
2119 \ifx#1,\else
2120 \ifx#1;\else
2121 \ifx#1!\else
2122 \ifx#1?\else
2123 \ifx#1/\else
2124 \ifx#1-\else
2125 \ifx#1'\else
2126 \HyPsd@SPACEOPTI
2127 \fi
2128 \fi
2129 \fi
2130 \fi
2131 \fi
2132 \fi
2133 \fi
2134 \fi
2135 \fi
2136 \fi
2137 #1%
2138 }%

```

### 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.

```
2139 \begingroup
2140 \catcode`\|=0 %
2141 \catcode`\|=12 %
```

\HyPsd@ConvertToUnicode

```
2142 |gdef|HyPsd@ConvertToUnicode#1{%
2143 |xdef#1{%
2144 |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
2145 }%
2146 |ifx#1|@empty
2147 |else
2148 |xdef#1{%
2149 \376\377%
2150 #1%
2151 }%
2152 |fi
2153 }%
```

\HyPsd@DoConvert

```
2154 |gdef|HyPsd@DoConvert#1{%
2155 |ifx#1|@empty
2156 |else
2157 |ltx@ReturnAfterFi{%
2158 |ifx#1|\%%
2159 \%%
2160 |expandafter|HyPsd@DoEscape
2161 |else
2162 |HyPsd@Char{#1}%
2163 |expandafter|HyPsd@DoConvert
2164 |fi
2165 }%
2166 |fi
2167 }%
```

\HyPsd@DoEscape

```
2168 |gdef|HyPsd@DoEscape#1{%
2169 |ifx#19%
2170 |expandafter|HyPsd@GetTwoBytes
2171 |else
2172 |ltx@ReturnAfterFi{%
2173 |ifx#18%
2174 00%
2175 |expandafter|HyPsd@GetTwoBytes
2176 |else
```

```

2177     #1%
2178     |expandafter|HyPsd@GetOneByte
2179     |fi
2180     }%
2181     |fi
2182     }%

```

\HyPsd@GetTwoBytes

```

2183 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
2184   #1\#2#3#4%
2185   |HyPsd@DoConvert
2186   }%

```

\HyPsd@GetOneByte

```

2187 |gdef|HyPsd@GetOneByte#1#2{%
2188   #1#2%
2189   |HyPsd@DoConvert
2190   }%
2191 |endgroup

```

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

```

2192 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
2193   \xdef#4{#4#1#2}%
2194   \HyPsd@@ConvertToUnicode#3\END#4%
2195 }

```

\HyPsd@Char

```

2196 \begingroup
2197 \catcode0=9 %
2198 \catcode\^=7 %
2199 \catcode\^^=12 %
2200 \def\x{^^^0000}%
2201 \expandafter\endgroup
2202 \ifx\x\@empty
2203   \def\HyPsd@Char#1{%
2204     \ifnum`#1<128 %
2205       \@backslashchar 000#1%
2206     \else
2207       \ifnum`#1<65536 %
2208         \expandafter\HyPsd@CharTwoByte\number`#1!%
2209       \else
2210         \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
2211         \intcalcSub{`#1}{65536}!%
2212       \fi
2213     \fi
2214   }%
2215 \def\HyPsd@CharTwoByte#1!{%
2216   \expandafter\expandafter\expandafter\HyPsd@CharOctByte

```

```

2217 \IntCalcDiv#1!256!!%
2218 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2219 \IntCalcMod#1!256!!%
2220 }%
2221 \def\HyPsd@CharOctByte#1!{%
2222 \@backslashchar
2223 \IntCalcDiv#1!64!%
2224 \intcalcDiv{\IntCalcMod#1!64!}{8}%
2225 \IntCalcMod#1!8!%
2226 }%
2227 \def\HyPsd@CharSurrogate#1!{%
2228 \@backslashchar 33%
2229 \IntCalcDiv#1!262144!%
2230 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2231 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
2232 \@backslashchar 33%
2233 \expandafter\expandafter\expandafter\IntCalcAdd
2234 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
2235 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
2236 \IntCalcMod#1!256!!%
2237 }%
2238 \else
2239 \def\HyPsd@Char#1{%
2240 \@backslashchar 000#1%
2241 }%
2242 \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

2243 \begingroup\expandafter\expandafter\expandafter\endgroup
2244 \expandafter\ifx\csname numexpr\endcsname\relax
2245 \let\HyPsd@UTFviii\relax
2246 \else
2247 \begingroup
2248 \lccode`~=`^^f4\relax
2249 \lowercase{\endgroup
2250 \def\HyPsd@UTFviii{%
2251 \let\UTFviii@two@octets\HyPsd@UTFviii@two
2252 \let\UTFviii@three@octets\HyPsd@UTFviii@three

```

```

2253 \let\UTFviii@four@octets\HyPsd@UTFviii@four
2254 \ifx~\HyPsd@UTFviii@ccxliv@undef
2255 \let~\HyPsd@UTFviii@ccxliv@def
2256 \fi
2257 \let\unichar\HyPsd@unichar
2258 }%
2259 }%
2260 \def\HyPsd@UTFviii@ccxliv@undef{\@inpc@undefined@{utf8}}%
2261 \edef\HyPsd@UTFviii@ccxliv@def{%
2262 \noexpand\UTFviii@four@octets\string ^^f4%
2263 }%

```

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

$$a := A/4 - 48 \tag{1}$$

$$b := A - 4 * (A/4) \tag{2}$$

$$c := B/8 - 8 * ((8 * (B/8))/8) \tag{3}$$

$$d := B - 8 * (B/8) \tag{4}$$

$$\tag{5}$$

```

2264 \def\HyPsd@UTFviii@two#1#2{%
2265 \expandafter\HyPsd@UTFviii@@two
2266 \number\dimexpr.25\dimexpr`#1sp\expandafter\relax\expandafter|%
2267 \number`#1\expandafter|%
2268 \number\dimexpr.125\dimexpr`#2sp\expandafter\relax\expandafter|%
2269 \number`#2 \@nil
2270 }%
2271 \def\HyPsd@UTFviii@@two#1|#2|#3|#4@\nil{%
2272 \expandafter\8%
2273 \number\numexpr #1-48\expandafter\relax
2274 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
2275 \number\numexpr #3-8*%
2276 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
2277 \number\numexpr #4-8*#3\relax
2278 }%

```

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

$$a := A/4 - 56 \tag{6}$$

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

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

$$d := B - 4 * (B/4) \tag{9}$$

$$e := C/8 - 16 \tag{10}$$

$$f := C - 8 * (C/8) \tag{11}$$

$$\tag{12}$$

```

2279 \def\HyPsd@UTFviii@three#1#2#3{%
2280 \expandafter\HyPsd@UTFviii@@three
2281 \number\dimexpr.25\dimexpr`#1sp\expandafter\relax\expandafter| %
2282 \number`#1\expandafter| %
2283 \number\ifnum\numexpr`#2-128\relax <32 0\else 1\fi\expandafter| %
2284 \number\dimexpr.25\dimexpr`#2sp\expandafter\relax\expandafter| %
2285 \number`#2\expandafter| %
2286 \number\dimexpr.125\dimexpr`#3sp\expandafter\relax\expandafter| %
2287 \number`#3 \@nil
2288 }%
2289 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
2290 \expandafter\9%
2291 \number\numexpr #1-56\expandafter\relax
2292 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
2293 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
2294 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
2295 \number\numexpr #6-16\expandafter\relax
2296 \number\numexpr #7-8*#6\relax
2297 }%

```

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

```

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

```

```

2298 \def\HyPsd@UTFviii@four#1#2{%
2299 \expandafter\HyPsd@@UTFviii@four\number
2300 \numexpr-1+(\`#1-240)*4+\dimexpr.0625\dimexpr`#2sp-128sp%
2301 \expandafter|\number
2302 \numexpr`#2-16*\dimexpr.0625\dimexpr`#2sp| %
2303 }%
2304 \def\HyPsd@@UTFviii@four#1|#2|#3{%
2305 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
2306 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
2307 \ifodd#2 %
2308 \number\numexpr(#2-1)/2\relax
2309 \else
2310 \number\numexpr#2/2\relax
2311 \fi
2312 \number\numexpr\ifodd#2 4+\fi
2313 \dimexpr.0625\dimexpr`#3sp-128sp\relax\relax\relax
2314 \933%
2315 \expandafter\HyPsd@@@UTFviii@four\number
2316 \numexpr`#3-16*\dimexpr.0625\dimexpr`#3sp| %
2317 }%
2318 \def\HyPsd@@@UTFviii@four#1|#2{%
2319 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
2320 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname

```

```

2321 \number\dimexpr.125\dimexpr`#2sp-128sp\relax\relax
2322 \number\numexpr`#2-8*\dimexpr.125\dimexpr`#2sp\relax\relax\relax
2323 }%

```

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

```

2324 \def\HyPsd@unicar#1{%
2325 \ifHy@unicode
2326 \ifnum#1>"10FFFF %
2327 \HyPsd@UnicodeReplacementCharacter % illegal
2328 \else
2329 \ifnum#1>"FFFF %

```

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

```

2330 \expandafter\HyPsd@unicar\expandafter{%
2331 \number\numexpr 55296+%
2332 \dimexpr.0009765625\dimexpr\number#1sp-\p@
2333 \relax\relax\relax
2334 }%

```

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

```

2335 \expandafter\HyPsd@unicar\expandafter{%
2336 \number\numexpr#1-9216%
2337 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2338 \relax\relax\relax
2339 }%
2340 \else
2341 \ifnum#1>"7FF %
2342 \9%
2343 \expandafter\HyPsd@unicar@first@byte\expandafter{%
2344 \number
2345 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2346 }%
2347 \else
2348 \8%
2349 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2350 \fi
2351 \expandafter\HyPsd@unicar@second@byte\expandafter{%
2352 \number
2353 \numexpr#1-256*\number
2354 \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2355 }%
2356 \fi
2357 \fi
2358 \else
2359 .% unsupported (Unicode -> PDF Doc Encoding)
2360 \fi
2361 }%
2362 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2363 \def\HyPsd@unicar@first@byte#1{%
2364 \number\dimexpr.015625\dimexpr#1sp\relax\relax

```

```

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@second@byte#1{%
2372 \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2373 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2374 \number
2375 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2376 \relax\relax\relax
2377 }%
2378 }%
2379 \def\HyPsd@unichar@octtwo#1{%
2380 \number\dimexpr.125\dimexpr#1sp\relax\relax
2381 \number\dimexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2382 \relax\relax\relax
2383 }%
2384 \fi

```

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

```

2385 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2386 \ifx\@gobble#1%
2387 \else
2388 [Please insert \textbackslash PrerenderUnicode%
2389 \textbraceleft#1\textbraceright\space
2390 into preamble]%
2391 \fi
2392 }%

```

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

`\HyPsd@DieFace` Die faces are provided by

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

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

```

2393 \def\HyPsd@DieFace#1{%
2394 \ifHy@unicode
2395 \ifnum#1<1 %
2396 \HyPsd@UnicodeReplacementCharacter
2397 \else
2398 \ifnum#1>6 %

```

```

2399     \9046\205%
2400     \expandafter\expandafter\expandafter
2401     \HyPsd@DieFaceLarge\intcalcSub{#1}{6}!%
2402     \else
2403     \9046\20\intcalcDec{#1}%
2404     \fi
2405     \fi
2406     \else
2407     .% Die faces are not part of PDFDocEncoding
2408     \fi
2409 }

```

\HyPsd@DieFaceLarge

```

2410 \def\HyPsd@DieFaceLarge#1!{%
2411 \ifnum#1>6 %
2412 \expandafter\ltx@firstoftwo
2413 \else
2414 \expandafter\ltx@secondoftwo
2415 \fi
2416 {%
2417 \9046\205%
2418 \expandafter\expandafter\expandafter
2419 \HyPsd@DieFaceLarge\IntCalcSub#1!6!!%
2420 }{%
2421 \9046\20\IntCalcDec#1!%
2422 }%
2423 }

```

### 6.6.11 Support for moon phases of package china2e

```

2424 \def\HyPsd@MoonPha#1{%
2425 \ifcase\intcalcNum{#1} %
2426 \HyPsd@UnicodeReplacementCharacter
2427 \or % 1
2428 % U+1F31A NEW MOON WITH FACE; \MoonPha{1} (china2e)
2429 \9330\074\9337\032%
2430 \or % 2
2431 \HyPsd@UnicodeReplacementCharacter
2432 \or % 3
2433 % U+1F31D FULL MOON WITH FACE; \MoonPha{3} (china2e)
2434 \9330\074\9337\035%
2435 \or % 4
2436 % U+1F31C LAST QUARTER MOON WITH FACE; \MoonPha{4} (china2e)
2437 \9330\074\9337\034%
2438 \else
2439 \HyPsd@UnicodeReplacementCharacter
2440 \fi
2441 }
2442 %* \HyPsd@MoonPha -> \MoonPha

```

## 6.6.12 Support for package pifont

`\HyPsd@ding`

```
2443 \def\HyPsd@ding#1{%
2444 \ifHy@unicode
2445 \ifnum#1<32 %
2446 \HyPsd@UnicodeReplacementCharacter
2447 \else
2448 \ifnum#1>254 %
2449 \HyPsd@UnicodeReplacementCharacter
2450 \else
2451 \ifnum#1<127 %
2452 \expandafter\expandafter\expandafter
2453 \HyPsd@@ding\intcalcNum{#1}!%
2454 \else
2455 \ifnum#1>160 %
2456 \expandafter\expandafter\expandafter
2457 \HyPsd@@ding\intcalcNum{#1}!%
2458 \else
2459 \HyPsd@UnicodeReplacementCharacter
2460 \fi
2461 \fi
2462 \fi
2463 \fi
2464 \else
2465 .% Dingbats are not part of PDFDocEncoding
2466 \fi
2467 }
```

`\HyPsd@@ding`

```
2468 \def\HyPsd@@ding#1!{%
2469 \ltx@ifundefined{HyPsd@ding@#1}{%
2470 \ifnum#1<127 %
2471 \9047%
2472 \HyPsd@DecimalToOctalSecond{\IntCalcSub#1!32!}%
2473 \else
2474 \ifnum#1<168 %
2475 \9047\14\IntCalcSub#1!160!%
2476 \else
2477 \ifnum#1>181 %
2478 \9047\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!64!}%
2479 \else
2480 % 172..181 -> U+2460..U+2469
2481 \9044\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!76!}%
2482 \fi
2483 \fi
2484 \fi
2485 }{%
2486 \csname HyPsd@ding@#1\endcsname
2487 }%
```

```

2488 }
2489 \@namedef{HyPsd@ding@32}{\space}
2490 % U+260E BLACK TELEPHONE
2491 \@namedef{HyPsd@ding@37}{\9046\016}% U+260E
2492 % U+261B BLACK RIGHT POINTING INDEX
2493 \@namedef{HyPsd@ding@42}{\9046\033}% U+261B
2494 % U+261E WHITE RIGHT POINTING INDEX
2495 \@namedef{HyPsd@ding@43}{\9046\036}% U+261E
2496 % U+2605 BLACK STAR
2497 \@namedef{HyPsd@ding@72}{\9046\005}% U+2605
2498 % U+25CF BLACK CIRCLE
2499 \@namedef{HyPsd@ding@108}{\9045\317}% U+25CF
2500 % U+25A0 BLACK SQUARE
2501 \@namedef{HyPsd@ding@110}{\9045\240}% U+25A0
2502 % U+25B2 BLACK UP-POINTING TRIANGLE
2503 \@namedef{HyPsd@ding@115}{\9045\262}% U+25B2
2504 % U+25BC BLACK DOWN-POINTING TRIANGLE
2505 \@namedef{HyPsd@ding@116}{\9045\274}% U+25BC
2506 % U+25C6 BLACK DIAMOND
2507 \@namedef{HyPsd@ding@117}{\9045\306}% U+25C6
2508 % U+25D7 RIGHT HALF BLACK CIRCLE
2509 \@namedef{HyPsd@ding@119}{\9045\327}% U+25D7
2510 \@namedef{HyPsd@ding@168}{\textclubsuitblack}%
2511 \@namedef{HyPsd@ding@169}{\textdiamondsuitblack}%
2512 \@namedef{HyPsd@ding@170}{\textheartsuitblack}%
2513 \@namedef{HyPsd@ding@171}{\textspadesuitblack}%
2514 \@namedef{HyPsd@ding@213}{\textrightarrow}%
2515 \@namedef{HyPsd@ding@214}{\textleftarrow}%
2516 \@namedef{HyPsd@ding@215}{\textupdownarrow}%
2517 \@namedef{HyPsd@ding@240}{\HyPsd@UnicodeReplacementCharacter}

```

## 7 Support of other packages

### 7.1 Class memoir

```

2518 \@ifclassloaded{memoir}{%
2519 \Hy@AtEndOfPackage{\RequirePackage{memhfixc}}%
2520 }{}

```

### 7.2 Package subfigure

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

```

2521 \@ifpackageloaded{subfigure}{%
2522 \ltx@ifundefined{sub@label}{%
2523 \Hy@hypertextnamesfalse
2524 }{%
2525 \renewcommand*{\sub@label}[1]{%
2526 \@bsphack
2527 \subfig@oldlabel{#1}%

```

```

2528 \if@filesw
2529 \begingroup
2530 \edef\@currentlabstr{%
2531 \expandafter\strip@prefix\meaning\@currentlabelname
2532 }%
2533 \protected@write\@auxout{}{%
2534 \string\newlabel{sub@#1}{%
2535 {\@nameuse{@@thesub\@capttype}}%
2536 {\thepage}%
2537 {%
2538 \expandafter\strip@period\@currentlabstr
2539 \relax.\relax\@@@%
2540 }%
2541 {\@currentHref}%
2542 {}%
2543 }%
2544 }%
2545 \endgroup
2546 \fi
2547 \@esphack
2548 }%
2549 \@ifpackagelater{subfigure}{2002/03/26}{%
2550 \providecommand*\toclevel@subfigure{1}%
2551 \providecommand*\toclevel@subtable{1}%
2552 }%
2553 }%
2554 }{}

```

### 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:

```

2555 \ltx@ifundefined{XR@addURL}{%
2556 }{%

```

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.

```

2557 \def\XR@addURL#1{\XR@dURL#1{}{}{}\\}%
2558 \def\XR@dURL#1#2#3#4#5\\{%
2559   {#1}{#2}%
2560   \if!#4!%
2561   \else
2562     {#3}{#4}{\XR@URL}%
2563   \fi
2564 }%
2565 }

2566 \def\Hy@true{true}
2567 \def\Hy@false{false}

```

Providing dummy definitions.

```
2568 \let\literalps@out\@gobble
2569 \newcommand\pdfbookmark[3][]{ }
2570 \def\Acrobatmenu#1#2{\leavevmode#2}
2571 \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

```
2572 \let\HyperRaiseLinkHook\@empty
2573 \def\HyperRaiseLinkDefault{\baselineskip}
```

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

```
2574 \newcount\Hy@SavedSpaceFactor
2575 \def\Hy@SaveSpaceFactor{%
2576   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2577 }
2578 \def\Hy@RestoreSpaceFactor{%
2579   \relax
2580   \ifhmode
2581     \ifnum\Hy@SavedSpaceFactor>\z@
2582       \spacefactor=\Hy@SavedSpaceFactor
2583     \fi
2584   \fi
2585 }
2586 \def\Hy@SaveSavedSpaceFactor{%
2587   \edef\Hy@RestoreSavedSpaceFactor{%
2588     \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2589   }%
2590 }
2591 \def\Hy@raisedlink#1{%
2592   \ifvmode
2593     #1%
2594   \else
2595     \Hy@SaveSpaceFactor
2596     \penalty\@M
2597     \smash{%
```

```

2598 \begingroup
2599 \let\HyperRaiseLinkLength\@tempdima
2600 \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2601 \HyperRaiseLinkHook
2602 \expandafter\endgroup
2603 \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2604 \Hy@RestoreSpaceFactor
2605 #1%
2606 \Hy@SaveSpaceFactor
2607 }%
2608 }%
2609 \Hy@RestoreSpaceFactor
2610 \fi
2611 }

```

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

```

2612 \def\Hy@SaveLastskip{%
2613 \let\Hy@RestoreLastskip\relax
2614 \ifvmode
2615 \ifdim\lastskip=\z@
2616 \let\Hy@RestoreLastskip\nobreak
2617 \else
2618 \begingroup
2619 \skip@=-\lastskip
2620 \edef\x{%
2621 \endgroup
2622 \def\noexpand\Hy@RestoreLastskip{%
2623 \noexpand\ifvmode
2624 \noexpand\nobreak
2625 \vskip\the\skip@
2626 \vskip\the\lastskip\relax
2627 \noexpand\fi
2628 }%
2629 }%
2630 \x
2631 \fi
2632 \else
2633 \ifhmode
2634 \ifdim\lastskip=\z@
2635 \let\Hy@RestoreLastskip\nobreak
2636 \else
2637 \begingroup
2638 \skip@=-\lastskip
2639 \edef\x{%
2640 \endgroup
2641 \def\noexpand\Hy@RestoreLastskip{%
2642 \noexpand\ifhmode
2643 \noexpand\nobreak
2644 \hskip\the\skip@
2645 \hskip\the\lastskip\relax

```

```

2646         \noexpand\fi
2647     }%
2648 }%
2649     \x
2650 \fi
2651 \fi
2652 \fi
2653 }%

```

## 9 Options

```

2654 \SetupKeyvalOptions{%
2655     family=Hyp,%
2656     prefix=HyOpt%
2657 }

```

### 9.1 Help macros

`\IfHyperBooleanExists`

```

2658 \def\IfHyperBooleanExists#1{%
2659     \ltx@ifundefined{Hy@#1false}\ltx@secondoftwo{%
2660         \ltx@ifundefined{KV@Hyp@#1@default}\ltx@secondoftwo\ltx@firstoftwo
2661     }%
2662 }

2663 \@namedef{KV@Hyp@stoppedearly@default}{ }

```

`\IfHyperBoolean`

```

2664 \def\IfHyperBoolean#1{%
2665     \IfHyperBooleanExists{#1}{%
2666         \csname ifHy@#1\endcsname
2667         \expandafter\ltx@firstoftwo
2668     \else
2669         \expandafter\ltx@secondoftwo
2670     \fi
2671 } \ltx@secondoftwo
2672 }

```

`\Hy@boolkey`

```

2673 \def\Hy@boolkey#1#2{%
2674     \edef\Hy@tempa{#2}%
2675     \lowercase\expandafter{%
2676         \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2677     }%
2678     \ifx\Hy@tempa\@empty
2679         \let\Hy@tempa\Hy@true
2680     \fi
2681     \ifx\Hy@tempa\Hy@true
2682     \else

```

```

2683 \ifx\Hy@tempa\Hy>false
2684 \else
2685 \let\Hy@tempa\relax
2686 \fi
2687 \fi
2688 \ifx\Hy@tempa\relax
2689 \Hy@WarnOptionValue{#2}{#1}{`true' or `false'}%
2690 \else
2691 \Hy@Info{Option `#1' set ``\Hy@tempa'}%
2692 \csname Hy@#1\Hy@tempa\endcsname
2693 \fi
2694 }

```

\Hy@WarnOptionValue

```

2695 \def\Hy@WarnOptionValue#1#2#3{%
2696 \Hy@Warning{%
2697 Unexpected value `#1'\MessageBreak
2698 of option `#2' instead of\MessageBreak
2699 #3%
2700 }%
2701 }

```

\Hy@DisableOption

```

2702 \def\Hy@DisableOption#1{%
2703 \ltx@ifundefined{KV@Hyp@#1@default}{%
2704 \define@key{Hyp}{#1}%
2705 }{%
2706 \define@key{Hyp}{#1}[]%
2707 }%
2708 {\Hy@WarnOptionDisabled{#1}}%
2709 }
2710

```

\Hy@WarnOptionDisabled

```

2711 \def\Hy@WarnOptionDisabled#1{%
2712 \Hy@Warning{%
2713 Option `#1' has already been used,\MessageBreak
2714 setting the option has no effect%
2715 }%
2716 }

```

\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.

```

2717 \def\Hy@CheckOptionValue#1#2#3{%
2718 \begingroup
2719 \edef\x{#1}%
2720 \@onelevel@sanitize\x
2721 \let\y=y%

```

```

2722 \def\do##1##2{%
2723 \def\z{##1}%
2724 \@onelevel@sanitize\z
2725 \ifx\x\z
2726 \let\y=n%
2727 \let\do\@gobbletwo
2728 \fi
2729 }%
2730 #3%
2731 \ifx\y y%
2732 \def\do##1##2{%
2733 * `##1'%
2734 \ifx\##2\\\else\space(##2)\fi
2735 \MessageBreak
2736 }%
2737 \Hy@Warning{%
2738 Values of option `##2':\MessageBreak
2739 #3%
2740 * An empty value disables the option.\MessageBreak
2741 Unknown value `x'%
2742 }%
2743 \fi
2744 \endgroup
2745 }

```

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

```

2746 \def\Hy@DefNameKey#1{%
2747 \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2748 }

```

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

```

2749 \def\Hy@@DefNameKey#1#2#3{%
2750 \define@key{Hyp}{#2}{%
2751 \edef#1{##1}%
2752 \ifx#1\@empty
2753 \else
2754 \Hy@CheckOptionValue{##1}{#2}{#3}%
2755 \fi
2756 }%
2757 \let#1\@empty
2758 }

```

`\Hy@UseNameKey`

```

2759 \def\Hy@UseNameKey#1#2{%
2760 \ifx#2\@empty

```

```

2761 \else
2762   /#1/#2%
2763 \fi
2764 }

```

## 9.2 Defining the options

```

2765 \define@key{Hyp}{implicit}[true]{%
2766 \Hy@boolkey{implicit}{#1}%
2767 }
2768 \define@key{Hyp}{draft}[true]{%
2769 \Hy@boolkey{draft}{#1}%
2770 }
2771 \define@key{Hyp}{final}[true]{%
2772 \Hy@boolkey{final}{#1}%
2773 }
2774 \let\KV@Hyp@nolinks\KV@Hyp@draft

2775 \def\Hy@ObsoletePaperOption#1{%
2776 \Hy@WarningNoLine{%
2777   Option `#1' is no longer used%
2778 }%
2779 \define@key{Hyp}{#1}[true]{}%
2780 }
2781 \def\Hy@temp#1{%
2782 \define@key{Hyp}{#1}[true]{%
2783 \Hy@ObsoletePaperOption{#1}%
2784 }%
2785 }
2786 \Hy@temp{a4paper}
2787 \Hy@temp{a5paper}
2788 \Hy@temp{b5paper}
2789 \Hy@temp{letterpaper}
2790 \Hy@temp{legalpaper}
2791 \Hy@temp{executivepaper}

2792 \define@key{Hyp}{setpagesize}[true]{%
2793 \Hy@boolkey{setpagesize}{#1}%
2794 }
2795 \define@key{Hyp}{debug}[true]{%
2796 \Hy@boolkey{debug}{#1}%
2797 }
2798 \define@key{Hyp}{linktocpage}[true]{%
2799 \Hy@boolkey{linktocpage}{#1}%
2800 \ifHy@linktocpage
2801 \let\Hy@linktoc\Hy@linktoc@page
2802 \else
2803 \let\Hy@linktoc\Hy@linktoc@section
2804 \fi
2805 }
2806 \chardef\Hy@linktoc@none=0 %

```

```

2807 \chardef\Hy@linktoc@section=1 %
2808 \chardef\Hy@linktoc@page=2 %
2809 \chardef\Hy@linktoc@all=3 %
2810 \ifHy@linktocpage
2811 \let\Hy@linktoc\Hy@linktoc@page
2812 \else
2813 \let\Hy@linktoc\Hy@linktoc@section
2814 \fi
2815 \define@key{Hyp}{linktoc}{%
2816 \@ifundefined{Hy@linktoc@#1}{%
2817 \Hy@Warning{%
2818 Unexpected value `#1' of\MessageBreak
2819 option `linktoc' instead of `none',\MessageBreak
2820 `section', `page' or `all'%
2821 }%
2822 }{%
2823 \expandafter\let\expandafter\Hy@linktoc
2824 \csname Hy@linktoc@#1\endcsname
2825 }%
2826 }
2827 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2828 \let\XR@ext\relax
2829 \define@key{Hyp}{verbose}[true]{%
2830 \Hy@boolkey{verbose}{#1}%
2831 }
2832 \define@key{Hyp}{typexml}[true]{%
2833 \Hy@boolkey{typexml}{#1}%
2834 }

```

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.

```

2835 \define@key{Hyp}{raiselinks}[true]{%
2836 \Hy@boolkey{raiselinks}{#1}%
2837 }

```

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

```

2838 \def\Hy@setbreaklinks#1{%
2839 \csname breaklinks#1\endcsname
2840 }
2841 \def\Hy@breaklinks@unsupported{%
2842 \ifx\Hy@setbreaklinks\@gobble
2843 \ifHy@breaklinks
2844 \Hy@WarningNoLine{%
2845 You have enabled option `breaklinks'.\MessageBreak
2846 But driver ``\Hy@driver.def' does not support this.\MessageBreak
2847 Expect trouble with the link areas of broken links%
2848 }%
2849 \fi

```

```

2850 \fi
2851 }

2852 \define@key{Hyp}{breaklinks}[true]{%
2853 \Hy@boolkey{breaklinks}{#1}%
2854 \let\Hy@setbreaklinks\@gobble
2855 }

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

```

Determines whether an automatic anchor is put on each page

```

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

```

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.

```

2862 \define@key{Hyp}{plainpages}[true]{%
2863 \Hy@boolkey{plainpages}{#1}%
2864 }

```

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?

```

2865 \define@key{Hyp}{naturalnames}[true]{%
2866 \Hy@boolkey{naturalnames}{#1}%
2867 }

```

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

```

2868 \define@key{Hyp}{hypertextnames}[true]{%
2869 \Hy@boolkey{hypertextnames}{#1}%
2870 }

```

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

```

2871 \define@key{Hyp}{nesting}[true]{%
2872 \Hy@boolkey{nesting}{#1}%
2873 }

```

```

2874 \define@key{Hyp}{destlabel}[true]{%
2875 \Hy@boolkey{destlabel}{#1}%
2876 }

```

```

2877 \define@key{Hyp}{unicode}[true]{%
2878 \Hy@boolkey{unicode}{#1}%
2879 \iffHy@unicode
2880 \def\HyPsd@pdfencoding{unicode}%
2881 \HyPsd@LoadUnicode
2882 \else
2883 \def\HyPsd@pdfencoding{pdfdoc}%
2884 \fi
2885 }
2886 \Hy@AtBeginDocument{%

```

```

2887 \ifx\HyPsd@LoadUnicode\relax
2888 \else
2889 \def\HyPsd@LoadUnicode{%
2890 \Hy@Error{%
2891 Unicode support for bookmarks is not available.\MessageBreak
2892 Activate unicode support by using one of the options\MessageBreak
2893 `unicode', `pdfencoding=unicode', `pdfencoding=auto'\MessageBreak
2894 in the preamble%
2895 } \@ehc
2896 \global\let\HyPsd@LoadUnicode\relax
2897 \global\Hy@unicodetrue
2898 \global\let\Hy@unicodetrue\Hy@unicodetrue
2899 }%
2900 \fi
2901 }

2902 \define@key{Hyp}{pdfencoding}{%
2903 \edef\HyPsd@temp{#1}%
2904 \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2905 \let\HyPsd@pdfencoding\HyPsd@temp
2906 \Hy@unicodetrue
2907 \else
2908 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2909 \z@
2910 \else
2911 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2912 \z@
2913 \else
2914 \@ne
2915 \fi
2916 \fi
2917 \let\HyPsd@pdfencoding\HyPsd@temp
2918 \hypersetup{unicode}%
2919 \ifHy@unicode
2920 \def\HyPsd@pdfencoding{#1}%
2921 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2922 \HyPsd@LoadStringEnc
2923 \fi
2924 \else
2925 \Hy@Warning{Cannot switch to unicode bookmarks}%
2926 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2927 \fi
2928 \else
2929 \@onelevel@sanitize\HyPsd@temp
2930 \Hy@Warning{%
2931 Values of option `pdfencoding':\MessageBreak
2932 `pdfdoc', `unicode', `auto'.\MessageBreak
2933 Ignoring unknown value `\HyPsd@temp'%
2934 }%
2935 \fi

```

```

2936 \fi
2937 }
2938 \def\HyPsd@pdfencoding@auto{auto}
2939 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2940 \def\HyPsd@pdfencoding@unicode{unicode}
2941 \let\HyPsd@pdfencoding\Hy@pdfencoding@pdfdoc
2942 \def\HyPsd@LoadStringEnc{%
2943   \RequirePackage{stringenc}[2009/12/15]%
2944   \let\HyPsd@LoadStringEnc\relax
2945 }
2946 \Hy@AtBeginDocument{%
2947   \@ifpackageloaded{stringenc}{%
2948     \let\HyPsd@LoadStringEnc\relax
2949   }{%
2950     \def\HyPsd@LoadStringEnc{%
2951       \Hy@WarningNoLine{%
2952         Missing package `stringenc'. Use `pdfencoding=auto'\MessageBreak
2953         in the preamble or load the package there%
2954       }%
2955     }%
2956   }%
2957 }

2958 \define@key{Hyp}{psdextra}{true}{%
2959   \Hy@boolkey{psdextra}{#1}%
2960   \HyPsd@LoadExtra
2961 }

2962 \def\hypersetup{\kvsetkeys{Hyp}}

2963 \newif\ifHy@setpdfversion
2964 \define@key{Hyp}{pdfversion}{%
2965   \@ifundefined{Hy@pdfversion@#1}{%
2966     \PackageWarning{hyperref}{%
2967       Unsupported PDF version `#1'.\MessageBreak
2968       Valid values: 1.2-1.7, 2.0%
2969     }%
2970   }{%
2971     \Hy@setpdfversiontrue
2972     \@nameuse{Hy@pdfversion@#1}%
2973   }%
2974 }

\Hy@pdfminorversion already used elsewhere to denote \pdfminorversion or
\pdfvariable majorversion} so introduce new names here.
2975 \@namedef{Hy@pdfversion@1.2}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{2}}%
2976 \@namedef{Hy@pdfversion@1.3}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{3}}%
2977 \@namedef{Hy@pdfversion@1.4}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{4}}%

```

```

2978 \@namedef{Hy@pdfversion@1.5}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{5}}%
2979 \@namedef{Hy@pdfversion@1.6}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{6}}%
2980 \@namedef{Hy@pdfversion@1.7}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{7}}%
2981 \@namedef{Hy@pdfversion@2.0}{\def\Hy@pdf@majorversion{2}\def\Hy@pdf@mi-
norversion{0}}%
2982 \def\Hy@pdf@majorversion{1}\def\Hy@pdf@minorversion{5}
Legacy name, earlier releases assumed 1.x
2983 \let\Hy@pdfversion\Hy@pdf@minorversion
2984 \def\Hy@pdf@majorminor@version{\numexpr100*\Hy@pdf@majorversion+\Hy@pdf@mi-
norversion\relax}
2985 \def\Hy@pdfmajorminor@version{\numexpr100*\Hy@pdfmajorversion+\Hy@pdfmi-
norversion\relax}
if pdfminorversion is defined, make sure pdfmajorversion is too.
2986 \@ifundefined{pdfminorversion}{}{%
2987 \@ifundefined{pdfmajorversion}{}%
2988 \newcount\pdfmajorversion
2989 \pdfmajorversion=1
2990 }{}%
2991 }
2992 \ifx\pdfmajorversion\@undefined\else
2993 \def\Hy@pdfmajorversion{\pdfmajorversion}
2994 \fi

```

## 10 Options for different drivers

```

2995 \newif\ifHy@DviMode
2996 \let\Hy@DviErrMsg\ltx@empty
2997 \ifpdf
2998 \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
2999 \else
3000 \ifxetex
3001 \def\Hy@DviErrMsg{XeTeX is running}%
3002 \else
3003 \ifvtex
3004 \ifnum\OpMode=\z@
3005 \Hy@DviModetrue
3006 \else
3007 \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
3008 \fi
3009 \else
3010 \Hy@DviModetrue
3011 \fi
3012 \fi
3013 \fi
3014 \def\HyOpt@CheckDvi#1{%
3015 \ifHy@DviMode

```

```

3016 \expandafter\ltx@firstofone
3017 \else
3018 \Hy@Error{%
3019   Wrong DVI mode driver option `#1',\MessageBreak
3020   because \Hy@DviErrMsg
3021 } \@ehc
3022 \expandafter\ltx@gobble
3023 \fi
3024 }

3025 \DeclareVoidOption{tex4ht}{%
3026 \Hy@texhttrue
3027 \kvsetkeys{Hyp}{colorlinks=true}%
3028 \def\BeforeTeXIVht{\RequirePackage{color}}%
3029 \def\Hy@driver{htex4ht}%
3030 \def\MaybeStopEarly{%
3031 \Hy@Message{Stopped early}}%
3032 \Hy@AtBeginDocument{%
3033 \PDF@FinishDoc
3034 \gdef\PDF@FinishDoc{}}%
3035 }%
3036 \endinput
3037 }%
3038 }

3039 \DeclareVoidOption{pdftex}{%
3040 \ifpdf
3041 \def\Hy@driver{hpdftex}%
3042 \PassOptionsToPackage{pdftex}{color}%
3043 \else
3044 \Hy@Error{%
3045   Wrong driver option `pdftex',\MessageBreak
3046   because pdfTeX in PDF mode is not detected%
3047 } \@ehc
3048 \fi
3049 }

3050 \DeclareVoidOption{luatex}{%
3051 \ifpdf
3052 \ifx\pdfextension\@undefined
3053 \def\Hy@driver{hpdftex}%
3054 \PassOptionsToPackage{pdftex}{color}%
3055 \else
3056 \def\Hy@driver{hluatex}%
3057 \PassOptionsToPackage{luatex}{color}%
3058 \fi
3059 \else
3060 \Hy@Error{%
3061   Wrong driver option `luatex',\MessageBreak
3062   because luaTeX in PDF mode is not detected%
3063 } \@ehc
3064 \fi

```

```

3065 }
3066 \DeclareVoidOption{nativepdf}{%
3067   \HyOpt@CheckDvi{nativepdf}{%
3068     \def\Hy@driver{hdvips}%
3069     \PassOptionsToPackage{dvips}{color}%
3070   }%
3071 }
3072 \DeclareVoidOption{dvipdfm}{%
3073   \HyOpt@CheckDvi{dvipdfm}{%
3074     \def\Hy@driver{hdvipdfm}%
3075   }%
3076 }
3077 \DeclareVoidOption{dvipdfmx}{%
3078   \HyOpt@CheckDvi{dvipdfmx}{%
3079     \def\Hy@driver{hdvipdfm}%
3080     \PassOptionsToPackage{dvipdfmx}{color}%
3081   }%
3082 }
3083 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
3084   \expandafter\ifx\csname if#1\expandafter\endcsname
3085     \csname iftrue\endcsname
3086   \chardef\SpecialDvipdfmxOutlineOpen\@ne
3087   \else
3088     \chardef\SpecialDvipdfmxOutlineOpen\z@
3089   \fi
3090 }
3091 \DeclareVoidOption{xetex}{%
3092   \ifxetex
3093     \def\Hy@driver{hxetex}%
3094   \else
3095     \Hy@Error{%
3096       Wrong driver option `xetex',\MessageBreak
3097       because XeTeX is not detected%
3098     }\@ehc
3099   \fi
3100 }
3101 \DeclareVoidOption{pdfmark}{%
3102   \HyOpt@CheckDvi{pdfmark}{%
3103     \def\Hy@driver{hdvips}%
3104   }%
3105 }
3106 \DeclareVoidOption{dvips}{%
3107   \HyOpt@CheckDvi{dvips}{%
3108     \def\Hy@driver{hdvips}%
3109     \PassOptionsToPackage{dvips}{color}%
3110   }%
3111 }
3112 \DeclareVoidOption{hypertex}{%
3113   \HyOpt@CheckDvi{hypertex}{%
3114     \def\Hy@driver{hypertex}%

```

```

3115 }%
3116 }
3117 \let\Hy@MaybeStopNow\relax
3118 \DeclareVoidOption{vtex}{%
3119   \ifvtex
3120     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
3121     \def\Hy@driver{hvtex}%
3122   \else
3123     \ifnum\OpMode=10\relax
3124     \def\Hy@driver{hvtexhtm}%
3125     \def\MaybeStopEarly{%
3126       \Hy@Message{Stopped early}%
3127       \Hy@AtBeginDocument{%
3128         \PDF@FinishDoc
3129         \gdef\PDF@FinishDoc{}}%
3130     }%
3131     \endinput
3132   }%
3133   \else
3134     \Hy@Error{%
3135       Wrong driver option `vtex',\MessageBreak
3136       because of wrong OpMode (\the\OpMode)%
3137     }\@ehc
3138   \fi
3139 \fi
3140 \else
3141 \Hy@Error{%
3142   Wrong driver option `vtex',\MessageBreak
3143   because VTeX is not running%
3144 }\@ehc
3145 \fi
3146 }
3147 \DeclareVoidOption{vtexpdfmark}{%
3148   \ifvtex
3149     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
3150     \def\Hy@driver{hvtexmrk}%
3151   \else
3152     \Hy@Error{%
3153       Wrong driver option `vtexpdfmark',\MessageBreak
3154       because of wrong OpMode (\the\OpMode)%
3155     }\@ehc
3156   \fi
3157   \else
3158     \Hy@Error{%
3159       Wrong driver option `vtexpdfmark',\MessageBreak
3160       because VTeX is not running%
3161     }\@ehc
3162   \fi
3163 }
3164 \DeclareVoidOption{dviwindo}{%

```

```

3165 \HyOpt@CheckDvi{dviwindo}{%
3166 \def\Hy@driver{hdviwind}%
3167 \kvsetkeys{Hyp}{colorlinks}%
3168 \PassOptionsToPackage{dviwindo}{color}%
3169 }%
3170 }
3171 \DeclareVoidOption{dvipsone}{%
3172 \HyOpt@CheckDvi{dvipsone}{%
3173 \def\Hy@driver{hdvipson}%
3174 \PassOptionsToPackage{dvipsone}{color}%
3175 }%
3176 }
3177 \DeclareVoidOption{textures}{%
3178 \HyOpt@CheckDvi{textures}{%
3179 \def\Hy@driver{htexture}%
3180 }%
3181 }
3182 \DeclareVoidOption{latex2html}{%
3183 \HyOpt@CheckDvi{latex2html}{%
3184 \Hy@AtBeginDocument{\@@latextohtmlX}%
3185 }%
3186 }

```

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

```

3187 \DeclareVoidOption{ps2pdf}{%
3188 \HyOpt@CheckDvi{ps2pdf}{%
3189 \def\Hy@driver{hdvips}%
3190 \PassOptionsToPackage{dvips}{color}%
3191 }%
3192 }
3193 \let\HyOpt@DriverFallback\ltx@empty
3194 \define@key{Hyp}{driverfallback}{%
3195 \ifHy@DviMode
3196 \def\HyOpt@DriverFallback{#1}%
3197 \Hy@Match\HyOpt@DriverFallback{}{%
3198 ~(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
3199 latex2html|tex4ht)$%
3200 }{}{%
3201 \Hy@Warning{%
3202 Invalid driver `#1' for option\MessageBreak
3203 `driverfallback'%
3204 }%
3205 \let\HyOpt@DriverFallback\ltx@empty
3206 }%
3207 \fi
3208 }
3209 \let\HyOpt@CustomDriver\ltx@empty
3210 \define@key{Hyp}{customdriver}{%
3211 \IfFileExists{#1.def}{%
3212 \def\HyOpt@CustomDriver{#1}%

```

```

3213 }{%
3214   \Hy@Warning{%
3215     Missing driver file `#1.def',\MessageBreak
3216     ignoring custom driver%
3217   }%
3218 }%
3219 }

```

## 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.

```

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

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

3223 \define@key{Hyp}{hyperfootnotes}[true]{%
3224   \Hy@boolkey{hyperfootnotes}{#1}%
3225 }

```

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

```

3226 \def\back@none{none}
3227 \def\back@section{section}
3228 \def\back@page{page}
3229 \def\back@slide{slide}
3230 \define@key{Hyp}{backref}[section]{%
3231   \lowercase{\def\Hy@tempa{#1}}%
3232   \ifx\Hy@tempa\@empty
3233     \let\Hy@tempa\back@section
3234   \fi
3235   \ifx\Hy@tempa\Hy@false
3236     \let\Hy@tempa\back@none
3237   \fi
3238   \ifx\Hy@tempa\back@slide
3239     \let\Hy@tempa\back@section
3240   \fi
3241   \ifx\Hy@tempa\back@page
3242     \PassOptionsToPackage{hyperpageref}{backref}%
3243     \Hy@backreftrue
3244   \else
3245     \ifx\Hy@tempa\back@section
3246       \PassOptionsToPackage{hyperref}{backref}%
3247       \Hy@backreftrue
3248     \else
3249       \ifx\Hy@tempa\back@none
3250         \Hy@backreffalse
3251       \else
3252         \Hy@WarnOptionValue{#1}{backref}{%
3253           `section', `slide', `page', `none',\MessageBreak

```

```

3254         or `false'}%
3255     \fi
3256 \fi
3257 \fi
3258 }
3259 \define@key{Hyp}{pagebackref}[true]{%
3260 \edef\Hy@tempa{#1}%
3261 \lowercase\expandafter{%
3262 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
3263 }%
3264 \ifx\Hy@tempa\@empty
3265 \let\Hy@tempa\Hy@true
3266 \fi
3267 \ifx\Hy@tempa\Hy@true
3268 \PassOptionsToPackage{hyperpageref}{backref}%
3269 \Hy@backreftrue
3270 \else
3271 \ifx\Hy@tempa\Hy@false
3272 \Hy@backreffalse
3273 \else
3274 \Hy@WarnOptionValue{#1}{pagebackref}`true' or `false'}%
3275 \fi
3276 \fi
3277 }

```

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

```

3278 \define@key{Hyp}{hyperindex}[true]{%
3279 \Hy@boolkey{hyperindex}{#1}%
3280 }

```

Configuration of encap char.

```

3281 \define@key{Hyp}{encap}[|]{%
3282 \def\HyInd@EncapChar{#1}%
3283 }

```

## 12 Language options

The `\autoref` feature depends on the language.

```

3284 \def\HyLang@afrikaans{%
3285 \def\equationautorefname{Vergelyking}%
3286 \def\footnoteautorefname{Voetnota}%
3287 \def\itemautorefname{Item}%
3288 \def\figureautorefname{Figuur}%
3289 \def\tableautorefname{Tabel}%
3290 \def\partautorefname{Deel}%
3291 \def\appendixautorefname{Bylae}%
3292 \def\chapterautorefname{Hoofstuk}%
3293 \def\sectionautorefname{Afdeling}%

```

```

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

```

```

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

```



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

```
3422 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%  
3423 % \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.

```
3424 \def\itemautorefname{\cyr\cyrp.}%  
3425 % \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.

```
3426 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%  
3427 \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.

```
3428 \def\partautorefname{\cyr\cyrch.}%  
3429 \def\chapterautorefname{\cyr\cyrg\cyrl.}%  
3430 \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.

```
3431 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%  
3432 % \def\appendixautorefname{%  
3433 % \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrz\cyre\cyrn\cyri\cyre  
3434 % }%
```

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.

```
3435 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%  
3436 \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.

```
3437 \def\paragraphautorefname{\cyr\cyrp.}%  
3438 \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.

```
3439 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%  
3440 % \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.

```
3441 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%
```

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

```
3442 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
```

```
3443 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%
```

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

```
3444 % \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 ...

```
3445 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%
```

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

```
3446 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
```

```
3447 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%
```

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

```
3448 \def\pageautorefname{\cyr\cyrs.}%
```

```
3449 }
```

```
3450 \def\HyLang@spanish{%
```

```
3451 \def\equationautorefname{Ecuaci'on}%
```

```
3452 \def\footnoteautorefname{Nota a pie de p'agina}%
```

```
3453 \def\itemautorefname{Elemento}%
```

```
3454 \def\figureautorefname{Figura}%
```

```
3455 \def\tableautorefname{Tabla}%
```

```
3456 \def\partautorefname{Parte}%
```

```
3457 \def\appendixautorefname{Ap'endice}%
```

```
3458 \def\chapterautorefname{Cap'itulo}%
```

```
3459 \def\sectionautorefname{Secci'on}%
```

```
3460 \def\subsectionautorefname{Subsecci'on}%
```

```
3461 \def\subsubsectionautorefname{Subsubsecci'on}%
```

```
3462 \def\paragraphautorefname{P'arrafo}%
```

```
3463 \def\subparagraphautorefname{Subp'arrafo}%
```

```
3464 \def\FancyVerbLineautorefname{L'inea}%
```

```
3465 \def\theoremautorefname{Teorema}%
```

```
3466 \def\pageautorefname{P'agina}%
```

```
3467 }
```

```
3468 \def\HyLang@catalan{%
```

```
3469 \def\equationautorefname{Equaci'o}%
```

```
3470 \def\footnoteautorefname{Nota al peu de p`agina}%
```

```
3471 \def\itemautorefname{Element}%
```

```
3472 \def\figureautorefname{Figura}%
```

```

3473 \def\tableautorefname{Taula}%
3474 \def\partautorefname{Part}%
3475 \def\appendixautorefname{Ap\`endix}%
3476 \def\chapterautorefname{Cap\`itol}%
3477 \def\sectionautorefname{Secci\`o}%
3478 \def\subsectionautorefname{Subsecci\`o}%
3479 \def\subsubsectionautorefname{Subsubsecci\`o}%
3480 \def\paragraphautorefname{Par\`agraf}%
3481 \def\subparagraphautorefname{Subpar\`agraf}%
3482 \def\FancyVerbLineautorefname{L\`inia}%
3483 \def\theoremautorefname{Teorema}%
3484 \def\pageautorefname{P\`agina}%
3485 }

3486 \def\HyLang@vietnamese{%
3487 \def\equationautorefname{Ph\`uhorn{}}\ohorn{}ng tr\`inh}%
3488 \def\footnoteautorefname{Ch\`u th\`ich}%
3489 \def\itemautorefname{m\`d{u}c}%
3490 \def\figureautorefname{H\`inh}%
3491 \def\tableautorefname{B\`h{a}ng}%
3492 \def\partautorefname{Ph\` \`acircumflex{}n}%
3493 \def\appendixautorefname{Ph\`d{u} l\`d{u}c}%
3494 \def\chapterautorefname{ch\`uhorn{}}\ohorn{}ng}%
3495 \def\sectionautorefname{m\`d{u}c}%
3496 \def\subsectionautorefname{m\`d{u}c}%
3497 \def\subsubsectionautorefname{m\`d{u}c}%
3498 \def\paragraphautorefname{d{j}{o}d{a}n}%
3499 \def\subparagraphautorefname{d{j}{o}d{a}n}%
3500 \def\FancyVerbLineautorefname{d\`ong}%
3501 \def\theoremautorefname{D{J}{d{i}nh l\`y}%
3502 \def\pageautorefname{Trang}%
3503 }

```

Greek, see github issue 52

```

3504 \def\HyLang@greek{%
3505 \def\equationautorefname{\textEpsilon\textxi\acconos\textiota\textsigma\textomega\textsigma\texteta}%
3506 \def\footnoteautorefname{\textupsilon\textpi\textomicron\textsigma\texteta\textmu\textepsilon\acconos\textiota\textomega\textsigma\texteta}%
3507 \def\itemautorefname{\textalpha\textnu\texttau\textiota\textkappa\textepsilon\acconos\textiota\textmu\textepsilon\textnu\textomicron}%
3508 \def\figureautorefname{\textSigma\textchi\acconos\texteta\textmu\textalpha}%
3509 \def\tableautorefname{\textPi\acconos\textiota\textnu\textalpha\textkappa\textalpha}%
3510 \def\partautorefname{\textMu\acconos\textepsilon\textrho\textomicron\textvarsigma}%
3511 \def\appendixautorefname{\textPi\textalpha\textrho\acconos\textalpha\textrho\texttau\texteta\textmu\textalpha}%
3512 \def\chapterautorefname{\textkappa\textepsilon\textphi\acconos\textalpha\textlambda\textalpha\textiota\textomicron}%

```

```

3513 \def\sectionautorefname{\textepsilon\textnu\acctonos\textomicron\texttau\texteta\texttau\textalpha}%
3514 \def\subsectionautorefname{\textupsilon\textpi\textomicron\textepsilon\textnu\acctonos\textomicron\texttau\texteta\texttau\textalpha}%
3515 \def\subsubsectionautorefname{\textupsilon\textpi\textomicron-\textupsilon\textpi\textomicron\texteta\texttau\textalpha}%
3516 \def\paragraphautorefname{\textpi\textalpha\textrho\acctonos\textalpha\textgamma\textrho\textalpha\textphi\textomicron\textvarsigma}%
3517 \def\subparagraphautorefname{\textupsilon\textpi\textomicron\textpi\textalpha\textrho\acctonos\textalpha\textgamma\textrho\textalpha\textphi\textomicron\textvarsigma}%
3518 \def\FancyVerbLineautorefname{\textgamma\textrho\textalpha\textmu\textmu\acctonos\texteta}%
3519 \def\theoremautorefname{\textTheta\textepsilon\acctonos\textomega\textrho\texteta\textmu\textalpha}%
3520 \def\pageautorefname{\textsigma\textepsilon\textlambda\acctonos\textiota\textdelta\textalpha}%
3521 }

3522 \def\HyLang@dutch{%
3523 \def\equationautorefname{Vergelijking}%
3524 \def\footnoteautorefname{voetnoot}%
3525 \def\itemautorefname{punt}%
3526 \def\figureautorefname{Figuur}%
3527 \def\tableautorefname{Tabel}%
3528 \def\partautorefname{Deel}%
3529 \def\appendixautorefname{Bijlage}%
3530 \def\chapterautorefname{hoofdstuk}%
3531 \def\sectionautorefname{paragraaf}%
3532 \def\subsectionautorefname{deelparagraaf}%
3533 \def\subsubsectionautorefname{deel-deelparagraaf}%
3534 \def\paragraphautorefname{alinea}%
3535 \def\subparagraphautorefname{deelalinea}%
3536 \def\FancyVerbLineautorefname{regel}%
3537 \def\theoremautorefname{Stelling}%
3538 \def\pageautorefname{pagina}%
3539 }

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

3540 \def\HyLang@addto#1#2{%
3541 #2%
3542 \@temptokena{#2}%
3543 \ifx#1\relax
3544 \let#1\@empty
3545 \fi
3546 \ifx#1\@undefined
3547 \edef#1{\the\@temptokena}%
3548 \else
3549 \toks@\expandafter{#1}%
3550 \edef#1{\the\toks@\the\@temptokena}%
3551 \fi

```

```

3552 \@temptokena{ }\toks@\@temptokena
3553 }

3554 \def\HyLang@DeclareLang#1#2#3{%
3555 \@ifpackagewith{babel}{#1}{%
3556   \expandafter\HyLang@addto
3557     \csname extras#1\expandafter\endcsname
3558     \csname HyLang@#2\endcsname
3559   \begingroup
3560     \edef\x{\endgroup
3561       #3%
3562     }%
3563   \x
3564   \@namedef{HyLang@#1@done}{}%
3565 }{%}
3566 \begingroup
3567 \edef\x##1##2{%
3568   \noexpand\ifx##2\relax
3569   \errmessage{No definitions for language #2' found!}%
3570   \noexpand\fi
3571 \endgroup
3572 \noexpand\define@key{Hyp}{#1}[]{}%
3573 \noexpand\@ifundefined{HyLang@#1@done}{%
3574   \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3575   #3%
3576   \noexpand\@namedef{HyLang@#1@done}{}%
3577 }{%}
3578 }%
3579 }%
3580 \expandafter\x\csname extras#1\expandafter\endcsname
3581   \csname HyLang@#2\endcsname
3582 }

3583 \HyLang@DeclareLang{english}{english}{ }
3584 \HyLang@DeclareLang{UKenglish}{english}{ }
3585 \HyLang@DeclareLang{british}{english}{ }
3586 \HyLang@DeclareLang{USenglish}{english}{ }
3587 \HyLang@DeclareLang{american}{english}{ }
3588 \HyLang@DeclareLang{german}{german}{ }
3589 \HyLang@DeclareLang{austrian}{german}{ }
3590 \HyLang@DeclareLang{ngerman}{german}{ }
3591 \HyLang@DeclareLang{naustrian}{german}{ }
3592 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3593 \HyLang@DeclareLang{brazil}{portuges}{ }
3594 \HyLang@DeclareLang{brazilian}{portuges}{ }
3595 \HyLang@DeclareLang{portuguese}{portuges}{ }
3596 \HyLang@DeclareLang{spanish}{spanish}{ }
3597 \HyLang@DeclareLang{catalan}{catalan}{ }
3598 \HyLang@DeclareLang{afrikaans}{afrikaans}{ }
3599 \HyLang@DeclareLang{french}{french}{ }
3600 \HyLang@DeclareLang{frenchb}{french}{ }

```

```

3601 \HyLang@DeclareLang{francais}{french}{}
3602 \HyLang@DeclareLang{acadian}{french}{}
3603 \HyLang@DeclareLang{canadien}{french}{}
3604 \HyLang@DeclareLang{italian}{italian}{}
3605 \HyLang@DeclareLang{magyar}{magyar}{}
3606 \HyLang@DeclareLang{hungarian}{magyar}{}
3607 \HyLang@DeclareLang{greek}{greek}{}
3608 \HyLang@DeclareLang{dutch}{dutch}{}

```

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

```

3609 \DeclareVoidOption{vietnamese}{%
3610 \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3611 \Hy@AtEndOfPackage{%
3612 \ifundefined{T@PU}{}{}%
3613 \input{pvnenc.def}%
3614 }%
3615 }%
3616 }
3617 \DeclareVoidOption{vietnam}{%
3618 \HyLang@addto\extrasvietnam\HyLang@vietnamese
3619 \Hy@AtEndOfPackage{%
3620 \ifundefined{T@PU}{}{}%
3621 \input{pvnenc.def}%
3622 }%
3623 }%
3624 }

```

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

```

3625 \DeclareVoidOption{arabic}{%
3626 \Hy@AtEndOfPackage{%
3627 \ifundefined{T@PU}{}{}%
3628 \input{puarenc.def}%
3629 }%
3630 }%
3631 }

```

## 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.

```

3632 \define@key{Hyp}{colorlinks}[true]{%
3633 \Hy@boolkey{colorlinks}{#1}%
3634 }
3635 \DeclareVoidOption{hidelinks}{%
3636 \Hy@colorlinksfalse
3637 \Hy@ocgcolorlinksfalse
3638 \Hy@frenchlinksfalse
3639 \def\Hy@colorlink##1{\begingroup}%
3640 \def\Hy@endcolorlink{\endgroup}%
3641 \def\@pdfborder{0 0 0}%

```

```

3642 \let\pdfborderstyle\ltx@empty
3643 }
3644 \define@key{Hyp}{ocgcolorlinks}[true]{%
3645   \Hy@boolkey{ocgcolorlinks}{#1}%
3646 }
3647 \Hy@AtBeginDocument{%
3648   \begingroup
3649   \@ifundefined{OBJ@OCG@view}{%
3650     \ifHy@ocgcolorlinks
3651       \Hy@Warning{%
3652         Driver does not support `ocgcolorlinks',\MessageBreak
3653         using `colorlinks' instead%
3654       }%
3655     \fi
3656   }{}%
3657 \endgroup
3658 }
3659 \define@key{Hyp}{frenchlinks}[true]{%
3660   \Hy@boolkey{frenchlinks}{#1}%
3661 }

```

## 14 Bookmarking

```

3662 \begingroup\expandafter\expandafter\expandafter\endgroup
3663 \expandafter\ifx\csname chapter\endcsname\relax
3664   \def\toclevel@part{0}%
3665 \else
3666   \def\toclevel@part{-1}%
3667 \fi
3668 \def\toclevel@chapter{0}
3669 \def\toclevel@section{1}
3670 \def\toclevel@subsection{2}
3671 \def\toclevel@subsubsection{3}
3672 \def\toclevel@paragraph{4}
3673 \def\toclevel@subparagraph{5}
3674 \def\toclevel@figure{0}
3675 \def\toclevel@table{0}
3676 \ifpackageloaded{listings}{%
3677   \providecommand*\theHlstlisting{\thelstlisting}%
3678   \providecommand*\toclevel@lstlisting{0}%
3679 }{}
3680 \ifpackageloaded{listing}{%
3681   \providecommand*\theHlisting{\thelisting}%
3682   \providecommand*\toclevel@listing{0}%
3683 }{}
3684 \define@key{Hyp}{bookmarks}[true]{%
3685   \Hy@boolkey{bookmarks}{#1}%
3686 }

```

```

3687 \define@key{Hyp}{bookmarksopen}[true]{%
3688   \Hy@boolkey{bookmarksopen}{#1}%
3689 }

```

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.

```

3690 \let\Hy@bookmarksdepth\c@tocdepth
3691 \define@key{Hyp}{bookmarksdepth}[]{%
3692   \begingroup
3693     \edef\x{#1}%
3694     \ifx\empty
3695       \global\let\Hy@bookmarksdepth\c@tocdepth
3696     \else
3697       \@ifundefined{toclevel@\x}{%
3698         \@onelevel@sanitize\x
3699         \edef\y{\expandafter\@car\x\@nil}%
3700         \ifcase 0\expandafter\ifx\y-1\fi
3701           \expandafter\ifnum\expandafter`\y>47 %
3702             \expandafter\ifnum\expandafter`\y<58 1\fi\fi\relax
3703         \Hy@Warning{Unknown document division name (\x)}%
3704       \else
3705         \setbox\z@=\hbox{%
3706           \count@=\x
3707           \xdef\Hy@bookmarksdepth{\the\count@}%
3708         }%
3709       \fi
3710     }{%
3711       \setbox\z@=\hbox{%
3712         \count@=\csname toclevel@\x\endcsname
3713         \xdef\Hy@bookmarksdepth{\the\count@}%
3714       }%
3715     }%
3716   \fi
3717 \endgroup
3718 }

```

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

```

3719 \define@key{Hyp}{bookmarksopenlevel}{%
3720   \def\@bookmarksopenlevel{#1}%
3721 }
3722 \def\@bookmarksopenlevel{\maxdimen}
3723 % `bookmarkstype' to specify which `toc' file to mimic

```

```

3724 \define@key{Hyp}{bookmarkstype}{%
3725   \def\Hy@bookmarkstype{#1}%
3726 }
3727 \def\Hy@bookmarkstype{toc}

```

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

```

3728 \define@key{Hyp}{bookmarksnumbered}[true]{%
3729   \Hy@boolkey{bookmarksnumbered}{#1}%
3730 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3731 \define@key{Hyp}{CJKbookmarks}[true]{%
3732   \Hy@boolkey{CJKbookmarks}{#1}%
3733 }

3734 \def\Hy@temp#1{%
3735   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3736 }
3737 \def\Hy@@temp#1#2#3{%
3738   \define@key{Hyp}{#2color}{%
3739     \HyColor@HyperrefColor{##1}#1%
3740   }%
3741   \def#1{#3}%
3742 }
3743 \Hy@temp{link}{red}
3744 \Hy@temp{anchor}{black}
3745 \Hy@temp{cite}{green}
3746 \Hy@temp{file}{cyan}
3747 \Hy@temp{url}{magenta}
3748 \Hy@temp{menu}{red}
3749 \Hy@temp{run}{\@filecolor}
3750 \define@key{Hyp}{pagecolor}{%
3751   \Hy@WarningPageColor
3752 }
3753 \def\Hy@WarningPageColor{%
3754   \Hy@WarningNoLine{Option `pagecolor' is not available anymore}%
3755   \global\let\Hy@WarningPageColor\relax
3756 }
3757 \define@key{Hyp}{allcolors}{%
3758   \HyColor@HyperrefColor{#1}\@linkcolor
3759   \HyColor@HyperrefColor{#1}\@anchorcolor
3760   \HyColor@HyperrefColor{#1}\@citecolor
3761   \HyColor@HyperrefColor{#1}\@filecolor
3762   \HyColor@HyperrefColor{#1}\@urlcolor
3763   \HyColor@HyperrefColor{#1}\@menucolor
3764   \HyColor@HyperrefColor{#1}\@runcolor
3765 }

3766 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3767 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3768 \let\@baseurl\@empty

```

```

3769 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3770 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3771 \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.

```

3772 \let\@pdfpagetransition\relax
3773 \define@key{Hyp}{pdfpagetransition}{%
3774 \def\@pdfpagetransition{#1}%
3775 }

```

`\@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.

```

3776 \let\@pdfpageduration\relax
3777 \define@key{Hyp}{pdfpageduration}{%
3778 \def\@pdfpageduration{#1}%
3779 \Hy@Match\@pdfpageduration}{%
3780 ^(|[0-9]+\.[0-9]*|[0-9]*\.[0-9]+)$%
3781 }{)%
3782 \Hy@Warning{%
3783 Invalid value \@pdfpageduration'\MessageBreak
3784 of option `pdfpageduration'\MessageBreak
3785 is replaced by an empty value%
3786 }%
3787 \let\@pdfpageduration\ltx@empty
3788 }%
3789 }

```

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.

```

3790 \newif\ifHy@useHidKey
3791 \Hy@useHidKeyfalse
3792 \define@key{Hyp}{pdfpagehidden}{true}{%
3793 \Hy@boolkey{pdfpagehidden}{#1}%
3794 \ifHy@pdfpagehidden
3795 \global\Hy@useHidKeytrue
3796 \fi
3797 }

```

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).

```

3798 \def\Hy@ColorList{cite,file,link,menu,run,url}
3799 \@for\Hy@temp:=\Hy@ColorList\do{%
3800   \edef\Hy@temp{%
3801     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3802       \noexpand\HyColor@HyperrefBorderColor
3803         {##1}%
3804       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3805         {hyperref}%
3806       {\Hy@temp bordercolor}%
3807     }%
3808   }%
3809   \Hy@temp
3810 }
3811 \define@key{Hyp}{pagebordercolor}{%
3812   \Hy@WarningPageBorderColor
3813 }
3814 \def\Hy@WarningPageBorderColor{%
3815   \Hy@WarningNoLine{Option `pagebordercolor' is not available anymore}%
3816   \global\let\Hy@WarningPageBorderColor\relax
3817 }
3818 \define@key{Hyp}{allbordercolors}{%
3819   \def\Hy@temp###1##2{%
3820     \HyColor@HyperrefBorderColor{##1}##1{hyperref}{##2bordercolor}%
3821   }%
3822   \Hy@temp\@citebordercolor{cite}%
3823   \Hy@temp\@filebordercolor{file}%
3824   \Hy@temp\@linkbordercolor{link}%
3825   \Hy@temp\@menubordercolor{menu}%
3826   \Hy@temp\@runbordercolor{run}%
3827   \Hy@temp\@urlbordercolor{url}%
3828 }
3829 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{##1}}
3830 \Hy@DefNameKey{pdfhighlight}{%
3831   \do{/I}{Invert}%
3832   \do{/N}{None}%
3833   \do{/O}{Outline}%
3834   \do{/P}{Push}%
3835 }
3836 \def\Hy@setpdfhighlight{%
3837   \ifx\@pdfhighlight\@empty
3838     \else
3839     /H\@pdfhighlight
3840   \fi
3841 }

```

```

3842 \define@key{Hyp}{pdfborder}{%
3843 \let\Hy@temp\@pdfborder
3844 \def\@pdfborder{#1}%
3845 \Hy@Match\@pdfborder}{-%
3846 ~\HyPat@NonNegativeReal/ %
3847 \HyPat@NonNegativeReal/ %
3848 \HyPat@NonNegativeReal/%
3849 ( ?\[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*]?$%
3850 }{-%
3851 \Hy@Warning{%
3852   Invalid value ~\@pdfborder'\MessageBreak
3853   for option `pdfborder'.\MessageBreak
3854   Option setting is ignored%
3855 }%
3856 \let\@pdfborder\Hy@temp
3857 }%
3858 }
3859 \define@key{Hyp}{pdfborderstyle}{-%
3860 \let\Hy@temp\@pdfborderstyle
3861 \def\@pdfborderstyle{#1}%
3862 \Hy@Match\@pdfborderstyle}{-%
3863 ~%
3864 ( */Type */Border%
3865 | */W +\HyPat@NonNegativeReal/%
3866 | */S */[SDBIU]%
3867 | */D *\[ *(\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)?)?]?%
3868 )* *$%
3869 }{-%
3870 \Hy@Warning{%
3871   Invalid value ~\@pdfborderstyle'\MessageBreak
3872   for option `pdfborderstyle'.\MessageBreak
3873   Option setting is ignored%
3874 }%
3875 \let\@pdfborderstyle\Hy@temp
3876 }%
3877 }
3878 \def\Hy@setpdfborder{%
3879 \ifx\@pdfborder\@empty
3880 \else
3881 /Border[\@pdfborder]%
3882 \fi
3883 \ifx\@pdfborderstyle\@empty
3884 \else
3885 /BS<<\@pdfborderstyle>>%
3886 \fi
3887 }
3888 \Hy@DefNameKey{pdfpagemode}{-%
3889 \do{UseNone}{-%
3890 \do{UseOutlines}{-%
3891 \do{UseThumbs}{-%

```

```

3892 \do{FullScreen}{}%
3893 \do{UseOC}{PDF 1.5}%
3894 \do{UseAttachments}{PDF 1.6}%
3895 }
3896 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3897 \do{UseNone}{}%
3898 \do{UseOutlines}{}%
3899 \do{UseThumbs}{}%
3900 \do{FullScreen}{}%
3901 \do{UseOC}{PDF 1.5}%
3902 \do{UseAttachments}{PDF 1.6}%
3903 }
3904 \Hy@DefNameKey{pdfdirection}{%
3905 \do{L2R}{Left to right}%
3906 \do{R2L}{Right to left}%
3907 }
3908 \Hy@DefNameKey{pdfviewarea}{%
3909 \do{MediaBox}{}%
3910 \do{CropBox}{}%
3911 \do{BleedBox}{}%
3912 \do{TrimBox}{}%
3913 \do{ArtBox}{}%
3914 }
3915 \Hy@DefNameKey{pdfviewclip}{%
3916 \do{MediaBox}{}%
3917 \do{CropBox}{}%
3918 \do{BleedBox}{}%
3919 \do{TrimBox}{}%
3920 \do{ArtBox}{}%
3921 }
3922 \Hy@DefNameKey{pdfprintarea}{%
3923 \do{MediaBox}{}%
3924 \do{CropBox}{}%
3925 \do{BleedBox}{}%
3926 \do{TrimBox}{}%
3927 \do{ArtBox}{}%
3928 }
3929 \Hy@DefNameKey{pdfprintclip}{%
3930 \do{MediaBox}{}%
3931 \do{CropBox}{}%
3932 \do{BleedBox}{}%
3933 \do{TrimBox}{}%
3934 \do{ArtBox}{}%
3935 }
3936 \Hy@DefNameKey{pdfprintscaling}{%
3937 \do{AppDefault}{}%
3938 \do{None}{}%
3939 }
3940 \Hy@DefNameKey{pdfduplex}{%
3941 \do{Simplex}{}%

```

```

3942 \do{DuplexFlipShortEdge}{}%
3943 \do{DuplexFlipLongEdge}{}%
3944 }
3945 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3946 \do{true}{}%
3947 \do{false}{}%
3948 }
3949 \define@key{Hyp}{pdfprintpagerange}{%
3950 \def\@pdfprintpagerange{#1}%
3951 }
3952 \Hy@DefNameKey{pdfnumcopies}{%
3953 \do{2}{two copies}%
3954 \do{3}{three copies}%
3955 \do{4}{four copies}%
3956 \do{5}{five copies}%
3957 }

3958 \define@key{Hyp}{pdfusetitle}[true]{%
3959 \Hy@boolkey{pdfusetitle}{#1}%
3960 }
3961 \def\HyXeTeX@CheckUnicode{%
3962 \ifxetex
3963 \ifHy@unicode
3964 \else
3965 \Hy@WarningNoLine{%
3966 XeTeX driver only supports unicode.\MessageBreak
3967 Enabling option `unicode'%
3968 }%
3969 \kvsetkeys{Hyp}{unicode}%
3970 \fi
3971 \else
3972 \let\HyXeTeX@CheckUnicode\relax
3973 \fi
3974 }
3975 \def\HyPsd@PrerenderUnicode#1{%
3976 \begingroup
3977 \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3978 \else
3979 \sbox0{%
3980 \let\GenericInfo\@gobbletwo
3981 \let\GenericWarning\@gobbletwo
3982 \let\GenericError\@gobblefour
3983 \PrerenderUnicode{#1}%
3984 }%
3985 \fi
3986 \endgroup
3987 }
3988 \define@key{Hyp}{pdftitle}{%
3989 \HyXeTeX@CheckUnicode
3990 \HyPsd@PrerenderUnicode{#1}%

```

```

3991 \pdfstringdef\@pdftitle{#1}%
3992 }
3993 \define@key{Hyp}{pdfauthor}{%
3994 \HyXeTeX@CheckUnicode
3995 \HyPsd@PrerenderUnicode{#1}%
3996 \pdfstringdef\@pdfauthor{#1}%
3997 }
3998 \define@key{Hyp}{pdfproducer}{%
3999 \HyXeTeX@CheckUnicode
4000 \HyPsd@PrerenderUnicode{#1}%
4001 \pdfstringdef\@pdfproducer{#1}%
4002 }
4003 \define@key{Hyp}{pdfcreator}{%
4004 \HyXeTeX@CheckUnicode
4005 \HyPsd@PrerenderUnicode{#1}%
4006 \pdfstringdef\@pdfcreator{#1}%
4007 }
4008 \define@key{Hyp}{addtopdfcreator}{%
4009 \HyXeTeX@CheckUnicode
4010 \HyPsd@PrerenderUnicode{#1}%
4011 \pdfstringdef\@pdfcreator{\@pdfcreator, #1}%
4012 }
4013 \define@key{Hyp}{pdfcreationdate}{%
4014 \begingroup
4015 \Hy@unicodedefalse
4016 \pdfstringdef\@pdfcreationdate{#1}%
4017 \endgroup
4018 }
4019 \define@key{Hyp}{pdfmoddate}{%
4020 \begingroup
4021 \Hy@unicodedefalse
4022 \pdfstringdef\@pdfmoddate{#1}%
4023 \endgroup
4024 }
4025 \define@key{Hyp}{pdfsubject}{%
4026 \HyXeTeX@CheckUnicode
4027 \HyPsd@PrerenderUnicode{#1}%
4028 \pdfstringdef\@pdfsubject{#1}%
4029 }
4030 \define@key{Hyp}{pdfkeywords}{%
4031 \HyXeTeX@CheckUnicode
4032 \HyPsd@PrerenderUnicode{#1}%
4033 \pdfstringdef\@pdfkeywords{#1}%
4034 }
4035 \define@key{Hyp}{pdftrapped}{%
4036 \lowercase{\edef\Hy@temp{#1}}%
4037 \ifx\Hy@temp\HyInfo@trapped@true
4038 \def\@pdftrapped{True}%
4039 \else
4040 \ifx\Hy@temp\HyInfo@trapped@false

```

```

4041 \def\@pdftrapped{False}%
4042 \else
4043 \ifx\Hy@temp\HyInfo@trapped@unknown
4044 \def\@pdftrapped{Unknown}%
4045 \else
4046 \ifx\Hy@temp\@empty
4047 \else
4048 \Hy@Warning{%
4049     Unsupported value `#1'\MessageBreak
4050     for option `pdftrapped'%
4051 }%
4052 \fi
4053 \def\@pdftrapped{}%
4054 \fi
4055 \fi
4056 \fi
4057 }
4058 \def\HyInfo@trapped@true{true}
4059 \def\HyInfo@trapped@false{false}
4060 \def\HyInfo@trapped@unknown{unknown}
4061 \def\HyInfo@TrappedUnsupported{%
4062 \ifx\@pdftrapped\@empty
4063 \else
4064 \Hy@WarningNoLine{`pdftrapped' is not supported by this driver}%
4065 \gdef\HyInfo@TrappedUnsupported{}%
4066 \fi
4067 }
4068 \define@key{Hyp}{pdfinfo}{%
4069 \kvsetkeys{pdfinfo}{#1}%
4070 }
4071 \def\Hy@temp#1{%
4072 \lowercase{\Hy@temp@A{#1}}{#1}%
4073 }
4074 \def\Hy@temp@A#1#2{%
4075 \define@key{pdfinfo}{#2}{%
4076 \hypersetup{pdf#1={##1}}%
4077 }%
4078 }
4079 \Hy@temp{Title}
4080 \Hy@temp{Author}
4081 \Hy@temp{Keywords}
4082 \Hy@temp{Subject}
4083 \Hy@temp{Creator}
4084 \Hy@temp{Producer}
4085 \Hy@temp{CreationDate}
4086 \Hy@temp{ModDate}
4087 \Hy@temp{Trapped}
4088 \newif\ifHyInfo@AddonUnsupported
4089 \kv@set@family@handler{pdfinfo}{%
4090 \HyInfo@AddonHandler{#1}{#2}%

```

```

4091 }
4092 \let\HyInfo@do\relax
4093 \def\HyInfo@AddonHandler#1#2{%
4094   \ifx\kv@value\relax
4095     \Hy@Warning{%
4096       Option `pdfinfo': ignoring key `\

```

```

4141 }
4142 \def\HyInfo@GenerateAddons{%
4143 \ifHyInfo@AddonUnsupported
4144 \def\HyInfo@Addons{}%
4145 \else
4146 \begingroup
4147 \toks@{}%
4148 \def\HyInfo@do##1{%
4149 \EdefEscapeName\HyInfo@Key{##1}%
4150 \edef\x{%
4151 \toks@{%
4152 \the\toks@
4153 /\HyInfo@Key{\csname HyInfo@Value@##1\endcsname}%
4154 }%
4155 }%
4156 \x
4157 }%
4158 \HyInfo@AddonList
4159 \edef\x{\endgroup
4160 \def\noexpand\HyInfo@Addons{\the\toks@}%
4161 }%
4162 \x
4163 \fi
4164 }
4165 \global\let\HyInfo@AddonList\ltx@empty
4166 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
4167 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
4168 \let\setpdfinkmargin@gobble
4169 \def\calculate@pdfview#1 #2\{%
4170 \def\@pdfview{#1}%
4171 \ifx\#2\%
4172 \def\@pdfviewparams{-32768}%
4173 \else
4174 \def\@pdfviewparams{#2}%
4175 \fi
4176 }
4177 \begingroup\expandafter\expandafter\expandafter\endgroup
4178 \expandafter\ifx\csname numexpr\endcsname\relax
4179 \def\Hy@number#1{%
4180 \expandafter\@firstofone\expandafter{\number#1}%
4181 }%
4182 \else
4183 \def\Hy@number#1{%
4184 \the\numexpr#1\relax
4185 }%
4186 \fi
4187 \define@key{Hyp}{pdfstartpage}{%
4188 \ifx\#1\%
4189 \let\@pdfstartpage\ltx@empty

```

```

4190 \else
4191 \edef\@pdfstartpage{\Hy@number{#1}}%
4192 \fi
4193 }%
4194 \define@key{Hyp}{pdfstartview}{%
4195 \ifx\#1\%
4196 \let\@pdfstartview\ltx@empty
4197 \else
4198 \hypercalcbpdef\@pdfstartview{/#1}%
4199 \fi
4200 }
4201 \def\HyPat@NonNegativeReal/{%
4202 \ *([0-9]+\.[0-9]*|[0-9]*\.[0-9]+) *%
4203 }
4204 \define@key{Hyp}{pdfremotestartview}{%
4205 \ifx\#1\%
4206 \def\@pdfremotestartview{/Fit}%
4207 \else
4208 \hypercalcbpdef\@pdfremotestartview{#1}%
4209 \edef\@pdfremotestartview{\@pdfremotestartview}%
4210 \Hy@Match\@pdfremotestartview}{%
4211 ^{XYZ(%
4212   ()| %
4213   (null|-\HyPat@NonNegativeReal/ ) %
4214   (null|-\HyPat@NonNegativeReal/ ) %
4215   (null|\HyPat@NonNegativeReal/)%
4216   )|% end of "XYZ"
4217   Fit(%
4218     ()| %
4219     B| %
4220     (H|V|BH|BV)(%
4221       ()| %
4222       (null|\HyPat@NonNegativeReal/)%
4223     )| %
4224     R %
4225     \HyPat@NonNegativeReal/ %
4226     \HyPat@NonNegativeReal/ %
4227     \HyPat@NonNegativeReal/ %
4228     \HyPat@NonNegativeReal/%
4229   )% end of "Fit"
4230   )$%
4231 }-}{%
4232 \Hy@Warning{%
4233   Invalid value ` \@pdfremotestartview'\MessageBreak
4234   of `pdfremotestartview'\MessageBreak
4235   is replaced by `Fit'%
4236 }%
4237 \let\@pdfremotestartview\@empty
4238 }%
4239 \ifx\@pdfremotestartview\@empty

```

```

4240     \def\@pdfremotestartview{/Fit}%
4241     \else
4242     \edef\@pdfremotestartview{/ \@pdfremotestartview}%
4243     \fi
4244 \fi
4245 }
4246 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
4247 \define@key{Hyp}{pdftoolbar}[true]{%
4248   \Hy@boolkey{pdftoolbar}{#1}%
4249 }
4250 \define@key{Hyp}{pdfmenubar}[true]{%
4251   \Hy@boolkey{pdfmenubar}{#1}%
4252 }
4253 \define@key{Hyp}{pdfwindowui}[true]{%
4254   \Hy@boolkey{pdfwindowui}{#1}%
4255 }
4256 \define@key{Hyp}{pdffitwindow}[true]{%
4257   \Hy@boolkey{pdffitwindow}{#1}%
4258 }
4259 \define@key{Hyp}{pdfcenterwindow}[true]{%
4260   \Hy@boolkey{pdfcenterwindow}{#1}%
4261 }
4262 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
4263   \Hy@boolkey{pdfdisplaydoctitle}{#1}%
4264 }
4265 \define@key{Hyp}{pdfa}[true]{%
4266   \Hy@boolkey{pdfa}{#1}%
4267 }
4268 \define@key{Hyp}{pdfnewwindow}[true]{%
4269   \def\Hy@temp{#1}%
4270   \ifx\Hy@temp\@empty
4271     \Hy@pdfnewwindowsetfalse
4272   \else
4273     \Hy@pdfnewwindowsettrue
4274     \Hy@boolkey{pdfnewwindow}{#1}%
4275   \fi
4276 }
4277 \def\Hy@SetNewWindow{%
4278   \ifHy@pdfnewwindowset
4279     /NewWindow %
4280     \ifHy@pdfnewwindow true\else false\fi
4281   \fi
4282 }
4283 \Hy@DefNameKey{pdfpagelayout}{%
4284   \do{SinglePage}{}%
4285   \do{OneColumn}{}%
4286   \do{TwoColumnLeft}{}%
4287   \do{TwoColumnRight}{}%
4288   \do{TwoPageLeft}{PDF 1.5}%
4289   \do{TwoPageRight}{PDF 1.5}%

```

```

4290 }
4291 \define@key{Hyp}{pdflang}{%
4292 \edef\@pdflang{#1}%
4293 \def\Hy@temp{\relax}%
4294 \ifx\@pdflang\Hy@temp
4295 \let\@pdflang\relax
4296 \fi
4297 \ifx\@pdflang\relax
4298 \else
4299 \ifx\@pdflang\ltx@empty
4300 \else

```

Test according to ABNF of RFC 3066.

```

4301 \Hy@Match\@pdflang{icase}{%
4302 ~%
4303 [a-z]{1,8}%
4304 (-[a-z0-9]{1,8})*%
4305 $%
4306 }{%

```

Test according to ABNF of RFC 5646.

```

4307 \Hy@Match\@pdflang{icase}{%
4308 ~%
4309 (%
4310 % langtag
4311 (% language
4312 [a-z]{2,3}%
4313 ([a-z]{3}(-[a-z]{3}){0,2})?% extlang
4314 |[a-z]{4}% reserved for future use
4315 |[a-z]{5,8}% registered language subtag
4316 )%
4317 (-[a-z]{4})?% script
4318 (-([a-z]{2}|[0-9]{3}))?% region
4319 (-([a-z]{5,8}|[0-9][a-z0-9]{3}))?% variant
4320 (-[0-9a-wyz](-[a-z0-9]{2,8})+)*% extension
4321 (-x(-[a-z0-9]{1,8})+)?% privateuse
4322 % privateuse
4323 |x(-[a-z0-9]{1,8})+%
4324 % grandfathered/irregular
4325 |en-GB-oed%
4326 |i-(ami|bnn|default|enochian|hak|klinton|lux|%
4327 mingo|navajo|pwn|tao|tay|tsu)%
4328 |sgn-(BE-FR|BE-NL|CH-DE)%
4329 % grandfathered/regular
4330 |art-lojban%
4331 |cel-gaulish%
4332 |no-(bok|nyn)%
4333 |zh-(guoyu|hakka|min|min-nan|xiang)%
4334 )%
4335 $%
4336 }{%

```

Test for unique extensions.

```
4337 \Hy@Match{-\@pdflang}{icase}{-[a-wyz0-9]-}{%
4338 \Hy@Match\@pdflang{icase}{~x-}{%
4339 % remove privateuse
4340 \edef\Hy@temp{-\@pdflang}%
4341 \Hy@Match\Hy@temp{icase}{%
4342 ~%
4343 (%
4344 (-[a-wyz0-9]|-[a-z0-9]{2,8})*%
4345 )%
4346 -x-%
4347 }{%
4348 \edef\Hy@temp{%
4349 \expandafter\strip@prefix\pdfastmatch1%
4350 }%
4351 }{%
4352 \Hy@Match\Hy@temp{icase}{%
4353 (-[a-wyz0-9]-).*\ltx@backslashchar1%
4354 }{%
4355 \Hy@Warning{%
4356 Invalid language identifier `#1'\MessageBreak
4357 for option `pdflang', because it violates\MessageBreak
4358 well-formedness defined in RFC 4646\MessageBreak
4359 by duplicate singleton subtags%
4360 }%
4361 \let\@pdflang\relax
4362 }{%
4363 }%
4364 }{%
```

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

```
4365 \ifx\@pdflang\relax
4366 \else
4367 \Hy@Match\@pdflang{icase}{%
4368 ~%
4369 [a-zA-Z]{2}-%
4370 (%
4371 aa|AA|%
4372 [qQ][m-zA-Z]|%
4373 [xX][a-zA-Z]|%
4374 zz|ZZ%
4375 )%
4376 (-|%)%
4377 }{%
4378 \Hy@Warning{%
4379 Invalid language identifier `#1'\MessageBreak
4380 for option `pdflang' because of invalid country code%
4381 \MessageBreak
4382 in second subtag (RFC 3066)%
4383 }%
```

```

4384     \let\@pdflang\relax
4385     }{%
4386     \fi
4387   }{%
4388     \Hy@Warning{%
4389       Invalid language identifier `#1'\MessageBreak
4390       for option `pdflang', because it violates\MessageBreak
4391       well-formedness defined in RFC 5646%
4392     }%
4393     \let\@pdflang\relax
4394     }%
4395   }{%
4396     \Hy@Warning{%
4397       Invalid language identifier `#1'\MessageBreak
4398       for option `pdflang' (RFC 3066)%
4399     }%
4400     \let\@pdflang\relax
4401     }%
4402     \fi
4403   \fi
4404 }
4405 \define@key{Hyp}{pdfpagelabels}[true]{%
4406   \Hy@boolkey{pdfpagelabels}{#1}%
4407 }
4408 \define@key{Hyp}{pdfescapeform}[true]{%
4409   \Hy@boolkey{pdfescapeform}{#1}%
4410 }

```

Default values:

```

4411 \def\@linkbordercolor{1 0 0}
4412 \def\@urlbordercolor{0 1 1}
4413 \def\@menubordercolor{1 0 0}
4414 \def\@filebordercolor{0 .5 .5}
4415 \def\@runbordercolor{0 .7 .7}
4416 \def\@citebordercolor{0 1 0}
4417 \def\@pdfhighlight{/I}
4418 \let\@pdftitle\ltx@empty
4419 \let\@pdfauthor\ltx@empty
4420 \let\@pdfproducer\relax
4421 \def\@pdfcreator{LaTeX with hyperref}
4422 \let\@pdfcreationdate\ltx@empty
4423 \let\@pdfmoddate\ltx@empty
4424 \let\@pdfsubject\ltx@empty
4425 \let\@pdfkeywords\ltx@empty
4426 \let\@pdftrapped\ltx@empty
4427 \let\@pdfpagescrop\ltx@empty
4428 \def\@pdfstartview{/Fit}
4429 \def\@pdfremotestartview{/Fit}
4430 \def\@pdfstartpage{1}
4431 \let\@pdfprintpagerange\ltx@empty

```

```

4432 \let\@pdfang\relax
4433 \let\PDF@SetupDoc\@empty
4434 \let\PDF@FinishDoc\@empty
4435 \let\phantomsection\@empty
4436 \let\special@paper\@empty
4437 \def\HyperDestNameFilter#1{#1}
4438 \Hy@AtBeginDocument{%
4439   \begingroup
4440   \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
4441   \dimen@=\x\relax
4442   \ifdim\dimen@>\z@
4443   \else
4444     \dimen@=11in\relax
4445     \Hy@WarningNoLine{%
4446       Height of page (\expandafter\string\x) %
4447       is invalid (\the\x),\MessageBreak
4448       using 11in%
4449     }%
4450   \fi
4451   \dimen@=0.99626401\dimen@
4452   \xdef\Hy@pageheight{\strip@pt\dimen@}%
4453 \endgroup
4454 }
4455 \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.

```

4456 \let\hyper@normalise\ExecuteOptions
4457 \let\ExecuteOptions\hypersetup
4458 \Hy@RestoreCatcodes
4459 \InputIfFileExists{hyperref.cfg}{-}{-}
4460 \Hy@SetCatcodes
4461 \let\ExecuteOptions\hyper@normalise
4462 \ifx\Hy@MaybeStopNow\relax
4463 \else
4464   \Hy@stoppearlytrue
4465   \expandafter\Hy@MaybeStopNow
4466 \fi
4467 \Hy@stoppearlyfalse

```

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.

```

4468 \SetupKeyvalOptions{family=Hyp}
4469 \DeclareLocalOptions{%
4470   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4471 }

```

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

```

4472 \@ifpackagewith{hyperref}{tex4ht}{%

```

```

4473 }{%
4474 \@ifpackageloaded{tex4ht}{%
4475 \PassOptionsToPackage{tex4ht}{hyperref}%
4476 }{%
4477 \ltx@ifundefined{HCode}{%
4478 }{%
4479 \begingroup
4480 \def\Hy@pkg{tex4ht}%
4481 \def\Hy@temp@A#1\RequirePackage[#2]#3#4\Hy@NIL{%
4482 \def\Hy@param{#2#3}%
4483 \ifx\Hy@param\ltx@empty
4484 \expandafter\ltx@gobble
4485 \else
4486 \def\Hy@param{#3}%
4487 \ifx\Hy@param\Hy@pkg
4488 \PassOptionsToPackage{#2}{tex4ht}%
4489 \expandafter\expandafter\expandafter\@gobble
4490 \else
4491 \expandafter\expandafter\expandafter\ltx@firstofone
4492 \fi
4493 \fi
4494 {\Hy@temp@A#4\Hy@NIL}%
4495 }%
4496 \expandafter
4497 \Hy@temp@A\@documentclasshook\RequirePackage[]{\Hy@NIL
4498 \endgroup
4499 \PassOptionsToPackage{tex4ht}{hyperref}%
4500 }%
4501 }%
4502 }

4503 \let\ReadBookmarks\relax
4504 \ProcessKeyvalOptions{Hyp}

```

After processing options.

## 15.1 Package xspace support

```

4505 \def\Hy@xspace@end{}
4506 \ltx@ifundefined{xspaceaddexceptions}{%
4507 \Hy@AtBeginDocument{%
4508 \ltx@ifundefined{xspaceaddexceptions}{%
4509 }{%
4510 \def\Hy@xspace@end{%
4511 \ltx@gobble{end for xspace}%
4512 }%
4513 \xspaceaddexceptions{%
4514 \Hy@xspace@end,\hyper@linkend,\hyper@anchorend
4515 }%
4516 }%
4517 }%

```

```

4518 }{%
4519 \def\Hy@xspace@end{%
4520 \ltx@gobble{end for xspace}%
4521 }%
4522 \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4523 }

```

## 15.2 Option draft

```

4524 \Hy@AtBeginDocument{%
4525 \ifHy@draft
4526 \let\hyper@@anchor\@gobble
4527 \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%
4528 \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4529 \def\hyper@anchorend{\Hy@xspace@end}%
4530 \let\hyper@linkstart\@gobbletwo
4531 \def\hyper@linkend{\Hy@xspace@end}%
4532 \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4533 \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4534 \def\hyper@link@[#1]#2#3#4{#4\Hy@xspace@end}%
4535 \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%
4536 \let\PDF@SetupDoc\@empty
4537 \let\PDF@FinishDoc\@empty
4538 \let\@fifthoffive\@secondoftwo
4539 \let\@secondoffive\@secondoftwo
4540 \let\ReadBookmarks\relax
4541 \let\WriteBookmarks\relax
4542 \Hy@WarningNoLine{Draft mode on}%
4543 \fi
4544 \Hy@DisableOption{draft}%
4545 \Hy@DisableOption{nolinks}%
4546 \Hy@DisableOption{final}%
4547 }

```

## 15.3 PDF/A

```

4548 \Hy@DisableOption{pdfa}
4549 \ifHy@pdfa
4550 \ifnum \Hy@pdf@major@minor@version < 104
4551 \kvsetkeys{Hyp}{pdfversion=1.4}%
4552 \fi
4553 \Hy@DisableOption{pdfversion}%
4554 \def\Hy@Acrobatmenu#1#2{%
4555 \leavevmode
4556 \begingroup
4557 \edef\x{#1}%
4558 \@onelevel@sanitize\x
4559 \ifx\x\Hy@NextPage
4560 \let\y=Y%
4561 \else
4562 \ifx\x\Hy@PrevPage

```

```

4563     \let\y=Y%
4564   \else
4565     \ifx\x\Hy@FirstPage
4566       \let\y=Y%
4567     \else
4568       \ifx\x\Hy@LastPage
4569         \let\y=Y%
4570       \else
4571         \let\y=N%
4572     \fi
4573   \fi
4574 \fi
4575 \fi
4576 \expandafter\endgroup
4577 \ifx\y Y%
4578 \else
4579   \Hy@Error{%
4580     PDF/A: Named action `#1' is not permitted%
4581   }\@ehc
4582   {#2}%
4583   \expandafter\@gobble
4584 \fi
4585 }%
4586 \def\Hy@temp#1{%
4587   \expandafter\def\csname Hy@#1\endcsname{#1}%
4588   \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4589 }%
4590 \Hy@temp{NextPage}%
4591 \Hy@temp{PrevPage}%
4592 \Hy@temp{FirstPage}%
4593 \Hy@temp{LastPage}%
4594 \else
4595 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4596 \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.

```

4597 \Hy@nextfalse
4598 \ltx@ifundefined{spanish@sh@"@sel}{\Hy@nexttrue}
4599 \ltx@ifundefined{galician@sh@"@sel}{\Hy@nexttrue}
4600 \ltx@ifundefined{estonian@sh@"@sel}{\Hy@nexttrue}
4601 \iffHy@next
4602 \let\texttilde\~%
4603 \fi
4604 \def\Hy@wrapper@babel#1#2{%
4605   \begingroup
4606     \Hy@safe@activestru

```

```

4607 \set@display@protect
4608 \edef\x{#2}%
4609 \@onelevel@sanitize\x
4610 \toks@{#1}%
4611 \edef\x{\endgroup\the\toks@\x}%
4612 \x
4613 }
4614 \def\Hy@WrapperDef#1{%
4615 \begingroup
4616 \escapechar=\m@ne
4617 \xdef\Hy@gtemp{%
4618 \expandafter\noexpand\csname HyWrap@\string#1\endcsname
4619 }%
4620 \endgroup
4621 \edef#1{%
4622 \noexpand\Hy@wrapper@babel
4623 \expandafter\noexpand\Hy@gtemp
4624 }%
4625 \expandafter\def\Hy@gtemp
4626 }

4627 \ifHy@hyperfigures
4628 \Hy@Info{Hyper figures ON}%
4629 \else
4630 \Hy@Info{Hyper figures OFF}%
4631 \fi
4632 \ifHy@nesting
4633 \Hy@Info{Link nesting ON}%
4634 \else
4635 \Hy@Info{Link nesting OFF}%
4636 \fi
4637 \ifHy@hyperindex
4638 \Hy@Info{Hyper index ON}%
4639 \else
4640 \Hy@Info{Hyper index OFF}%
4641 \fi
4642 \ifHy@plainpages
4643 \Hy@Info{Plain pages ON}%
4644 \else
4645 \Hy@Info{Plain pages OFF}%
4646 \fi
4647 \ifHy@backref
4648 \Hy@Info{Backreferencing ON}%
4649 \else
4650 \Hy@Info{Backreferencing OFF}%
4651 \fi
4652 \ifHy@typexml
4653 \Hy@AtEndOfPackage{%
4654 \RequirePackage{color}%
4655 \RequirePackage{nameref}[2012/07/28]%

```

```

4656 }%
4657 \fi
4658 \Hy@DisableOption{typexml}
4659 \ifHy@implicit
4660 \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4661 \else
4662 \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4663 \def\MaybeStopEarly{%
4664 \Hy@Message{Stopped early}%
4665 \Hy@AtBeginDocument{%
4666 \PDF@FinishDoc
4667 \gdef\PDF@FinishDoc{}}%
4668 }%
4669 \endinput
4670 }%
4671 \Hy@AtBeginDocument{%
4672 \let\autoref\ref
4673 \let\autopageref\pageref
4674 \ifx\@pdfpagemode\@empty
4675 \gdef\@pdfpagemode{UseNone}%
4676 \fi
4677 \global\Hy@backreffalse
4678 }%
4679 \Hy@AtEndOfPackage{%
4680 \global\let\ReadBookmarks\relax
4681 \global\let\WriteBookmarks\relax
4682 }%
4683 \fi
4684 \Hy@DisableOption{implicit}

```

#### 15.4.1 Driver loading

```

4685 \Hy@AtEndOfPackage{%
4686 \@ifpackageloaded{tex4ht}{%
4687 \def\Hy@driver{htex4ht}%
4688 \Hy@texhttrue
4689 }{}%

```

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.

```

4690 \ifx\Hy@driver\@empty
4691 \else
4692 \ifx\pdfextension\@undefined
4693 \def\Hy@temp{hpdfTEX}%
4694 \else
4695 \def\Hy@temp{hluatex}%
4696 \fi
4697 \ifpdf
4698 \ifx\Hy@driver\Hy@temp
4699 \else

```

```

4700 \Hy@WarningNoLine{%
4701   Wrong driver ``\Hy@driver.def';\MessageBreak
4702   pdfTeX is running in PDF mode.\MessageBreak
4703   Forcing driver ``\Hy@temp.def'%
4704 }%
4705 \let\Hy@driver\Hy@temp
4706 \fi
4707 \else
4708 \ifx\Hy@driver\Hy@temp
4709 \Hy@WarningNoLine{%
4710   Wrong driver ``\Hy@driver.def';\MessageBreak
4711   pdfTeX is not running in PDF mode.\MessageBreak
4712   Using default driver%
4713 }%
4714 \let\Hy@driver\@empty
4715 \fi
4716 \fi
4717 \fi
4718 \ifHy@texht
4719 \else
4720 \ifx\Hy@driver\@empty
4721 \else
4722 \def\Hy@temp{hxtex}%
4723 \ifxetex
4724 \ifx\Hy@driver\Hy@temp
4725 \else
4726 \Hy@WarningNoLine{%
4727   Wrong driver ``\Hy@driver.def';\MessageBreak
4728   XeTeX is running.\MessageBreak
4729   Forcing driver ``\Hy@temp.def' for XeTeX%
4730 }%
4731 \let\Hy@driver\Hy@temp
4732 \fi
4733 \fi
4734 \fi
4735 \fi
4736 \ifx\Hy@driver\@empty
4737 \else
4738 \def\Hy@temp{hvtexhtm}%
4739 \ifnum\ifvtex\OpMode\else\m@ne\fi=10 %
4740 \ifx\Hy@driver\Hy@temp
4741 \else
4742 \Hy@WarningNoLine{%
4743   Wrong driver ``\Hy@driver.def';\MessageBreak
4744   VTeX is running in HTML mode.\MessageBreak
4745   Forcing driver ``\Hy@temp.def'%
4746 }%
4747 \let\Hy@driver\Hy@temp
4748 \fi
4749 \else

```

```

4750 \ifx\Hy@driver\Hy@temp
4751 \Hy@WarningNoLine{%
4752   Wrong driver ``\Hy@driver.def';\MessageBreak
4753   VTeX is not running in HTML mode.\MessageBreak
4754   Using default driver%
4755 }%
4756 \let\Hy@driver\@empty
4757 \fi
4758 \fi
4759 \fi

```

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

```

4760 \let\HyOpt@DriverType\ltx@empty
4761 \ifx\HyOpt@CustomDriver\ltx@empty
4762 \ifx\Hy@driver\@empty
4763 \def\HyOpt@DriverType{ (autodetected)}%
4764 \providecommand*{\Hy@defaultdriver}{hdvips}%
4765 \ifpdf
4766 \ifx\pdfextension\@undefined
4767 \def\Hy@driver{hpdfTeX}%
4768 \else
4769 \def\Hy@driver{hluatex}%
4770 \fi
4771 \else
4772 \ifxetex
4773 \def\Hy@driver{hxetex}%
4774 \else
4775 \ifnum\ifvtex\OpMode\else\m@ne\fi=10 %
4776 \def\Hy@driver{hvtexhtm}%
4777 \def\MaybeStopEarly{%
4778 \Hy@Message{Stopped early}%
4779 \Hy@AtBeginDocument{%
4780 \PDF@FinishDoc
4781 \gdef\PDF@FinishDoc{}}%
4782 }%
4783 \endinput
4784 }%
4785 \else
4786 \ifnum\ifvtex\OpMode\else\m@ne\fi=\@ne
4787 \def\Hy@driver{hvtex}%
4788 \else
4789 \ifnum\ifvtex\OpMode\else\m@ne\fi=\tw@
4790 \def\Hy@driver{hvtex}%
4791 \else
4792 \ifx\HyOpt@DriverFallback\ltx@empty
4793 \let\Hy@driver\Hy@defaultdriver
4794 \def\HyOpt@DriverType{ (default)}%
4795 \else
4796 \begingroup
4797 \toks@\expandafter{\HyOpt@DriverFallback}%

```

```

4798         \edef\x{\endgroup
4799             \noexpand\kvsetkeys{Hyp}{\the\toks@}%
4800         }%
4801     \x
4802     \ifx\Hy@driver\ltx@empty
4803         \let\Hy@driver\Hy@defaultdriver
4804         \def\HyOpt@DriverType{ (default)}%
4805     \else
4806         \def\HyOpt@DriverType{ (fallback)}%
4807     \fi
4808 \fi
4809 \fi
4810 \fi
4811 \fi
4812 \fi
4813 \fi
4814 \ifx\Hy@driver\Hy@defaultdriver
4815     \def\Hy@temp{hdwind}%
4816     \ifx\Hy@temp\Hy@driver
4817         \kvsetkeys{Hyp}{colorlinks}%
4818         \PassOptionsToPackage{dviwindo}{color}%
4819     \fi
4820 \fi
4821 \fi
4822 \else
4823     \def\HyOpt@DriverType{ (custom)}%
4824     \let\Hy@driver\HyOpt@CustomDriver
4825 \fi
4826 \Hy@InfoNoLine{Driver\HyOpt@DriverType: \Hy@driver}%
4827 \chardef\Hy@VersionChecked=0 %
4828 \input{\Hy@driver.def}%
4829 \ifcase\Hy@VersionChecked
4830     \Hy@VersionCheck{\Hy@driver.def}%
4831 \fi
4832 \let\@unprocessedoptions\relax
4833 \Hy@RestoreCatcodes
4834 \Hy@DisableOption{tex4ht}%
4835 \Hy@DisableOption{pdftex}%
4836 \Hy@DisableOption{nativepdf}%
4837 \Hy@DisableOption{dvipdfm}%
4838 \Hy@DisableOption{dvipdfmx}%
4839 \Hy@DisableOption{dvipdfmx-outline-open}%
4840 \Hy@DisableOption{pdfmark}%
4841 \Hy@DisableOption{dvips}%
4842 \Hy@DisableOption{hypertex}%
4843 \Hy@DisableOption{vtex}%
4844 \Hy@DisableOption{vtexpdfmark}%
4845 \Hy@DisableOption{dviwindo}%
4846 \Hy@DisableOption{dvipsone}%
4847 \Hy@DisableOption{textures}%

```

```

4848 \Hy@DisableOption{latex2html}%
4849 \Hy@DisableOption{ps2pdf}%
4850 \Hy@DisableOption{xetex}%
4851 \Hy@DisableOption{driverfallback}%
4852 \Hy@DisableOption{customdriver}%
4853 \Hy@DisableOption{pdfversion}%
4854 }

```

Support for open outlines is enabled for XeTeX >= 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.

```

4855 \newif\ifHy@DvipdfmxOutlineOpen
4856 \ifxetex
4857 \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4858 \else
4859 \chardef\SpecialDvipdfmxOutlineOpen\@ne
4860 \Hy@DvipdfmxOutlineOpenttrue
4861 \fi
4862 \fi
4863 \begingroup\expandafter\expandafter\expandafter\endgroup
4864 \expandafter\ifx\cname SpecialDvipdfmxOutlineOpen\endcname\relax
4865 \else
4866 \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4867 \Hy@DvipdfmxOutlineOpenttrue
4868 \fi
4869 \fi

```

#### 15.4.2 Bookmarks

```

4870 \def\WriteBookmarks{0}
4871 \def\@bookmarkopenstatus#1{%
4872 \ifHy@bookmarksopen

```

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

```

4873 \ifnum#1<\expandafter\@firstofone\expandafter
4874 {\number\@bookmarkopenlevel} % explicit space
4875 \else
4876 -%
4877 \fi
4878 \else
4879 -%
4880 \fi
4881 }
4882 \ifHy@bookmarks
4883 \Hy@Info{Bookmarks ON}%
4884 \ifx\@pdfpagemode\@empty
4885 \def\@pdfpagemode{UseOutlines}%
4886 \fi
4887 \else
4888 \let\@bookmarkopenstatus\ltx@gobble
4889 \Hy@Info{Bookmarks OFF}%

```

```

4890 \Hy@AtEndOfPackage{%
4891   \global\let\ReadBookmarks\relax
4892   \global\let\WriteBookmarks\relax
4893 }%
4894 \ifx\@pdfpagemode\@empty
4895   \def\@pdfpagemode{UseNone}%
4896 \fi
4897 \fi
4898 \Hy@DisableOption{bookmarks}

  Add wrapper for setting standard catcodes (babel's shorthands).
4899 \def\Hy@CatcodeWrapper#1{%
4900   \let\Hy@endWrap\ltx@empty
4901   \def\TMP@EnsureCode##1##2{%
4902     \edef\Hy@endWrap{%
4903       \Hy@endWrap
4904       \catcode##1 \the\catcode##1\relax
4905     }%
4906     \catcode##1 ##2\relax
4907 }%
4908 \TMP@EnsureCode{10}{12}% ^^J
4909 \TMP@EnsureCode{33}{12}% !
4910 \TMP@EnsureCode{34}{12}% "
4911 \TMP@EnsureCode{36}{3}% $ (math)
4912 \TMP@EnsureCode{38}{4}% & (alignment)
4913 \TMP@EnsureCode{39}{12}% '
4914 \TMP@EnsureCode{40}{12}% (
4915 \TMP@EnsureCode{41}{12}% )
4916 \TMP@EnsureCode{42}{12}% *
4917 \TMP@EnsureCode{43}{12}% +
4918 \TMP@EnsureCode{44}{12}% ,
4919 \TMP@EnsureCode{45}{12}% -
4920 \TMP@EnsureCode{46}{12}% .
4921 \TMP@EnsureCode{47}{12}% /
4922 \TMP@EnsureCode{58}{12}% :
4923 \TMP@EnsureCode{59}{12}% ;
4924 \TMP@EnsureCode{60}{12}% <
4925 \TMP@EnsureCode{61}{12}% =
4926 \TMP@EnsureCode{62}{12}% >
4927 \TMP@EnsureCode{63}{12}% ?
4928 \TMP@EnsureCode{91}{12}% [
4929 \TMP@EnsureCode{93}{12}% ]
4930 \TMP@EnsureCode{94}{7}% ^ (superscript)
4931 \TMP@EnsureCode{95}{8}% _ (subscript)
4932 \TMP@EnsureCode{96}{12}% `
4933 \TMP@EnsureCode{124}{12}% |
4934 \TMP@EnsureCode{126}{13}% ~ (active)
4935 #1\relax
4936 \Hy@endWrap
4937 }

```

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

```

4938 \Hy@AtBeginDocument{%
4939   \ifHy@ocgcolorlinks
4940     \kvsetkeys{Hyp}{colorlinks}%
4941   \ifHy@pdfa
4942     \Hy@Warning{%
4943       PDF/A: Optional Content Groups are prohibited,\MessageBreak
4944       using `colorlinks' instead of `ocgcolorlinks'%
4945     }%
4946   \Hy@ocgcolorlinksfalse
4947 \fi
4948 \fi
4949 \ifHy@ocgcolorlinks
4950 \else
4951   \Hy@DisableOption{ocgcolorlinks}%
4952 \fi
4953 \ifHy@colorlinks
4954   \def\@pdfborder{0 0 0}%
4955   \let\@pdfborderstyle\@empty
4956   \ifHy@typexml
4957   \else
4958     \Hy@CatcodeWrapper{%
4959       \RequirePackage{color}%
4960     }%
4961   \fi
4962   \def\Hy@colorlink#1{%
4963     \begingroup
4964     \HyColor@UseColor#1%
4965   }%
4966   \def\Hy@endcolorlink{\endgroup}%
4967   \Hy@Info{Link coloring ON}%
4968 \else
4969   \ifHy@frenchlinks
4970     \def\Hy@colorlink#1{\begingroup\fontshape{\scdefault}\selectfont}%
4971     \def\Hy@endcolorlink{\endgroup}%
4972     \Hy@Info{French linking ON}%
4973   \else
for grouping consistency:
4974     \def\Hy@colorlink#1{\begingroup}%
4975     \def\Hy@endcolorlink{\endgroup}%
4976     \Hy@Info{Link coloring OFF}%
4977   \fi
4978 \fi
4979 \Hy@DisableOption{colorlinks}%
4980 \Hy@DisableOption{frenchlinks}%
4981 \ifHy@texht
4982   \long\def\@firstoffive#1#2#3#4#5{#1}%
4983   \long\def\@secondoffive#1#2#3#4#5{#2}%

```

```

4984 \long\def\@thirdoffive#1#2#3#4#5{#3}%
4985 \long\def\@fourthoffive#1#2#3#4#5{#4}%
4986 \long\def\@fifthoffive#1#2#3#4#5{#5}%
4987 \providecommand*\@safe@activetrue{}%
4988 \providecommand*\@safe@activesfalse{}%
4989 \def\T@ref#1{%
4990   \Hy@safe@activetrue
4991   \expandafter\@setref\csname r@#1\endcsname\@firstoffive{#1}%
4992   \Hy@safe@activesfalse
4993 }%
4994 \def\T@pageref#1{%
4995   \Hy@safe@activetrue
4996   \expandafter\@setref\csname r@#1\endcsname\@secondoffive{#1}%
4997   \Hy@safe@activesfalse
4998 }%
4999 \else
5000 \ifHy@typexml
5001 \else
5002   \Hy@CatcodeWrapper{%
5003     \RequirePackage{nameref}[2012/07/28]%
5004   }%
5005 \fi
5006 \fi
5007 \DeclareRobustCommand\ref{%
5008   \@ifstar\@refstar\T@ref
5009 }%
5010 \DeclareRobustCommand\pageref{%
5011   \@ifstar\@pagerefstar\T@pageref
5012 }%
5013 % \@ifclassloaded{memoir}{%
5014 %   \ltx@ifundefined{@mem@titlerefno link}\ltx@secondoftwo{%
5015 %     \ltx@ifundefined{@mem@titleref}\ltx@secondoftwo\ltx@firstoftwo
5016 %   }%
5017 % } \ltx@secondoftwo
5018 % {%
5019 %   \DeclareRobustCommand*{\nameref}{%
5020 %     \@ifstar\@mem@titlerefno link\@mem@titleref
5021 %   }%
5022 % }{%
5023   \DeclareRobustCommand*{\nameref}{%
5024     \@ifstar\@namerefstar\T@nameref
5025   }%
5026 % }%
5027 \ifHy@implicit
5028 \else
5029 \let \@pagerefstar\T@pageref
5030 \let \@refstar\T@ref
5031 \let \@namerefstar\T@nameref
5032 \fi
5033 }

```

```

5034 \Hy@AtBeginDocument{%
5035   \ifHy@texht
5036   \else
5037     \Hy@CatcodeWrapper\ReadBookmarks
5038   \fi
5039 }

5040 \ifHy@backref
5041   \RequirePackage{backref}%
5042 \else
5043   \let\Hy@backout\@gobble
5044 \fi

5045 \Hy@DisableOption{backref}
5046 \Hy@DisableOption{pagebackref}

5047 \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`.

```

5048 \begingroup
5049   \endlinechar=-1 %
5050   \catcode`\^^A=14 %
5051   \catcode`\^^M\active
5052   \catcode`\%\active
5053   \catcode`\#\active
5054   \catcode`\_\active
5055   \catcode`\$\active
5056   \catcode`\&\active
5057   \gdef\hyper@normalise{^^A
5058     \begingroup
5059     \catcode`\^^M\active
5060     \def^^M{ }^^A
5061     \catcode`\%\active
5062     \let%\@percentchar
5063     \let%\@percentchar
5064     \catcode`\#\active
5065     \def#{\hyper@hash}^^A
5066     \def\#{\hyper@hash}^^A
5067     \@makeother\&^^A
5068     \edef&{\string&}^^A
5069     \edef\&{\string&}^^A
5070     \edef\textunderscore{\string_}^^A
5071     \let_\textunderscore

```

```

5072 \catcode`\_ \active
5073 \let_\textunderscore
5074 \let~\hyper@tilde
5075 \let\~\hyper@tilde
5076 \let\textasciitilde\hyper@tilde
5077 \let\\\@backslashchar
5078 \edef$\string$^^A
5079 \Hy@safe@activestru
5080 \hyper@n@rmalise
5081 }^^A
5082 \catcode`\#=6 ^^A
5083 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
5084 \gdef\hyper@n@rmalise#1#2{^^A
5085 \def\Hy@tempa{#2}^^A
5086 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
5087 \ltx@ReturnAfterElseFi{^^A
5088 \hyper@@normalise{#1}^^A
5089 }^^A
5090 \else
5091 \ltx@ReturnAfterFi{^^A
5092 \hyper@@normalise{#1}{#2}^^A
5093 }^^A
5094 \fi
5095 }^^A
5096 \gdef\hyper@@normalise#1#2{^^A
5097 \edef\Hy@tempa{^^A
5098 \endgroup
5099 \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
5100 }^^A
5101 \Hy@tempa
5102 }^^A
5103 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
5104 #1^^A
5105 \ifx\limits#2\limits
5106 \else
5107 \ltx@ReturnAfterFi{^^A
5108 \Hy@RemovePercentCr #2\@nil
5109 }^^A
5110 \fi
5111 }^^A
5112 \endgroup
5113 \providecommand*\hyper@chars{%
5114 \let\#\hyper@hash
5115 \let\%\@percentchar
5116 \Hy@safe@activestru
5117 }

5118 \def\hyperlink#1#2{%
5119 \hyper@@link{#1}{#2}%
5120 }

```

```

5121 \def\Hy@VerboseLinkStart#1#2{%
5122   \ifHy@verbose
5123     \begingroup
5124     \Hy@safe@activestru
5125     \xdef\Hy@VerboseGlobalTemp{(#1) `#2'}%
5126     \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
5127     \xdef\Hy@VerboseGlobalTemp{%
5128       \Hy@VerboseGlobalTemp, %
5129       line \the\inputlineno
5130     }%
5131   \endgroup
5132   \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
5133   \@onelevel@sanitize\Hy@VerboseLinkInfo
5134 \fi
5135 }

5136 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
5137 \def\Hy@VerboseLinkStop{%
5138   \ifHy@verbose
5139     \begingroup
5140     \edef\x{\endgroup
5141       \write\m@ne{%
5142         Package `hyperref' Info: %
5143         End of reference \Hy@VerboseLinkInfo.%
5144       }%
5145     }%
5146   \x
5147 \fi
5148 }

5149 \def\Hy@VerboseAnchor#1{%
5150   \ifHy@verbose
5151     \begingroup
5152     \Hy@safe@activestru
5153     \Hy@Info{Anchor ``\HyperDestNameFilter{#1}''}%
5154   \endgroup
5155 \fi
5156 }

5157 \def\Hy@AllowHyphens{%
5158   \relax
5159   \ifhmode
5160     \penalty\@M
5161     \hskip\z@skip
5162   \fi
5163 }

5164 \DeclareRobustCommand*\href[1][]{%
5165   \begingroup
5166   \setkeys{href}{#1}%
5167   \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
5168 }

```

```

5169 \def\Hy@href#-%
5170 \hyper@normalise\href@
5171 }
5172 \begingroup
5173 \catcode`\$=6 %
5174 \catcode`\#=12 %
5175 \gdef\href@#1{\expandafter\href@split$1##\}%
5176 \gdef\href@split$1##$2##$3\\$4{%
5177 \hyper@@link{$1}{$2}{$4}%
5178 \endgroup
5179 }%
5180 \endgroup

```

Option ‘page’.

```

5181 \define@key{href}{page}{%
5182 \def\Hy@href@page{#1}%
5183 }
5184 \let\Hy@href@page\@empty
5185 \newcount\c@Hy@tempcnt
5186 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
5187 \def\Hy@MakeRemoteAction{%
5188 \ifx\Hy@href@page\@empty
5189 \def\Hy@href@page{0}%
5190 \else
5191 \setcounter{Hy@tempcnt}{\Hy@href@page}%
5192 \ifnum\c@Hy@tempcnt<\@ne
5193 \Hy@Warning{%
5194 Invalid page number (\theHy@tempcnt)\MessageBreak
5195 for remote PDF file.\MessageBreak
5196 Using page 1%
5197 }%
5198 \def\Hy@href@page{0}%
5199 \else
5200 \global\advance\c@Hy@tempcnt\m@ne
5201 \edef\Hy@href@page{\theHy@tempcnt}%
5202 \fi
5203 \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.

```

5204 \ifx\Hy@href@nextactionraw\@empty
5205 \else
5206 \Hy@pdfnewwindowsettrue
5207 \Hy@pdfnewwindowtrue
5208 \fi
5209 }

```

Option ‘pdfremotestartview’.

```

5210 \define@key{href}{pdfremotestartview}{%
5211 \setkeys{Hyp}{pdfremotestartview={#1}}%
5212 }

```

Option ‘pdfnewwindow’.

```
5213 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
5214 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default
```

Option ‘ismap’.

```
5215 \newif\ifHy@href@ismap
5216 \define@key{href}{ismap}[true]{%
5217 \ltx@ifundefined{Hy@href@ismap#1}{%
5218 \Hy@Error{%
5219 Invalid value (#1) for key `ismap'.\MessageBreak
5220 Permitted values are `true' or `false'.\MessageBreak
5221 Ignoring `ismap'%
5222 } \@ehc
5223 }{%
5224 \csname Hy@href@ismap#1\endcsname
5225 }%
5226 }
```

Option ‘nextactionraw’.

```
5227 \let\Hy@href@nextactionraw\@empty
5228 \define@key{href}{nextactionraw}{%
5229 \edef\Hy@href@nextactionraw{#1}%
5230 \ifx\Hy@href@nextactionraw\@empty
5231 \else
5232 \Hy@Match\Hy@href@nextactionraw}{%
5233 ^(\HyPat@ObjRef/|<<.*[/S[ /.+>>|)%
5234 \[( ?\HyPat@ObjRef/|<<.*[/S[ /.+>>)+ ?)]$%
5235 }-}{%
5236 \Hy@Warning{Invalid value for `nextactionraw':\MessageBreak
5237 \Hy@href@nextactionraw\MessageBreak
5238 The action is discarded%
5239 }%
5240 }%
5241 \ifx\Hy@href@nextactionraw\@empty
5242 \else
5243 \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
5244 \fi
5245 \fi
5246 }
5247 \def\HyPat@ObjRef/{.+}
```

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

```
5248 \RequirePackage{url}
5249 \let\HyOrg@url\url
5250 \def\Hurl{\begingroup \Url}
5251 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
5252 \def\nolinkurl@#1{\Hurl{#1}}
5253 \DeclareRobustCommand*\url{\hyper@normalise\url@}
5254 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
5255 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
5256 \providecommand\hyper@image[2]{#2}
```

```

5257 \def\hypertarget#1#2{%
5258   \ifHy@nesting
5259     \hyper@@anchor{#1}{#2}%
5260   \else
5261     \hyper@@anchor{#1}{\relax}#2%
5262   \fi
5263 }

```

`\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.

```

5264 \DeclareRobustCommand*\hyperref{%
5265   \@ifnextchar{\Hy@babelnormalise\label@hyperref}\@hyperref
5266 }
5267 \def\Hy@babelnormalise#1[#2]{%
5268   \begingroup
5269   \Hy@safe@activestrue
5270   \edef\Hy@tempa{%
5271     \endgroup
5272     \noexpand#1[#2]}%
5273   }%
5274   \Hy@tempa
5275 }
5276 \def\@hyperref{\hyper@normalise\@hyperref}
5277 \def\@hyperref#1#2#3{%
5278   \edef\ref@one{\ifx\\#2\\ \else#2.\fi#3}%
5279   \expandafter\tryhyper@link\ref@one\{#1}%
5280 }
5281 \def\tryhyper@link#1\\#2{%
5282   \hyper@@link{#2}{#1}%
5283 }
5284 \def\hyperdef{\@ifnextchar{\label@hyperdef}\@hyperdef}
5285 \def\@hyperdef#1#2#3{%, category, name, text
5286   \ifx\\#1\\%
5287     \def\Hy@AnchorName{#2}%
5288   \else
5289     \def\Hy@AnchorName{#1.#2}%
5290   \fi
5291   \ifHy@nesting
5292     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
5293   \else
5294     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
5295   \fi
5296 }

```

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. `\hyperrefundefinedlink` may be redefined by a user to add colour or other formatting.

```

5297 \let\hyperrefundefinedlink\@firstofone
5298 \def\label@hyperref[#1]{%
5299 \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
5300 }%
5301 \def\label@@hyperref#1#2#3{%
5302 \ifx#1\relax
5303 \protect\G@refundefinedtrue
5304 \@latex@warning{%
5305 Hyper reference `#2' on page \thepage \space undefined%
5306 }%
5307 \begingroup
5308 \hyperrefundefinedlink{#3}%
5309 \endgroup
5310 \else
5311 \hyper@@link{\expandafter\@fifthoffive#1}%
5312 {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
5313 \fi
5314 }
5315 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
5316 % anchor text
5317 \@bsphack
5318 \ifx\#2\%
5319 \def\Hy@AnchorName{#3}%
5320 \else
5321 \def\Hy@AnchorName{#2.#3}%
5322 \fi
5323 \if@filesw
5324 \protected@write\@auxout{}{%
5325 \string\newlabel{#1}{{}{}}{\Hy@AnchorName}{}}%
5326 }%
5327 \fi
5328 \@esphack
5329 \ifHy@nesting
5330 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
5331 \else
5332 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
5333 \fi
5334 }

```

## 16.1 Link box support for XeTeX

```

5335 \newdimen\XeTeXLinkMargin
5336 \setlength{\XeTeXLinkMargin}{2pt}
5337 \ifxetex
5338 \font\XeTeXLink@font=pzdr at 1sp\relax
5339 \newcommand*\XeTeXLink@space{%
5340 \begingroup

```

```

5341 \XeTeXLink@font
5342 \@xxxii
5343 \endgroup
5344 }%
5345 \newcommand{\XeTeXLinkBox}[1]{%
5346 \begingroup
5347 \leavevmode
5348 \sbox\z@{#1}%
5349 \begingroup
5350 \dimen@=\dp\z@
5351 \advance\dimen@\XeTeXLinkMargin
5352 \setbox\tw@=\llap{%
5353 \hb@xt@\XeTeXLinkMargin{%
5354 \lower\dimen@\hbox{\XeTeXLink@space}%
5355 \hss
5356 }%
5357 }%
5358 \dp\tw@=\dp\z@
5359 \ht\tw@=\ht\z@
5360 \copy\tw@
5361 \endgroup
5362 \copy\z@
5363 \dimen@=\ht\z@
5364 \advance\dimen@\XeTeXLinkMargin
5365 \setbox\tw@=\rlap{%
5366 \hb@xt@\XeTeXLinkMargin{%
5367 \hss
5368 \raise\dimen@\hbox{\XeTeXLink@space}%
5369 }%
5370 }%
5371 \dp\tw@=\dp\z@
5372 \ht\tw@=\ht\z@
5373 \copy\tw@
5374 \endgroup
5375 }%
5376 \else
5377 \newcommand*{\XeTeXLinkBox}[1]{%
5378 \begingroup
5379 \leavevmode
5380 \sbox\z@{#1}%
5381 \copy\z@
5382 \endgroup
5383 }%
5384 \fi

```

## 17 Underlying basic hypertext macros

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

need to open another file or a URL. A link start has a type, and a URL.

```

5385 \def\hyper@@link{\let\Hy@reserved@a\relax
5386 \ifnextchar{\hyper@link@}{\hyper@link@[link]}%
5387 }
5388 % #1: type
5389 % #2: URL
5390 % #3: destination name
5391 % #4: text
5392 \def\hyper@link@[#1]#2#3#4{%
5393 \ltx@ifempty{#4}{% link text
5394 \Hy@Warning{Suppressing empty link}%
5395 }{%
5396 \begingroup
5397 \protected@edef\Hy@tempa{#2}%
5398 \edef\Hy@tempb{#3}%
5399 \ifx\Hy@tempa\ltx@empty
5400 \ifx\Hy@tempb\ltx@empty
5401 \Hy@Warning{Suppressing link with empty target}%
5402 \toks@{%
5403 \endgroup
5404 \ltx@secondoftwo
5405 }%
5406 \else
5407 \toks@{%
5408 \endgroup
5409 \hyper@link{#1}%
5410 }%
5411 \fi
5412 \else
5413 \toks@{%
5414 \endgroup
5415 \expandafter\hyper@readexternallink#2\{\#1}%
5416 }%
5417 \fi
5418 \Hy@safe@activesfalse
5419 \toks@\expandafter{%
5420 \the\expandafter\toks@
5421 \expandafter{\Hy@tempb}{#4}%
5422 }%
5423 \the\toks@
5424 }%
5425 }

```

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.

```

5426 \def\hyper@readexternallink#1\#2#3#4{%

```

```

5427 \begingroup
5428 \let\\\relax
5429 \expandafter\endgroup
5430 \expandafter\@hyper@\readexternallink#1\{\#2}\{\#3}\{\#4}%
5431 }
5432 \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.

```

5433 \@hyper@readexternallink{\#2}\{\#3}\{\#4}\#1::\{\#1}%
5434 }

```

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

```

5435 \def\@pdftempwordfile{file}%
5436 \def\@pdftempwordrun{run}%
5437 \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:

```

5438 \ifx\\\#6\\\%
5439 \@hyper@linkfile file:#7\\\{\#3}\{\#2}\{\#7}%
5440 \else
5441 \ifx\\\#4\\\%
5442 \@hyper@linkfile file:#7\\\{\#3}\{\#2}\{\#7}%
5443 \else

```

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

```

5444 \def\@pdftempa{\#4}%
5445 \ifx\@pdftempa\@pdftempwordfile
5446 \@hyper@linkfile#7\\\{\#3}\{\#2}\{\#7}%
5447 \else

```

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

```

5448 \ifx\@pdftempa\@pdftempwordrun
5449 \ifHy@pdfa
5450 \Hy@Error{%
5451 PDF/A: Launch action is prohibited%
5452 }\@ehc

```

```

5453     \begingroup
5454     \leavevmode
5455     #2%
5456     \endgroup
5457     \else
5458     \@hyper@launch#7\#{#3}{#2}%
5459     \fi
5460     \else

```

otherwise its a URL

```

5461     \hyper@linkurl{#3}{#7\ifx\#2\else\hyper@hash#2\fi}%
5462     \fi
5463     \fi
5464     \fi
5465     \fi
5466 }

```

By default, turn run: into file:

```

5467 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
5468 \hyper@linkurl{#2}{%
5469 \Hy@linkfileprefix
5470 #1%
5471 \ifx\#3\%
5472 \else
5473 \hyper@hash
5474 #3%
5475 \fi
5476 }%
5477 }

```

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

```

5478 \def\@hyper@linkfile file:#1\#2#3#4{%
5479 %file url,link string, name, original uri
5480 \filename@parse{#1}%
5481 \ifx\filename@ext\relax
5482 \edef\filename@ext{\XR@ext}%
5483 \fi
5484 \def\use@file{\filename@area\filename@base.\filename@ext}%
5485 \Hy@ifStringEndsWith\filename@ext\XR@ext{%
5486 \hyper@linkfile{#2}{\use@file}{#3}%
5487 }{%
5488 \ifx\@baseurl\empty
5489 \hyper@linkurl{#2}{%
5490 #4\ifx\#3\else\hyper@hash#3\fi
5491 }%
5492 \else
5493 \hyper@linkurl{#2}{\use@file\ifx\#3\else\hyper@hash#3\fi}%
5494 \fi
5495 }%
5496 }

```

```

5497 \def\Hy@ifStringEndsWith#1#2{%
5498   \begingroup
5499   \edef\x{#1}%
5500   \@onelevel@sanitize\x
5501   \edef\x{.x$}%
5502   \edef\y{#2}%
5503   \@onelevel@sanitize\y
5504   \edef\y{.y$}%
5505   \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
5506     \endgroup
5507     \ifx\relax##2\relax
5508       \expandafter\ltx@secondoftwo
5509     \else
5510       \expandafter\ltx@firstoftwo
5511     \fi
5512   }%
5513   \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
5514 }

5515 \def\Hy@StringLocalhost{localhost}
5516 \@onelevel@sanitize\Hy@StringLocalhost
5517 \def\Hy@CleanupFile#1{%
5518   \edef#1{#1}%
5519   \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}}%
5520 }
5521 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5522   \begingroup
5523   \toks@{\endgroup}%
5524   \def\x{#1}%
5525   \ifx\x\@empty
5526     \def\x{#2}%
5527   \ifx\x\@empty
5528     \toks@{\endgroup\def#5{/#3}}%
5529   \else
5530     \@onelevel@sanitize\x
5531     \ifx\x\Hy@StringLocalhost
5532       \toks@{\endgroup\def#5{/#3}}%
5533     \fi
5534   \fi
5535   \the\toks@
5536 }
5537 }

```

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.

```

5538 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5539 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5540   \ifx\#1\%
5541     #2\Hy@Warning{Ignoring empty anchor}%
5542   \else
5543     \def\anchor@spot{#2#3}%
5544     \let\put@me@back\@empty
5545     \ifx\relax#2\relax
5546     \else
5547       \ifHy@nesting
5548       \else
5549         \ifcat a\noexpand#2\relax
5550         \else
5551           \ifcat 0\noexpand#2 \relax
5552           \else
5553             \typeout{Anchor start is not alphanumeric %
5554             on input line\the\inputlineno%
5555             }%
5556             \let\anchor@spot\@empty
5557             \def\put@me@back{#2#3}%
5558           \fi
5559         \fi
5560       \fi
5561     \fi
5562     \ifHy@activeanchor
5563       \anchor@spot
5564     \else
5565       \hyper@anchor{#1}%
5566     \fi
5567     \expandafter\put@me@back
5568   \fi
5569   \let\anchor@spot\@empty
5570 }
5571 \let\anchor@spot\ltx@empty

```

## 18 Option ‘destlabel’

```

5572 \ifHy@destlabel
\hyper@newdestlabel
5573 \def\hyper@newdestlabel#1#2{%
5574   \begingroup
5575   \Hy@safe@activetrue
5576   \edef\x{\endgroup
5577     \noexpand\@newl@bel{HyDL}{#1}{#2}%
5578   }%
5579   \x
5580 }%

```

`\hyper@destlabel@hook`

```
5581 \providecommand*\hyper@destlabel@hook}{}
```

`\Hy@DestRename`

```
5582 \newcommand*\Hy@DestRename}[2]{%
5583 \ltx@ifundefined{HyDL!#1}{%
5584   \begingroup
5585     \Hy@safe@activestrue
5586     \edef\dest@name{#1}%
5587     \edef\label@name{#2}%
5588     \hyper@destlabel@hook
5589     \Hy@IsNotEmpty{dest@name}{%
5590       \Hy@IsNotEmpty{label@name}{%
5591         \global\expandafter
5592         \let\csname HyDL!#1\endcsname\ltx@empty
5593         \if@filesw
5594           \protected@write\@auxout{}{%
5595             \string\hyper@newdestlabel
5596               {#1}%
5597             {\label@name}%
5598             }%
5599           \fi
5600         }%
5601       }%
5602     \endgroup
5603   }{}%
5604 }%
```

`\HyperDestRename`

```
5605 \newcommand*\HyperDestRename}[2]{%
5606   \AtBeginDocument{%
5607     \Hy@DestRename{#1}{#2}%
5608   }%
5609 }%
5610 \AtBeginDocument{%
5611   \let\HyperDestRename\Hy@DestRename
5612 }%
```

`\Hy@IsNotEmpty`

```
5613 \def\Hy@IsNotEmpty#1{%
5614   \ltx@ifundefined{#1}\ltx@gobble{%
5615     \expandafter\ifx\csname#1\endcsname\ltx@empty
5616     \expandafter\ltx@gobble
5617   \else
5618     \expandafter\ltx@firstofone
5619   \fi
5620 }%
5621 }%
```

```

5622 \ltx@GlobalAppendToMacro\label@hook{%
5623   \HyperDestRename\@currentHref\label@name
5624 }%

\HyperDestLabelReplace
5625 \def\HyperDestLabelReplace#1{%
5626   \ltx@ifundefined{HyDL@#1}{%
5627     #1%
5628   }{%
5629     \csname HyDL@#1\endcsname
5630   }%
5631 }%

\HyperDestNameFilter
5632 \let\HyperDestNameFilter\HyperDestLabelReplace
5633 \else

\hyper@newdestlabel
5634 \let\hyper@newdestlabel\ltx@gobbletwo

\HyperDestLabelReplace
5635 \let\HyperDestLabelReplace\ltx@firstofone

\HyperDestRename
@gobbletwo
5636 \fi
5637 \Hy@DisableOption{destlabel}

Provide a dummy default definition of \hyper@newdestlabel inside the .aux
files.
5638 \AddLineBeginAux{%
5639   \string\providecommand\string\hyper@newdestlabel[2]{}%
5640 }

```

## 19 Compatibility with the *L<sup>A</sup>T<sub>E</sub>X*2html 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.

```
5641 \let\htmladdimg\hyperimage
```

```

5642 \def\htmladdnormallink#1#2{\href{#2}{#1}}
5643 \def\htmladdnormallinkfoot#1#2{\href{#2}{#1}\footnote{#2}}
5644 \def\htmlref#1#2{% anchor text, label
5645   \label@hyperref{#2}{#1}%
5646 }

```

This is really too much. The  $\text{\LaTeX}2\text{html}$  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.

```

5647 \def@@@latextohtmlX{%
5648   \let\hhyperref\hyperref
5649   \def\hyperref##1##2##3##4{% anchor text for HTML
5650     % text to print before label in print
5651     % label
5652     % post-label text in print
5653     ##2\ref{##4}##3%
5654   }%
5655 }

```

## 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.

```
5656 \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
5657 \def\HyField@NewFlag#1#2{%
5658   \lowercase{\HyField@NewOption{#2}}%
5659   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5660 }

```

```
\HyField@NewFlagOnly
```

```
5661 \def\HyField@NewFlagOnly#1#2{%
```

```

5662 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5663 }

\HyField@NewOption #1: option name
5664 \def\HyField@NewOption#1{%
5665 \expandafter\newif\csname ifFld@#1\endcsname
5666 \define@key{Field}{#1}[true]{%
5667 \lowercase{\Field@boolkey{##1}}{#1}%
5668 }%
5669 }

\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
5670 \def\HyField@NewBitsetFlag#1#2#3#4{%
5671 \begingroup
5672 \count@=#4\relax
5673 \advance\count@\m@ne
5674 \def\x##1{%
5675 \endgroup
5676 \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5677 \expandafter\ifx\csname HyField@#3@##1\endcsname\relax
5678 \expandafter\edef\csname HyField@#3@##1\endcsname{%
5679 (\number#4) #2%
5680 }%
5681 \else
5682 \expandafter\edef\csname HyField@#3@##1\endcsname{%
5683 \csname HyField@#3@##1\endcsname
5684 /#2%
5685 }%
5686 \fi
5687 }%
5688 \expandafter\x\expandafter{\the\count@}%
5689 }

\HyField@UseFlag The bit set is HyField@#1
5690 \def\HyField@UseFlag#1#2{%
5691 \lowercase{\HyField@@UseFlag{#2}}{#1}%
5692 }

\HyField@@UseFlag
5693 \def\HyField@@UseFlag#1#2{%
5694 \bitsetSetValue{HyField@#2}{%
5695 \csname HyField@#2@#1\endcsname
5696 }{%
5697 \csname ifFld@#1\endcsname 1\else 0\fi
5698 }%
5699 }

```

```

\HyField@SetFlag The bit set is HyField@#1
5700 \def\HyField@SetFlag#1#2{%
5701 \lowercase{\HyField@@SetFlag{#2}}{#1}%
5702 }

```

```

\HyField@@SetFlag
5703 \def\HyField@@SetFlag#1#2{%
5704 \bitsetSetValue{HyField@#2}{%
5705 \csname HyField@#2@#1\endcsname
5706 }{1}%
5707 }

```

```

\HyField@PrintFlags
5708 \def\HyField@PrintFlags#1#2{%
5709 \ifHy@verbose
5710 \begingroup
5711 \let\Hy@temp@empty
5712 \let\MessageBreak\relax
5713 \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5714 \bitsetGetSetBitList{HyField@#1}\do{%
5715 \edef\Hy@temp{%
5716 \Hy@temp
5717 \csname HyField@#1@\x\endcsname\MessageBreak
5718 }%
5719 }%
5720 \edef\x{\endgroup
5721 \noexpand\Hy@Info{%
5722 Field flags: %
5723 \expandafter\ifx\@car#1\@nil S\else/\fi
5724 #1 %
5725 \bitsetGetDec{HyField@#1} %
5726 (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5727 \Hy@temp
5728 for #2%
5729 }%
5730 }\x
5731 \fi
5732 }

```

### 20.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

5733 \HyField@NewFlag{Ff}{ReadOnly}{1}
5734 \HyField@NewFlag{Ff}{Required}{2}
5735 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

5736 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5737 \HyField@NewFlag{Ff}{Radio}{16}

```

```

5738 \HyField@NewFlag{Ff}{Pushbutton}{17}
5739 \HyField@NewFlag{Ff}{RadiosInUnison}{26}
“Table 8.77 Field flags specific to text fields”
5740 \HyField@NewFlag{Ff}{Multiline}{13}
5741 \HyField@NewFlag{Ff}{Password}{14}
5742 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5743 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5744 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5745 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5746 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

5747 \HyField@NewFlag{Ff}{Combo}{18}
5748 \HyField@NewFlag{Ff}{Edit}{19}
5749 \HyField@NewFlag{Ff}{Sort}{20}
5750 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5751 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5752 \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.

```

5753 \newif\ifFld@popdown
5754 \define@key{Field}{popdown}[true]{%
5755   \lowercase{\Field@boolkey{#1}}{popdown}%
5756 }

```

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.

```

5757 \HyField@NewFlag{F}{Invisible}{1}
5758 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5759 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5760 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5761 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5762 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5763 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5764 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5765 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

5766 \iffHy@pdfa
5767 \def\HyField@PDFAFlagWarning#1#2{%
5768   \Hy@Warning{%
5769     PDF/A: Annotation flag `#1' must\MessageBreak
5770     be set to `#2'%
5771   }%
5772 }%
5773 \Fld@invisiblefalse

```

```

5774 \def\Fld@invisibletrue{%
5775   \HyField@PDFAFIagWarning{invisible}{false}%
5776 }%
5777 \Fld@hiddenfalse
5778 \def\Fld@hiddentruetrue{%
5779   \HyField@PDFAFIagWarning{hidden}{false}%
5780 }%
5781 \Fld@printtrue
5782 \def\Fld@printfalse{%
5783   \HyField@PDFAFIagWarning{print}{true}%
5784 }%
5785 \Fld@nozoomtrue
5786 \def\Fld@nozoomfalse{%
5787   \HyField@PDFAFIagWarning{nozoom}{true}%
5788 }%
5789 \Fld@norotatetrue
5790 \def\Fld@norotatefalse{%
5791   \HyField@PDFAFIagWarning{norotate}{true}%
5792 }%
5793 \Fld@noviewfalse
5794 \def\Fld@noviewtrue{%
5795   \HyField@PDFAFIagWarning{noview}{false}%
5796 }%
5797 \fi

```

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

```

5798 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5799 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5800 \HyField@NewFlag{Submit}{GetMethod}{4}
5801 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5802 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5803 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5804 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5805 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5806 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5807 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5808 \HyField@NewFlag{Submit}{ExclFKey}{12}
5809 \HyField@NewFlag{Submit}{EmbedForm}{14}

5810 \define@key{Field}{export}{%
5811   \lowercase{\def\Hy@temp{#1}}%
5812   \@ifundefined{Fld@export@\Hy@temp}{%
5813     \@onelevel@sanitize\Hy@temp
5814     \Hy@Error{%
5815       Unknown export format `\'Hy@temp'.\MessageBreak
5816       Known formats are `FDF', `HTML', `XFDF', and `PDF'%
5817     }\@ehc
5818   }{%
5819     \let\Fld@export\Hy@temp
5820   }%

```

```

5821 }
5822 \def\Fld@export{fdf}
5823 \@namedef{Fld@export@fdf}{0}%
5824 \@namedef{Fld@export@html}{1}%
5825 \@namedef{Fld@export@xdf}{2}%
5826 \@namedef{Fld@export@pdf}{3}%

```

### 20.1.2 Set submit flags

\HyField@FlagsSubmit

```

5827 \def\HyField@FlagsSubmit{%
5828 \bitsetReset{HyField@Submit}%
5829 \ifcase\@nameuse{Fld@export@\Fld@export} %
5830 % FDF
5831 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5832 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5833 \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5834 \HyField@UseFlag{Submit}{IncludeAnnotations}%
5835 \HyField@UseFlag{Submit}{CanonicalFormat}%
5836 \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5837 \HyField@UseFlag{Submit}{ExclFKey}%
5838 \HyField@UseFlag{Submit}{EmbedForm}%
5839 \or % HTML
5840 \HyField@SetFlag{Submit}{ExportFormat}%
5841 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5842 \HyField@UseFlag{Submit}{GetMethod}%
5843 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5844 \HyField@UseFlag{Submit}{CanonicalFormat}%
5845 \or % XFDF
5846 \HyField@SetFlag{Submit}{XFDF}%
5847 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5848 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5849 \HyField@UseFlag{Submit}{CanonicalFormat}%
5850 \or % PDF
5851 \HyField@SetFlag{Submit}{SubmitPDF}%
5852 \HyField@UseFlag{Submit}{GetMethod}%
5853 \fi
5854 \HyField@PrintFlags{Submit}{submit button field}%
5855 \bitsetIsEmpty{HyField@Submit}{%
5856 \let\Fld@submitflags\ltx@empty
5857 }{%
5858 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
5859 }%
5860 }

```

### 20.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5861 \def\HyField@FlagsAnnot#1{%

```

```

5862 \bitsetReset{HyField@F}%
5863 \HyField@UseFlag{F}{Invisible}%
5864 \HyField@UseFlag{F}{Hidden}%
5865 \HyField@UseFlag{F}{Print}%
5866 \HyField@UseFlag{F}{NoZoom}%
5867 \HyField@UseFlag{F}{NoRotate}%
5868 \HyField@UseFlag{F}{NoView}%
5869 \HyField@UseFlag{F}{Locked}%
5870 \HyField@UseFlag{F}{ToggleNoView}%
5871 \HyField@UseFlag{F}{LockedContents}%
5872 \HyField@PrintFlags{F}{#1}%
5873 \bitsetIsEmpty{HyField@F}{%
5874 \let\Fld@annotflags\ltx@empty
5875 }{%
5876 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
5877 }%
5878 }

```

#### 20.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5879 \def\HyField@FlagsPushButton{%
5880 \HyField@FlagsAnnot{push button field}%
5881 \bitsetReset{HyField@Ff}%
5882 \HyField@UseFlag{Ff}{ReadOnly}%
5883 \HyField@UseFlag{Ff}{Required}%
5884 \HyField@UseFlag{Ff}{NoExport}%
5885 \HyField@SetFlag{Ff}{PushButton}%
5886 \HyField@PrintFlags{Ff}{push button field}%
5887 \bitsetIsEmpty{HyField@Ff}{%
5888 \let\Fld@flags\ltx@empty
5889 }{%
5890 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5891 }%
5892 }

```

#### 20.1.5 Check box field

\HyField@FlagsCheckBox

```

5893 \def\HyField@FlagsCheckBox{%
5894 \HyField@FlagsAnnot{check box field}%
5895 \bitsetReset{HyField@Ff}%
5896 \HyField@UseFlag{Ff}{ReadOnly}%
5897 \HyField@UseFlag{Ff}{Required}%
5898 \HyField@UseFlag{Ff}{NoExport}%
5899 \HyField@PrintFlags{Ff}{check box field}%
5900 \bitsetIsEmpty{HyField@Ff}{%
5901 \let\Fld@flags\ltx@empty
5902 }{%

```

```

5903 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5904 }%
5905 }

```

### 20.1.6 Radio button field

\HyField@FlagsRadioButton

```

5906 \def\HyField@FlagsRadioButton{%
5907 \HyField@FlagsAnnot{radio button field}%
5908 \bitsetReset{HyField@Ff}%
5909 \HyField@UseFlag{Ff}{ReadOnly}%
5910 \HyField@UseFlag{Ff}{Required}%
5911 \HyField@UseFlag{Ff}{NoExport}%
5912 \HyField@UseFlag{Ff}{NoToggleToOff}%
5913 \HyField@SetFlag{Ff}{Radio}%
5914 \HyField@UseFlag{Ff}{RadiosInUnison}%
5915 \HyField@PrintFlags{Ff}{radio button field}%
5916 \bitsetIsEmpty{HyField@Ff}{%
5917 \let\Fld@flags\ltx@empty
5918 }{%
5919 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5920 }%
5921 }

```

### 20.1.7 Text fields

\HyField@FlagsText

```

5922 \def\HyField@FlagsText{%
5923 \HyField@FlagsAnnot{text field}%
5924 \bitsetReset{HyField@Ff}%
5925 \HyField@UseFlag{Ff}{ReadOnly}%
5926 \HyField@UseFlag{Ff}{Required}%
5927 \HyField@UseFlag{Ff}{NoExport}%
5928 \HyField@UseFlag{Ff}{Multiline}%
5929 \HyField@UseFlag{Ff}{Password}%
5930 \HyField@UseFlag{Ff}{FileSelect}%
5931 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5932 \HyField@UseFlag{Ff}{DoNotScroll}%
5933 \ifFld@comb
5934 \ifcase0\ifFld@multiline
5935 \else\ifFld@password
5936 \else\ifFld@fileselect
5937 \else 1\fi\fi\fi\relax
5938 \Hy@Error{%
5939 Field option `comb' cannot used together with\MessageBreak
5940 `multiline', `password', or `fileselect'%
5941 }\@ehc
5942 \else
5943 \HyField@UseFlag{Ff}{Comb}%

```

```

5944 \fi
5945 \fi
5946 \HyField@UseFlag{Ff}{RichText}%
5947 \HyField@PrintFlags{Ff}{text field}%
5948 \bitsetIsEmpty{HyField@Ff}{%
5949 \let\Fld@flags\ltx@empty
5950 }{%
5951 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5952 }%
5953 }

```

### 20.1.8 Choice fields

\HyField@FlagsChoice

```

5954 \def\HyField@FlagsChoice{%
5955 \HyField@FlagsAnnot{choice field}%
5956 \bitsetReset{HyField@Ff}%
5957 \HyField@UseFlag{Ff}{ReadOnly}%
5958 \HyField@UseFlag{Ff}{Required}%
5959 \HyField@UseFlag{Ff}{NoExport}%
5960 \HyField@UseFlag{Ff}{Combo}%
5961 \ifFld@combo
5962 \HyField@UseFlag{Ff}{Edit}%
5963 \fi
5964 \HyField@UseFlag{Ff}{Sort}%
5965 \HyField@UseFlag{Ff}{MultiSelect}%
5966 \ifFld@combo
5967 \ifFld@edit
5968 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5969 \fi
5970 \fi
5971 \HyField@UseFlag{Ff}{CommitOnSelChange}%
5972 \HyField@PrintFlags{Ff}{choice field}%
5973 \bitsetIsEmpty{HyField@Ff}{%
5974 \let\Fld@flags\ltx@empty
5975 }{%
5976 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5977 }%
5978 }

```

## 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.

```

5979 \def\HyField@PDFChoices#1{%
5980 \begingroup
5981 \global\let\Fld@choices\ltx@empty

```

```

5982 \let\HyTmp@optlist\ltx@empty
5983 \let\HyTmp@optitem\relax
5984 \count@=0 %
5985 \kv@parse{#1}{%
5986   \Hy@pdfstringdef\kv@key\kv@key
5987   \ifx\kv@value\relax
5988   \ifnum\Hy@pdf@majorminor@version<103 % implementation note 122, PDF spec 1.7
5989     \xdef\Fld@choices{\Fld@choices(\kv@key)(\kv@key)}%
5990   \else
5991     \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5992   \fi
5993 \else
5994   \Hy@pdfstringdef\kv@value\kv@value
5995   \xdef\Fld@choices{\Fld@choices(\kv@value)(\kv@key)}%
5996 \fi
5997 \edef\HyTmp@optlist{%
5998   \HyTmp@optlist
5999   \HyTmp@optitem{\the\count@}{\kv@key}0%
6000 }%
6001 \advance\count@ by 1 %
6002 \@gobbletwo
6003 }%
6004 \xdef\Fld@choices{/Opt{\Fld@choices}}%
6005 \ifFld@multiselect
6006   \HyField@@PDFChoices{DV}\Fld@default
6007   \HyField@@PDFChoices{V}\Fld@value
6008 \else
6009   \ifx\Fld@default\relax
6010   \else
6011     \pdfstringdef\Hy@gtemp\Fld@default
6012     \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
6013   \fi
6014   \ifx\Fld@value\relax
6015   \else
6016     \pdfstringdef\Hy@gtemp\Fld@value
6017     \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
6018   \fi
6019 \fi
6020 \endgroup
6021 }

```

\HyField@@PDFChoices

```

6022 \def\HyField@@PDFChoices#1#2{%
6023   \ifx#2\relax
6024   \else
6025     \count@=0 %
6026     \def\HyTmp@optitem##1##2##3{%
6027       \def\HyTmp@key{##2}%
6028       \ifx\HyTmp@key\Hy@gtemp
6029         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%

```

```

6030     \HyTmp@optlist
6031     \HyTmp@optitem{##1}{##2}1%
6032   }%
6033   \let\HyTmp@found=Y%
6034 \else
6035   \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
6036     \HyTmp@optlist
6037     \HyTmp@optitem{##1}{##2}##3%
6038   }%
6039 \fi
6040 }%
6041 \expandafter\comma@parse\expandafter{#2}{%
6042   \pdfstringdef\Hy@gtemp\comma@entry
6043   \let\HyTmp@found=N %
6044   \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
6045   \HyTmp@optlist
6046   \ifx\HyTmp@found Y%
6047     \advance\count@ by 1 %
6048   \else
6049     \@onelevel@sanitize\comma@entry
6050     \PackageWarning{hyperref}{%
6051       \string\ChoiceBox: Ignoring value ` \comma@entry',%
6052       \MessageBreak
6053       it cannot be found in the choices%
6054     }%
6055   \fi
6056   \@gobble
6057 }%
6058 \def\HyTmp@optitem##1##2##3{%
6059   \ifnum##3=1 %
6060     (##2)%
6061   \fi
6062 }%
6063 \ifcase\count@
6064 \or
6065   \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
6066 \else
6067   \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
6068   \ifx#1V%
6069     \def\HyTmp@optitem##1##2##3{%
6070       \ifnum##3=1 %
6071         \@firstofone{ ##1}%
6072       \fi
6073     }%
6074   \edef\HyTmp@optlist{\HyTmp@optlist}%
6075   \xdef\Fld@choices{%
6076     \Fld@choices
6077     /I\expandafter\@firstofone\HyTmp@optlist}%
6078   }%
6079 \fi

```

```

6080 \fi
6081 \fi
6082 }

```

## 20.3 Forms

\HyField@SetKeys

```

6083 \def\HyField@SetKeys{%
6084 \kvsetkeys{Field}%
6085 }

6086 \newif\ifFld@checked
6087 \newif\ifFld@disabled
6088 \Fld@checkedfalse
6089 \Fld@disabledfalse
6090 \newcount\Fld@menulength
6091 \newdimen\Fld@Width
6092 \newdimen\Fld@charsize
6093 \Fld@charsize=10\p@
6094 \def\Fld@maxlen{0}
6095 \def\Fld@align{0}
6096 \def\Fld@color{0 0 0 rg}
6097 \def\Fld@bcolor{1 1 1}
6098 \def\Fld@bordercolor{1 0 0}
6099 \def\Fld@bordersep{1\p@}
6100 \def\Fld@borderwidth{1}
6101 \def\Fld@borderstyle{S}
6102 \def\Fld@cbsymbol{4}
6103 \def\Fld@radiosymbol{H}
6104 \def\Fld@rotation{0}
6105 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
6106 \def\endForm{\@endForm}
6107 \newif\ifForm@html
6108 \Form@htmlfalse
6109 \def\Form@boolkey#1#2{%
6110 \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
6111 }
6112 \define@key{Form}{action}{%
6113 \hyper@normalise\Hy@DefFormAction{#1}%
6114 }
6115 \def\Hy@DefFormAction{\def\Form@action}
6116 \def\enc@html{html}
6117 \define@key{Form}{encoding}{%
6118 \def\Hy@tempa{#1}%
6119 \ifx\Hy@tempa\enc@@html
6120 \Form@htmltrue
6121 \def\Fld@export{html}%
6122 \else
6123 \Hy@Warning{%
6124 Form `encoding' key with \MessageBreak

```

```

6125     unknown value `#1'%
6126   }%
6127   \Form@htmlfalse
6128 \fi
6129 }
6130 \define@key{Form}{method}{%
6131 \lowercase{\def\Hy@temp{#1}}}%
6132 \@ifundefined{Form@method@\Hy@temp}{%
6133 \@onelevel@sanitize\Hy@temp
6134 \Hy@Error{%
6135   Unknown method ``\Hy@temp'.\MessageBreak
6136   Known values are `post' and `get'%
6137   }\@ehc
6138 }{%
6139 \let\Form@method\Hy@temp
6140 \ifcase\@nameuse{Form@method@\Hy@temp} %
6141   \Fld@getmethodfalse
6142   \else
6143   \Fld@getmethodtrue
6144   \fi
6145 }%
6146 }
6147 \def\Form@method{}
6148 \@namedef{Form@method@post}{0}
6149 \@namedef{Form@method@get}{1}

6150 \newif\ifHyField@NeedAppearances
6151 \def\HyField@NeedAppearancesfalse{%
6152 \global\let\ifHyField@NeedAppearances\iffalse
6153 }
6154 \def\HyField@NeedAppearancetrue{%
6155 \global\let\ifHyField@NeedAppearances\iftrue
6156 }
6157 \HyField@NeedAppearancetrue
6158 \define@key{Form}{NeedAppearances}[true]{%
6159 \edef\Hy@tempa{#1}%
6160 \ifx\Hy@tempa\Hy@true
6161   \HyField@NeedAppearancetrue
6162 \else
6163   \ifx\Hy@tempa\Hy@false
6164     \HyField@NeedAppearancesfalse
6165   \else
6166     \Hy@Error{%
6167       Unexpected value ``\Hy@tempa'.\MessageBreak
6168       of option `NeedAppearances' instead of.\MessageBreak
6169       `true' or `false'%
6170     }\@ehc
6171   \fi
6172 \fi
6173 }

```

```

6174 \def\Field@boolkey#1#2{%
6175 \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
6176 }
6177 \ifHy@texht
6178 \newtoks\Field@toks
6179 \Field@toks={ }%
6180 \def\Field@addtoks#1#2{%
6181 \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
6182 \@processme
6183 }%
6184 \else
6185 \def\Hy@WarnHTMLFieldOption#1{%
6186 \Hy@Warning{%
6187 HTML field option `#1'\MessageBreak
6188 is ignored%
6189 }%
6190 }%
6191 \fi
6192 \def\Fld@checkequals#1=#2=#3\\{%
6193 \def\@currDisplay{#1}%
6194 \ifx\\#2\\%
6195 \def\@currValue{#1}%
6196 \else
6197 \def\@currValue{#2}%
6198 \fi
6199 \expandafter\Hy@pdfstringdef\expandafter\@currValue\expandafter{\@currValue}%
6200 }
6201 \define@key{Field}{loc}{%
6202 \def\Fld@loc{#1}%
6203 }
6204 \define@key{Field}{checked}[true]{%
6205 \lowercase{\Field@boolkey{#1}}{checked}%
6206 }
6207 \define@key{Field}{disabled}[true]{%
6208 \lowercase{\Field@boolkey{#1}}{disabled}%
6209 }
6210 \ifHy@texht
6211 \define@key{Field}{accesskey}{%
6212 \Field@addtoks{accesskey}{#1}%
6213 }%
6214 \define@key{Field}{tabkey}{%
6215 \Field@addtoks{tabkey}{#1}%
6216 }%
6217 \else
6218 \define@key{Field}{accesskey}{%
6219 \Hy@WarnHTMLFieldOption{accesskey}%
6220 }%
6221 \define@key{Field}{tabkey}{%
6222 \Hy@WarnHTMLFieldOption{tabkey}%
6223 }%

```

```

6224 \fi
6225 \define@key{Field}{name}{%
6226   \def\Fld@name{#1}%
6227 }
6228 \let\Fld@altname\relax
6229 \define@key{Field}{altname}{%
6230   \def\Fld@altname{#1}%
6231 }
6232 \let\Fld@mappingname\relax
6233 \define@key{Field}{mappingname}{%
6234   \def\Fld@mappingname{#1}%
6235 }
6236 \define@key{Field}{width}{%
6237   \def\Fld@width{#1}%
6238   \Field@Width#1\setbox0=\hbox{m}%
6239 }
6240 \define@key{Field}{maxlen}{%
6241   \def\Fld@maxlen{#1}%
6242 }
6243 \define@key{Field}{menulength}{%
6244   \Fld@menulength=#1\relax
6245 }
6246 \define@key{Field}{height}{%
6247   \def\Fld@height{#1}%
6248 }
6249 \define@key{Field}{charsize}{%
6250   \setlength{\Fld@charsize}{#1}%
6251 }
6252 \define@key{Field}{borderwidth}{%
6253   \Hy@defaultbp\Fld@borderwidth{#1}%
6254 }
6255 \def\Hy@defaultbp#1#2{%
6256   \begingroup
6257   \afterassignment\Hy@defaultbpAux
6258   \dimen@=#2bp\relax{#1}{#2}%
6259 }
6260 \begingroup\expandafter\expandafter\expandafter\endgroup
6261 \expandafter\ifx\csname dimexpr\endcsname\relax
6262   \def\Hy@defaultbpAux#1\relax#2#3{%
6263     \ifx!#1!%
6264       \endgroup
6265       \def#2{#3}%
6266     \else
6267       \dimen@=.99626\dimen@
6268       \edef\x{\endgroup
6269         \def\noexpand#2{%
6270           \strip@pt\dimen@
6271         }%
6272       }\x
6273   \fi

```

```

6274 }%
6275 \else
6276 \def\Hy@defaultbpAux#1\relax#2#3{%
6277 \ifx!#1!%
6278 \endgroup
6279 \def#2{#3}%
6280 \else
6281 \edef\x{\endgroup
6282 \def\noexpand#2{%
6283 \strip@pt\dimexpr\dimen@*800/803\relax
6284 }%
6285 }\x
6286 \fi
6287 }%
6288 \fi
6289 \define@key{Field}{borderstyle}{%
6290 \let\Hy@temp\Fld@borderstyle
6291 \def\Fld@borderstyle{#1}%
6292 \Hy@Match\Fld@borderstyle}{%
6293 ^[SDBIU]$%
6294 }{ }{%
6295 \Hy@Warning{%
6296 Invalid value `@\pdfborderstyle'\MessageBreak
6297 for option `pdfborderstyle'. Valid values:\MessageBreak
6298 \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
6299 \space\space I (Inset), U (Underline)\MessageBreak
6300 Option setting is ignored%
6301 }%
6302 \let\Fld@borderstyle\Hy@temp
6303 }%
6304 }
6305 \define@key{Field}{bordersep}{%
6306 \def\Fld@bordersep{#1}%
6307 }
6308 \define@key{Field}{default}{%
6309 \Hy@pdfstringdef\Fld@default{#1}%
6310 }
6311 \define@key{Field}{align}{%
6312 \def\Fld@align{#1}%
6313 }
6314 \define@key{Field}{value}{%
6315 \Hy@pdfstringdef\Fld@value{#1}%
6316 }
6317 \define@key{Field}{checkboxsymbol}{%
6318 \Fld@DingDef\Fld@cbsymbol{#1}%
6319 }
6320 \define@key{Field}{radiosymbol}{%
6321 \Fld@DingDef\Fld@radiosymbol{#1}%
6322 }
6323 \def\Fld@DingDef#1#2{%

```

```

6324 \let\Fld@temp\ltx@empty
6325 \Fld@@DingDef#2\ding{ }\@nil
6326 \let#1\Fld@temp
6327 }
6328 \def\Fld@@DingDef#1\ding#2#3\@nil{%
6329 \expandafter\def\expandafter\Fld@temp\expandafter{%
6330 \Fld@temp
6331 #1%
6332 }%
6333 \ifx\#3\%
6334 \expandafter\@gobble
6335 \else
6336 \begingroup
6337 \lccode`0=#2\relax
6338 \lowercase{\endgroup
6339 \expandafter\def\expandafter\Fld@temp\expandafter{%
6340 \Fld@temp
6341 0%
6342 }%
6343 }%
6344 \expandafter\@firstofone
6345 \fi
6346 {%
6347 \Fld@@DingDef#3\@nil
6348 }%
6349 }

6350 \define@key{Field}{rotation}{%
6351 \def\Fld@rotation{#1}%
6352 }

6353 \define@key{Field}{backgroundcolor}{%
6354 \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
6355 }
6356 \define@key{Field}{bordercolor}{%
6357 \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
6358 }
6359 \define@key{Field}{color}{%
6360 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
6361 }

6362 \let\Fld@onclick@code\ltx@empty
6363 \let\Fld@format@code\ltx@empty
6364 \let\Fld@validate@code\ltx@empty
6365 \let\Fld@calculate@code\ltx@empty
6366 \let\Fld@keystroke@code\ltx@empty
6367 \let\Fld@onfocus@code\ltx@empty
6368 \let\Fld@onblur@code\ltx@empty
6369 \let\Fld@onmousedown@code\ltx@empty
6370 \let\Fld@onmouseup@code\ltx@empty
6371 \let\Fld@onenter@code\ltx@empty
6372 \let\Fld@onexit@code\ltx@empty

```

```

6373 \def\Hy@temp#1{%
6374 \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
6375 }
6376 \def\Hy@@temp#1#2{%
6377 \ifHy@pdfa
6378 \define@key{Field}{#2}{%
6379 \Hy@Error{%
6380 PDF/A: Additional action `#2' is prohibited%
6381 }\@ehc
6382 }%
6383 \else
6384 \define@key{Field}{#2}{%
6385 \def#1{##1}%
6386 }%
6387 \fi
6388 }
6389 \Hy@temp{keystroke}
6390 \Hy@temp{format}
6391 \Hy@temp{validate}
6392 \Hy@temp{calculate}
6393 \Hy@temp{onfocus}
6394 \Hy@temp{onblur}
6395 \Hy@temp{onenter}
6396 \Hy@temp{onexit}

6397 \let\Fld@calculate@sortkey\ltx@empty
6398 \define@key{Field}{calculatesortkey}[1]{%
6399 \def\Fld@calculate@sortkey{#1}%
6400 }

6401 \ifHy@texht
6402 \def\Hy@temp#1{%
6403 \define@key{Field}{#1}{%
6404 \Field@addtoks{#1}{##1}%
6405 }%
6406 }%
6407 \else
6408 \def\Hy@temp#1{%
6409 \define@key{Field}{#1}{%
6410 \Hy@WarnHTMLFieldOption{#1}%
6411 }%
6412 }%
6413 \fi
6414 \Hy@temp{ondblclick}
6415 \Hy@temp{onmousedown}
6416 \Hy@temp{onmouseup}
6417 \Hy@temp{onmouseover}
6418 \Hy@temp{onmousemove}
6419 \Hy@temp{onmouseout}
6420 \Hy@temp{onkeydown}
6421 \Hy@temp{onkeyup}

```

```

6422 \Hy@temp{onselect}
6423 \Hy@temp{onchange}
6424 \Hy@temp{onkeypress}
6425 \ifHy@texht
6426 \define@key{Field}{onclick}{%
6427 \Field@addtoks{onclick}{#1}%
6428 }%
6429 \else
6430 \ifHy@pdfa
6431 \define@key{Field}{onclick}{%
6432 \Hy@Error{%
6433 PDF/A: Action `onclick' is prohibited%
6434 } \@ehc
6435 }%
6436 \else
6437 \define@key{Field}{onclick}{%
6438 \def\Fld@onclick@code{#1}%
6439 }%
6440 \fi
6441 \fi

6442 \DeclareRobustCommand\TextField{%
6443 \@ifnextchar[{\@TextField}{\@TextField[]}%
6444 }
6445 \DeclareRobustCommand\ChoiceMenu{%
6446 \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
6447 }
6448 \DeclareRobustCommand\CheckBox{%
6449 \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
6450 }
6451 \DeclareRobustCommand\PushButton{%
6452 \@ifnextchar[{\@PushButton}{\@PushButton[]}%
6453 }
6454 \DeclareRobustCommand\Gauge{%
6455 \@ifnextchar[{\@Gauge}{\@Gauge[]}%
6456 }
6457 \DeclareRobustCommand\Submit{%
6458 \@ifnextchar[{\@Submit}{\@Submit[]}%
6459 }
6460 \DeclareRobustCommand\Reset{%
6461 \@ifnextchar[{\@Reset}{\@Reset[]}%
6462 }
6463 \def\LayoutTextField#1#2{% label, field
6464 \def\Hy@temp{#1}%
6465 \ifx\Hy@temp\@empty
6466 #2%
6467 \else
6468 #1 #2%
6469 \fi
6470 }

```

```

6471 \def\LayoutChoiceField#1#2{% label, field
6472   \def\Hy@temp{#1}%
6473   \ifx\Hy@temp\@empty
6474     #2%
6475   \else
6476     #1 #2%
6477   \fi
6478 }
6479 \def\LayoutCheckField#1#2{% label, field
6480   \def\Hy@temp{#1}%
6481   \ifx\Hy@temp\@empty
6482     #2%
6483   \else
6484     #1 #2%
6485   \fi
6486 }
6487 \def\LayoutPushButtonField#1{% button
6488   #1%
6489 }
6490 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6491 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6492 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6493 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6494 \def\MakeButtonField#1{%
6495   \sbox0{%
6496     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
6497   }%
6498   \@tempdima\ht0 %
6499   \advance\@tempdima by \Fld@borderwidth bp %
6500   \advance\@tempdima by \Fld@borderwidth bp %
6501   \ht0\@tempdima
6502   \@tempdima\dp0 %
6503   \advance\@tempdima by \Fld@borderwidth bp %
6504   \advance\@tempdima by \Fld@borderwidth bp %
6505   \dp0\@tempdima
6506   \box0\relax
6507 }
6508 \def\DefaultHeightofSubmit{14pt}
6509 \def\DefaultWidthofSubmit{2cm}
6510 \def\DefaultHeightofReset{14pt}
6511 \def\DefaultWidthofReset{2cm}
6512 \def\DefaultHeightofCheckBox{\normalbaselineskip}
6513 \def\DefaultWidthofCheckBox{\normalbaselineskip}
6514 \def\DefaultHeightofChoiceMenu{\normalbaselineskip}
6515 \def\DefaultWidthofChoiceMenu{\normalbaselineskip}
6516 \def\DefaultHeightofText{\normalbaselineskip}
6517 \def\DefaultHeightofTextMultiline{4\normalbaselineskip}
6518 \def\DefaultWidthofText{3cm}
6519 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
6520 \def\DefaultOptionsofReset{print,name=Reset,noexport}

```

```
6521 \def\DefaultOptionsofPushButton{print}
6522 \def\DefaultOptionsofCheckBox{print}
6523 \def\DefaultOptionsofText{print}
```

Default options for the types of `\ChoiceMenu`.

```
6524 \def\DefaultOptionsofListBox{print}
6525 \def\DefaultOptionsofComboBox{print,edit,sort}
6526 \def\DefaultOptionsofPopdownBox{print}
6527 \def\DefaultOptionsofRadio{print,notogletoooff}
```

## 21 Setup

```
6528 \ifHy@hyperfigures
6529 \Hy@Info{Hyper figures ON}%
6530 \else
6531 \Hy@Info{Hyper figures OFF}%
6532 \fi
6533 \ifHy@nesting
6534 \Hy@Info{Link nesting ON}%
6535 \else
6536 \Hy@Info{Link nesting OFF}%
6537 \fi
6538 \ifHy@hyperindex
6539 \Hy@Info{Hyper index ON}%
6540 \else
6541 \Hy@Info{Hyper index OFF}%
6542 \fi
6543 \ifHy@backref
6544 \Hy@Info{backreferencing ON}%
6545 \else
6546 \Hy@Info{backreferencing OFF}%
6547 \fi
6548 \ifHy@colorlinks
6549 \Hy@Info{Link coloring ON}%
6550 \else
6551 \Hy@Info{Link coloring OFF}%
6552 \fi
6553 \ifHy@ocgcolorlinks
6554 \Hy@Info{Link coloring with OCG ON}%
6555 \else
6556 \Hy@Info{Link coloring with OCG OFF}%
6557 \fi
6558 \ifHy@pdfa
6559 \Hy@Info{PDF/A mode ON}%
6560 \else
6561 \Hy@Info{PDF/A mode OFF}%
6562 \fi
```

## 22 Low-level utility macros

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

```
6563 \edef\hyper@hash{\string#}
6564 \edef\hyper@tilde{\string~}
6565 \edef\hyper@quote{\string"}
```

Support \label before \begin{document}.

```
6566 \def\@currentHref{Doc-Start}
6567 \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.

```
6568 \Hy@AtBeginDocument{%
6569   \Hy@pdfstringtrue
6570   \PDF@SetupDoc
6571   \let\PDF@SetupDoc\@empty
6572   \Hy@DisableOption{pdfpagescrop}%
6573   \Hy@DisableOption{pdfpagemode}%
6574   \Hy@DisableOption{pdfnonfullscreenpagemode}%
6575   \Hy@DisableOption{pdfdirection}%
6576   \Hy@DisableOption{pdfviewarea}%
6577   \Hy@DisableOption{pdfviewclip}%
6578   \Hy@DisableOption{pdfprintarea}%
6579   \Hy@DisableOption{pdfprintclip}%
6580   \Hy@DisableOption{pdfprintsclaling}%
6581   \Hy@DisableOption{pdfduplex}%
6582   \Hy@DisableOption{pdfpicktraybypdfsize}%
6583   \Hy@DisableOption{pdfprintpagerange}%
6584   \Hy@DisableOption{pdfnumcopies}%
6585   \Hy@DisableOption{pdfstartview}%
6586   \Hy@DisableOption{pdfstartpage}%
6587   \Hy@DisableOption{pdftoolbar}%
6588   \Hy@DisableOption{pdfmenubar}%
6589   \Hy@DisableOption{pdfwindowui}%
6590   \Hy@DisableOption{pdfitwindow}%
6591   \Hy@DisableOption{pdfcenterwindow}%
6592   \Hy@DisableOption{pdfdisplaydoctitle}%
6593   \Hy@DisableOption{pdfpagelayout}%
6594   \Hy@DisableOption{pdflang}%
6595   \Hy@DisableOption{baseurl}%
6596   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
6597   \Hy@pdfstringfalse
6598 }
```

Ignore star from referencing macros:

```
6599 \LetLtxMacro\NoHy@OrgRef\ref
6600 \DeclareRobustCommand*{\ref}{%
6601   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6602 }
```

```

6603 \LetLtxMacro\NoHy@OrgPageRef\pageref
6604 \DeclareRobustCommand*\pageref}{%
6605 \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6606 }

```

## 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.

```

6607 \def\NoHyper{%
6608 \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6609 \def\hyper@@anchor##1##2{##2\Hy@xspace@end}%
6610 \global\let\hyper@livelink\hyper@link
6611 \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
6612 \let\hyper@anchor\ltx@gobble
6613 \let\hyper@anchorstart\ltx@gobble
6614 \def\hyper@anchorend{\Hy@xspace@end}%
6615 \let\hyper@linkstart\ltx@gobbletwo
6616 \def\hyper@linkend{\Hy@xspace@end}%
6617 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6618 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6619 \let\Hy@backout\@gobble
6620 }
6621 \def\stop@hyper{%
6622 \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6623 \let\Hy@backout\@gobble
6624 \let\hyper@@anchor\ltx@gobble
6625 \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
6626 \let\hyper@anchor\ltx@gobble
6627 \let\hyper@anchorstart\ltx@gobble
6628 \def\hyper@anchorend{\Hy@xspace@end}%
6629 \let\hyper@linkstart\ltx@gobbletwo
6630 \def\hyper@linkend{\Hy@xspace@end}%
6631 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6632 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6633 }
6634 \def\endNoHyper{%
6635 \global\let\hyper@link\hyper@livelink
6636 }
6637 \</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:

```
6638 <*nohyperref>
6639 \RequirePackage{letltxmacro}[2008/06/13]
6640 \let\hyper@@anchor\@gobble
6641 \def\hyper@link#1#2#3{#3}%
6642 \let\hyper@anchorstart\@gobble
6643 \let\hyper@anchorend\@empty
6644 \let\hyper@linkstart\@gobbletwo
6645 \let\hyper@linkend\@empty
6646 \def\hyper@linkurl#1#2{#1}%
6647 \def\hyper@linkfile#1#2#3{#1}%
6648 \def\hyper@link@{#1}#2#3{}%
6649 \let\PDF@SetupDoc\@empty
6650 \let\PDF@FinishDoc\@empty
6651 \def\nohyperpage#1{#1}
```

Some top-level commands:

```
6652 \def\Acrobatmenu#1#2{\leavevmode#2}
6653 \let\pdfstringdefDisableCommands\@gobbletwo
6654 \let\texorpdfstring\@firstoftwo
6655 \let\pdfbookmark\@undefined
6656 \newcommand\pdfbookmark[3]{}
6657 \let\phantomsection\@empty
6658 \let\hypersetup\@gobble
6659 \let\hyperbaseurl\@gobble
6660 \newcommand*\href{3}[]{}
6661 \let\hyperdef\@gobbletwo
6662 \let\hyperlink\@gobble
6663 \let\hypertarget\@gobble
6664 \def\hyperref{%
6665   \@ifnextchar\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6666 }
6667 \long\def\@gobbleopt[#1]{}
6668 \let\hyperpage\@empty
```

Ignore star from referencing macros:

```
6669 \LetLtxMacro\NoHy@OrgRef\ref
6670 \DeclareRobustCommand*\ref}{%
6671   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6672 }
6673 \LetLtxMacro\NoHy@OrgPageRef\pageref
6674 \DeclareRobustCommand*\pageref}{%
6675   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6676 }
6677 </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}`

```
6678 <*package>
6679 \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.

```
6680 \if@filesw
6681 \ifHy@typexml
6682 \immediate\closeout\@mainaux
6683 \immediate\openout\@mainaux\jobname.aux\relax
6684 \immediate\write\@auxout{<relaxxml>\relax}%
6685 \fi
6686 \immediate\write\@auxout{%
6687 \string\providecommand\string\HyperFirstAtBeginDocument{%
6688 \string\AtBeginDocument}^^J%
6689 \string\HyperFirstAtBeginDocument{%
6690 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6691 \string\global\string\let\string\oldcontentsline\string\contentsline^^J%
6692 \string\gdef\string\contentsline%
6693 \string#1\string#2\string#3\string#4{%
6694 \string\oldcontentsline%
6695 {\string#1}{\string#2}{\string#3}}^^J%
6696 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6697 \string\gdef\string\newlabel\string#1\string#2{%
6698 \string\newlabelxx{\string#1}\string#2}^^J%
6699 \string\gdef\string\newlabelxx%
6700 \string#1\string#2\string#3\string#4\string#5\string#6{%
6701 \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.

```
6702 \string\AtEndDocument{%
6703 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6704 \string\let\string\contentsline\string\oldcontentsline^^J%
6705 \string\let\string\newlabel\string\oldnewlabel^^J%
6706 \string\fi%
6707 }^^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.

```
6708 \string\fi%
6709 }^^J%
6710 \string\global\string\let\string\hyper@last\relax^^J%
6711 \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6712 }%
```

```

6713 \fi
6714 \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.

```

6715 \ifx\hyper@last\@undefined
6716 \def\@starttoc#1{%
6717 \begingroup
6718 \makeatletter
6719 \ltx@ifpackageloaded{parskip}{\parskip\z@}{}%
6720 \IfFileExists{\jobname.#1}{%
6721 \Hy@WarningNoLine{%
6722 old #1 file detected, not used; run LaTeX again%
6723 }%
6724 }{}%
6725 \if@filesw
6726 \expandafter\newwrite\csname tf@#1\endcsname
6727 \immediate\openout\csname tf@#1\endcsname \jobname.#1\relax
6728 \fi
6729 \@nobreakfalse
6730 \endgroup
6731 }%
6732 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
6733 \fi
6734 }

```

## 26 Title strings

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

```

6735 \ifHy@pdfusetitle
6736 \let\HyOrg@title\title
6737 \let\HyOrg@author\author
6738 \def\title{\@ifnextchar[{\Hy@scanopttitle}{\Hy@scantitle}}%
6739 \def\Hy@scanopttitle[#1]{%
6740 \gdef\Hy@title{#1}%
6741 \HyOrg@title{#1}%
6742 }%
6743 \def\Hy@scantitle#1{%
6744 \gdef\Hy@title{#1}%
6745 \HyOrg@title{#1}%
6746 }%
6747 \def\author{\@ifnextchar[{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6748 \def\Hy@scanoptauthor[#1]{%
6749 \gdef\Hy@author{#1}%

```

```

6750 \HyOrg@author{#1}%
6751 }%
6752 \def\Hy@scanauthor#1{%
6753 \gdef\Hy@author{#1}%
6754 \HyOrg@author{#1}%
6755 }%

```

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

```

6756 \begingroup
6757 \def\process@me#1\@nil#2{%
6758 \expandafter\let\expandafter\x\csname @#2\endcsname
6759 \edef\y{\expandafter\strip@prefix\meaning\x}%
6760 \def\c##1##2\@nil{%
6761 \ifx\\##1\\%
6762 \else
6763 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6764 \expandafter{\x}%
6765 \fi
6766 }%
6767 \expandafter\c\y\relax#1\@nil
6768 }%
6769 \expandafter\process@me\string\@latex@\@nil{title}%
6770 \expandafter\process@me\string\@latex@\@nil{author}%
6771 \endgroup
6772 \fi
6773 \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.

A possible <sup>1</sup>removes its argument.

```

6774 \def\Hy@UseMaketitleString#1{%
6775 \ltx@ifundefined{Hy@#1}{-}{%
6776 \begingroup
6777 \let\Hy@saved@hook\pdfstringdefPreHook
6778 \pdfstringdefDisableCommands{%
6779 \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
6780 \let\newline\\%
6781 \def\and{;}%
6782 \let\thanks\@gobble%
6783 }%

```

```

6784 \expandafter\ifx\csname @pdf#1\endcsname\@empty
6785 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6786 \csname Hy@#1\endcsname\@empty
6787 }%
6788 \fi
6789 \global\let\pdfstringdefPreHook\Hy@saved@hook
6790 \endgroup
6791 }%
6792 }
6793 \def\Hy@newline@title#1{ #1}
6794 \def\Hy@newline@author#1{, #1}
6795 \def\Hy@UseMaketitleInfos{%
6796 \Hy@UseMaketitleString{title}%
6797 \Hy@UseMaketitleString{author}%
6798 }

```

## 27 Page numbers

This stuff is done by Heiko Oberdiek.

## 28 Every page

```

6799 \RequirePackage{atbegshi}[2007/09/09]
6800 \let\Hy@EveryPageHook\ltx@empty
6801 \let\Hy@EveryPageBoxHook\ltx@empty
6802 \let\Hy@FirstPageHook\ltx@empty
6803 \AtBeginShipout{%
6804 \Hy@EveryPageHook
6805 \ifx\Hy@EveryPageBoxHook\ltx@empty
6806 \else
6807 \setbox\AtBeginShipoutBox=\vbox{%
6808 \offinterlineskip
6809 \Hy@EveryPageBoxHook
6810 \box\AtBeginShipoutBox
6811 }%
6812 \fi
6813 }
6814 \ltx@iffileloaded{hpdf.tex.def}{%
6815 \AtBeginShipout{%
6816 \Hy@FirstPageHook
6817 \global\let\Hy@FirstPageHook\ltx@empty
6818 }%
6819 }{%
6820 \AtBeginShipoutFirst{%
6821 \Hy@FirstPageHook
6822 }%
6823 }
6824 \g@addto@macro\Hy@FirstPageHook{%

```

```

6825 \PDF@FinishDoc
6826 \global\let\PDF@FinishDoc\ltx@empty
6827 }

```

## 28.1 PDF /PageLabels

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

```

6828 \ifHy@pdfpagelabels
6829 \begingroup\expandafter\expandafter\expandafter\endgroup
6830 \expandafter\ifx\csname thepage\endcsname\relax
6831 \Hy@pdfpagelabelsfalse
6832 \Hy@WarningNoLine{%
6833 Option `pdfpagelabels' is turned off\MessageBreak
6834 because \string\thepage\space is undefined%
6835 }%
6836 \csname fi\endcsname
6837 \csname iffalse\expandafter\endcsname
6838 \fi

```

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

```

6839 \def\thispdfpagelabel#1{%
6840 \gdef\HyPL@thisLabel{#1}%
6841 }%
6842 \global\let\HyPL@thisLabel\relax

```

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

```

6843 \let\HyPL@Labels\ltx@empty

```

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

```

6844 \newcount\Hy@abspage
6845 \Hy@abspage=0 %

```

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

```

6846 \def\HyPL@LastType{init}%
6847 \def\HyPL@LastNumber{0}%
6848 \let\HyPL@LastPrefix\ltx@empty

```

Definitions for the PDF names of the  $\LaTeX$  pendants.

```

6849 \def\HyPL@arabic{D}%
6850 \def\HyPL@Roman{R}%
6851 \def\HyPL@roman{r}%
6852 \def\HyPL@Alph{A}%
6853 \def\HyPL@alph{a}%
6854 \let\HyPL@SlidesSetPage\ltx@empty
6855 \ltx@ifclassloaded{slides}{%
6856 \def\HyPL@SlidesSetPage{%
6857 \advance\c@page\ltx@one

```

```

6858 \ifnum\value{page}>\ltx@one
6859 \protected@edef\HyPL@SlidesOptionalPage{%
6860 \Hy@SlidesFormatOptionalPage{\thepage}%
6861 }%
6862 \else
6863 \let\HyPL@SlidesOptionalPage\ltx@empty
6864 \fi
6865 \advance\c@page-\ltx@one
6866 \def\HyPL@page{%
6867 \csname the\Hy@SlidesPage\endcsname
6868 \HyPL@SlidesOptionalPage
6869 }%
6870 }%
6871 }{}%

```

`\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.

```

6872 \def\HyPL@EveryPage{%
6873 \begingroup
6874 \ifx\HyPL@thisLabel\relax
6875 \let\HyPL@page\thepage
6876 \HyPL@SlidesSetPage
6877 \else
6878 \let\HyPL@page\HyPL@thisLabel
6879 \global\let\HyPL@thisLabel\relax
6880 \fi
6881 \let\HyPL@Type\relax
6882 \ifnum\c@page>0 %
6883 \ifx\HyPL@SlidesSetPage\ltx@empty
6884 \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6885 \fi
6886 \fi
6887 \let\Hy@temp Y%
6888 \ifx\HyPL@Type\HyPL@LastType
6889 \else
6890 \let\Hy@temp N%
6891 \fi
6892 \ifx\HyPL@Type\relax
6893 \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6894 \else
6895 \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6896 \fi
6897 \ifx\HyPL@Prefix\HyPL@LastPrefix
6898 \else
6899 \let\Hy@temp N%
6900 \fi
6901 \if Y\Hy@temp
6902 \advance\c@page by -1 %
6903 \ifnum\HyPL@LastNumber=\the\c@page\relax
6904 \else

```

```

6905     \let\Hy@temp N%
6906     \fi
6907     \Hy@StepCount\c@page
6908     \fi
6909     \if N\Hy@temp
6910     \ifx\HyPL@Type\relax
6911     \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
6912     \else
6913     \HyPL@StorePageLabel{%
6914     \ifx\HyPL@Prefix\@empty
6915     \else
6916     /P(\HyPL@Prefix)%
6917     \fi
6918     /S/\csname HyPL\HyPL@Type\endcsname
6919     \ifnum\the\c@page=1 %
6920     \else
6921     \space/St \the\c@page
6922     \fi
6923     }%
6924     \fi
6925     \fi
6926     \xdef\HyPL@LastNumber{\the\c@page}%
6927     \global\let\HyPL@LastType\HyPL@Type
6928     \global\let\HyPL@LastPrefix\HyPL@Prefix
6929     \endgroup
6930     \Hy@GlobalStepCount\Hy@abspage
6931 }%

```

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

```

6932 \def\HyPL@CheckThePage#1\@nil{%
6933   \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6934 }%

```

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

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

```

6935 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6936   \def\Hy@tempa{#4}%
6937   \def\Hy@tempb{\csname\endcsname\c@page}%
6938   \ifx\Hy@tempa\Hy@tempb
6939   \expandafter\ifx\csname HyPL#3\endcsname\relax
6940   \else
6941   \def\HyPL@Type{#3}%
6942   \def\HyPL@Prefix{#2}%
6943   \fi
6944   \else
6945   \begingroup

```

```

6946 \let\Hy@next\endgroup
6947 \let\HyPL@found\@undefined
6948 \def\arabic{\HyPL@Format{arabic}}%
6949 \def\Roman{\HyPL@Format{Roman}}%
6950 \def\roman{\HyPL@Format{roman}}%
6951 \def\Alph{\HyPL@Format{Alph}}%
6952 \def\alph{\HyPL@Format{alph}}%
6953 \protected@edef\Hy@temp{#1}%
6954 \ifx\HyPL@found\relax
6955 \toks@\expandafter{\Hy@temp}%
6956 \edef\Hy@next{\endgroup
6957 \noexpand\HyPL@@@CheckThePage\the\toks@
6958 \noexpand\HyPL@found\relax\noexpand\@nil
6959 }%
6960 \fi
6961 \Hy@next
6962 \fi
6963 }%

```

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

```

6964 \def\HyPL@Format#1#2{%
6965 \ifx\HyPL@found\@undefined
6966 \expandafter\ifx\csname c@#2\endcsname\c@page
6967 \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6968 \else
6969 \expandafter\noexpand\csname#1\endcsname{#2}%
6970 \fi
6971 \else
6972 \expandafter\noexpand\csname#1\endcsname{#2}%
6973 \fi
6974 }%

```

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

```

6975 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6976 \def\Hy@tempa{#3}%
6977 \def\Hy@tempb{\HyPL@found\relax}%
6978 \ifx\Hy@tempa\Hy@tempb
6979 \def\HyPL@Type{#2}%
6980 \def\HyPL@Prefix{#1}%
6981 \fi
6982 }%

```

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

```

6983 \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`.

```
6984 \def\HyPL@Useless{0<</S/D>>}%
6985 \@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.

```
6986 \def\HyPL@SetPageLabels{%
6987   \@onelevel@sanitize\HyPL@Labels
6988   \ifx\HyPL@Labels\@empty
6989   \else
6990     \ifx\HyPL@Labels\HyPL@Useless
6991     \else
6992       \Hy@PutCatalog{/PageLabels<</Nums\HyPL@Labels>>}%
6993     \fi
6994   \fi
6995 }%
```

```
6996 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6997 \fi
```

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

```
6998 \Hy@DisableOption{pdfpagelabels}
6999 </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`

```
7000 <*pdftex>
7001 \pdf@ifdraftmode{%
7002   \let\Hy@PutCatalog\tx@gobble
7003 }{%
7004   \let\Hy@PutCatalog\pdfcatalog
7005 }
7006 </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.

```
7007 <*vtex>
7008 \providecommand*\XR@ext}{pdf}
7009 \edef\Hy@VTeXversion{%
7010   \ifx\VTeXversion\@undefined
7011     \z@
```

```

7012 \else
7013 \ifx\VTexversion\relax
7014 \z@
7015 \else
7016 \VTexversion
7017 \fi
7018 \fi
7019 }
7020 \begingroup
7021 \ifnum\Hy@VTexversion<660 %
7022 \gdef\Hy@PutCatalog#1{%
7023 \Hy@WarningNoLine{%
7024 VTeX 6.59g or above required for pdfpagelabels%
7025 }%
7026 }%
7027 \else
7028 \gdef\Hy@PutCatalog#1{%
7029 \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
7030 }%
7031 \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
7032 \ifx\#2\%
7033 \else
7034 \immediate\special{!pdfpagelabels #2}%
7035 \fi
7036 }%
7037 \fi
7038 \endgroup
7039 </vtx>
7040 <*pdftex | vtx>

```

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

```

7041 \ifHy@pdfpagelabels
7042 \def\HyPL@StorePageLabel#1{%
7043 \toks@\expandafter{\HyPL@Labels}%
7044 \xdef\HyPL@Labels{%
7045 \the\toks@
7046 \the\Hy@abspage<<#1>>%
7047 }%
7048 }%

```

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.

```

7049 \RequirePackage{atveryend}[2009/12/07]%
7050 \AtVeryEndDocument{%
7051 \HyPL@SetPageLabels
7052 }%
7053 \fi
7054 </pdftex | vtx>

```

### 28.1.2 xetex

```
7055 <*xetex>
7056 \HyPsd@LoadUnicode
7057 \Hy@unicodetrue
7058 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
7059 \else
7060 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
7061 \fi
7062 \HyPsd@LoadStringEncoding
7063 \define@key{Hyp}{unicode}[true]{%
7064 \Hy@boolkey{unicode}{#1}%
7065 \ifHy@unicode
7066 \else
7067 \Hy@Warning{%
7068 XeTeX driver only supports `unicode=true'. Ignoring\MessageBreak
7069 option setting `unicode=false'%
7070 }%
7071 \Hy@unicodetrue
7072 \fi
7073 }
7074 \define@key{Hyp}{pdfencoding}{%
7075 \edef\HyPsd@temp{#1}%
7076 \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
7077 \let\HyPsd@pdfencoding\HyPsd@temp
7078 \else
7079 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
7080 \let\HyPsd@pdfencoding\HyPsd@temp
7081 \else
7082 \Hy@Warning{%
7083 XeTeX driver only supports\MessageBreak
7084 `pdfencoding=unicode|auto'. Ignoring option\MessageBreak
7085 setting `pdfencoding=\HyPsd@temp'%
7086 }%
7087 \fi
7088 \fi
7089 }
7090 \let\HyXeTeX@CheckUnicode\relax
```

Since 2016 (x)dvipdfmx has a special to control the spacing of annotation borders.  
So let's make use of it:

```
7091 \def\setpdfinkmargin#1{%
7092 \begingroup
7093 \setlength{\dimen@}{#1}%
7094 \special{dvipdfmx:config g \strip@pt\dimen@}%
7095 \endgroup}
7096 </xetex>
```

### 28.1.3 pdfmarkbase, dvipdfm, xetex

```
7097 <*pdfmarkbase>
7098 \begingroup
```

```

7099 \@ifundefined{headerps@out}{-}{%
7100 \toks@\expandafter{\Hy@FirstPageHook}%
7101 \xdef\Hy@FirstPageHook{%
7102 \noexpand\headerps@out{%
7103   systemdict /pdfmark known%
7104   {%
7105     userdict /?pdfmark systemdict /exec get put%
7106   }{%
7107     userdict /?pdfmark systemdict /pop get put %
7108     userdict /pdfmark systemdict /cleartomark get put%
7109   }%
7110   ifelse%
7111 }%
7112 \the\toks@
7113 }%
7114 }%
7115 \endgroup
7116 </pdfmarkbase>

```

\Hy@PutCatalog

```

7117 <dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfm@mark{docview <<#1>>}}
7118 <*pdfmarkbase>
7119 \def\Hy@PutCatalog#1{%
7120 \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} <<#1>>}}%
7121 }
7122 </pdfmarkbase>

7123 <*pdfmarkbase | dvipdfm | xetex>
7124 \iffHy@pdfpagelabels

```

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

```

7125 \def\HyPL@StorePageLabel#1{%
7126 \if@filesw
7127 \begingroup
7128 \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
7129 \immediate\write\@mainaux{%
7130 \string\HyPL@Entry{\Hy@tempa}%
7131 }%
7132 \endgroup
7133 \fi
7134 }%

```

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.

```

7135 \Hy@AtBeginDocument{%
7136 \if@filesw
7137 \immediate\write\@mainaux{%
7138 \string\providecommand\string*\string\HyPL@Entry[1]{}%
7139 }%

```

```

7140 \fi
7141 \ifx\HyPL@Labels\@empty
7142 \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
7143 \else
7144 \HyPL@SetPageLabels
7145 \fi
7146 \let\HyPL@Entry\@gobble
7147 }%

```

`\HyPL@Entry`

```

7148 \def\HyPL@Entry#1{%
7149 \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
7150 \HyPL@Labels
7151 #1%
7152 }%
7153 }%

7154 \fi
7155 </pdfmarkbase | dvipdfm | xetex>

7156 <*package>

7157 \ifx\MaybeStopEarly\relax
7158 \else
7159 \Hy@stoppearlytrue
7160 \expandafter\MaybeStopEarly
7161 \fi
7162 \Hy@stoppearlyfalse

```

## 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

```
7163 \def\Hy@CounterExists#1{%
7164 \begingroup\expandafter\expandafter\expandafter\endgroup
7165 \expandafter\ifx\csname c@#1\endcsname\relax
7166 \expandafter\@gobble
7167 \else
7168 \begingroup\expandafter\expandafter\expandafter\endgroup
7169 \expandafter\ifx\csname the#1\endcsname\relax
7170 \expandafter\expandafter\expandafter\@gobble
7171 \else
7172 \expandafter\expandafter\expandafter\@firstofone
7173 \fi
7174 \fi
7175 }
7176 \Hy@CounterExists{section}{%
7177 \providecommand\theHequation{\theHsection.\arabic{equation}}%
7178 }
7179 \Hy@CounterExists{part}{%
7180 \providecommand\theHpart{\arabic{part}}%
7181 }
7182 \ltx@ifundefined{thechapter}{%
7183 \providecommand\theHsection {\arabic{section}}%
7184 \providecommand\theHfigure {\arabic{figure}}%
7185 \providecommand\theHtable {\arabic{table}}%
7186 }{%
7187 \providecommand\theHchapter {\arabic{chapter}}%
7188 \providecommand\theHfigure {\theHchapter.\arabic{figure}}%
7189 \providecommand\theHtable {\theHchapter.\arabic{table}}%
7190 \providecommand\theHsection {\theHchapter.\arabic{section}}%
7191 }
7192 \providecommand\theHsubsection {\theHsection.\arabic{subsection}}
7193 \providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
7194 \providecommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
7195 \providecommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
7196 \providecommand\theHtheorem {\theHsection.\arabic{theorem}}
7197 \providecommand\theHthm {\theHsection.\arabic{thm}}
7198 \let\H@item\item
7199 \newcounter{Item}
7200 \def\theHItem{\arabic{Item}}
7201 \def\item{%
7202 \@hyper@itemfalse
7203 \if@nmbriest\@hyper@itemtrue\fi
7204 \H@item
7205 }
7206 \providecommand\theHenumi {\theHItem}
```

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.

```

7207 \providecommand\theHenumii {\theHItem}
7208 \providecommand\theHenumiii {\theHItem}
7209 \providecommand\theHenumiv {\theHItem}
7210 \providecommand\theHHfootnote {\arabic{Hfootnote}}
7211 \providecommand\theHmpfootnote{\arabic{mpfootnote}}
7212 \@ifundefined{theHHmpfootnote}{%
7213 \let\theHHmpfootnote\theHHfootnote
7214 }{}

```

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.

```

7215 \let\H@refstepcounter\refstepcounter
7216 \edef\name@of@eq{equation}%
7217 \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.

```

7218 \newif\if@hyper@item
7219 \newif\if@skiphyperref
7220 \@hyper@itemfalse
7221 \@skiphyperreffalse
7222 \def\refstepcounter#1{%
7223 \ifHy@pdfstring
7224 \else
7225 \H@refstepcounter{#1}%
7226 \edef\This@name{#1}%
7227 \ifx\This@name\name@of@slide
7228 \else
7229 \if@skiphyperref
7230 \else
7231 \if@hyper@item
7232 \stepcounter{Item}%
7233 \hyper@refstepcounter{Item}%
7234 \@hyper@itemfalse
7235 \else
7236 \hyper@refstepcounter{#1}%
7237 \fi
7238 \fi
7239 \fi
7240 \fi
7241 }
7242 \let\Hy@saved@refstepcounter\refstepcounter

```

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

```

7243 \@ifpackageloaded{amsmath}{\newif\ifmeasuring@\measuring@false}

```

`\hyper@refstepcounter`

```
7244 \def\hyper@refstepcounter#1{%
7245   \edef\This@name{#1}%
7246   \ifx\This@name\name@of@eq
7247     \@ifundefined{theHequation}{%
7248       \make@stripped@name{\theequation}%
7249       \let\theHequation\newname
7250     }{}%
7251   \fi
7252   \HyCnt@ProvideTheHCounter{#1}%
7253   \hyper@makecurrent{#1}%
7254   \ifmeasuring@
7255   \else
7256     \Hy@raisedlink{%
7257       \hyper@anchorstart{\@currentHref}\hyper@anchorend
7258     }%
7259   \fi
7260 }
```

`\Hy@ProvideTheHCounter`

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

```
7261 \def\HyCnt@ProvideTheHCounter#1{%
7262   \@ifundefined{theH#1}{%
7263     \expandafter\def\csname theH#1\endcsname{}%
7264     \def\Hy@temp{\@elt{#1}}%
7265     \ltx@onelevel@sanitize\Hy@temp
7266     \let\HyOrg@elt\@elt
7267     \edef\@elt{%
7268       \noexpand\HyCnt@LookForParentCounter
7269       \expandafter\noexpand\csname theH#1\endcsname
7270     }%
7271     \cl@ckpt
7272     \let\@elt\HyOrg@elt
7273     \expandafter
7274     \ltx@LocalAppendToMacro\csname theH#1\endcsname
7275     \expandafter{%
7276       \expandafter\@arabic\csname c@#1\endcsname
7277     }%
7278   }{}%
7279 }
```

`\Hy@LookForParentCounter`

```
7280 \def\HyCnt@LookForParentCounter#1#2{%
7281   \expandafter\let\expandafter\Hy@temp@A\csname cl@#2\endcsname
```

```

7282 \ltx@ifundefined{cl@#2}{%
7283 }{%
7284 \ltx@onelevel@sanitize\Hy@temp@A
7285 \edef\Hy@temp@A{%
7286   \noexpand\in@{\Hy@temp}{\Hy@temp@A}%
7287 }\Hy@temp@A
7288 \ifin@
7289 \ltx@ifundefined{theH#2}{%
7290   \expandafter\ltx@LocalAppendToMacro\expandafter#1%
7291   \expandafter{%
7292     \expandafter\@arabic\csname c@#2\endcsname.%
7293   }%
7294 }{%
7295   \expandafter\ltx@LocalAppendToMacro\expandafter#1%
7296   \expandafter{%
7297     \csname theH#2\endcsname.%
7298   }%
7299 }%
7300 \fi
7301 }%
7302 }

```

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`.

```

7303 \begingroup\expandafter\expandafter\expandafter\endgroup
7304 \expandafter\ifx\csname chapter\endcsname\relax
7305 \def\Hy@chapterstring{section}%
7306 \else
7307 \def\Hy@chapterstring{chapter}%
7308 \fi
7309 \def\Hy@appendixstring{appendix}
7310 \def\Hy@chapapp{\Hy@chapterstring}
7311 \ltx@ifundefined{appendix}{%
7312 }{%
7313 \let\HyOrg@appendix\appendix
7314 \def\Hy@AlphNoErr#1{%
7315   \ifnum\value{#1}>26 %
7316     Alph\number\value{#1}%
7317   \else
7318     \ifnum\value{#1}<1 %
7319       Alph\number\value{#1}%
7320     \else
7321       \Alph{#1}%
7322     \fi
7323   \fi

```

```

7324 }%
7325 \def\appendix{%
7326 \ltx@ifundefined{chapter}{%
7327 \gdef\theHsection{\Hy@AlphNoErr{section}}%
7328 }{%
7329 \gdef\theHchapter{\Hy@AlphNoErr{chapter}}%
7330 }%
7331 \xdef\Hy@chapapp{\Hy@appendixstring}%
7332 \HyOrg@appendix
7333 }%
7334 }

```

\Hy@Test@alph

```

7335 \def\Hy@Test@alph#1{%
7336 \ifcase#1\or
7337 a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
7338 k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
7339 u\or v\or w\or x\or y\or z%
7340 \else
7341 \@ctrerr
7342 \fi
7343 }

```

\Hy@Test@Alph

```

7344 \def\Hy@Test@Alph#1{%
7345 \ifcase#1\or
7346 A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
7347 K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
7348 U\or V\or W\or X\or Y\or Z%
7349 \else
7350 \@ctrerr
7351 \fi
7352 }

```

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

```

7353 \def\hyper@makecurrent#1{%
7354 \begingroup
7355 \Hy@safe@activestrue
7356 \edef\Hy@param{#1}%
7357 \ifx\Hy@param\Hy@chapterstring
7358 \let\Hy@param\Hy@chapapp
7359 \fi
7360 \ifHy@hypertextnames
7361 \let\@number\@firstofone
7362 \def\@fnsymbol##1{fnsymbol\number##1}%
7363 \def\@arabic##1{\number##1}%
7364 \ifx\@alph\Hy@Test@alph
7365 \else

```

```

7366     \def\@alph{alph\number}%
7367     \fi
7368     \ifx\@Alph\Hy@Test@Alph
7369     \else
7370     \def\@Alph{Alph\number}%
7371     \fi
7372     \ifHy@naturalnames
7373     \let\textlatin\@firstofone
7374     \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
7375     \else
7376     \xdef\HyperGlobalCurrentHref{%
7377     \csname
7378     the%
7379     \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
7380     #1%
7381     \endcsname
7382     }%
7383     \fi
7384     \xdef\HyperGlobalCurrentHref{%
7385     \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
7386     }%
7387     \else
7388     \Hy@GlobalStepCount\Hy@linkcounter
7389     \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
7390     \fi
7391     \endgroup
7392     \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7393     \ifHy@localanchorname
7394     \let\@currentHref\HyperLocalCurrentHref
7395     \else
7396     \global\let\@currentHref\HyperGlobalCurrentHref
7397     \fi
7398 }

```

\Hy@MakeCurrentHref

```

7399 \def\Hy@MakeCurrentHref#1{%
7400 \edef\HyperLocalCurrentHref{#1}%
7401 \@onelevel@sanitize\HyperLocalCurrentHref
7402 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
7403 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7404 \ifHy@localanchorname
7405 \let\@currentHref\HyperLocalCurrentHref
7406 \else
7407 \global\let\@currentHref\HyperGlobalCurrentHref
7408 \fi
7409 }

```

\Hy@MakeCurrentHrefAuto

```

7410 \def\Hy@MakeCurrentHrefAuto#1{%
7411 \Hy@GlobalStepCount\Hy@linkcounter

```

```

7412 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
7413 }

```

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

```

7414 \def\@currentHlabel{\@currentHref}

7415 \@ifpackageloaded{fancyvrb}{%
7416 \@ifpackagelater{fancyvrb}{1998/05/20}{}%
7417 \def\FV@StepLineNo{%
7418 \FV@SetLineNo
7419 \def\FV@StepLineNo{\H@refstepcounter{FancyVerbLine}}%
7420 \FV@StepLineNo
7421 }%
7422 }%
7423 }{}

```

### 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`

```

7424 \Hy@AtBeginDocument{%
7425 \@ifclassloaded{revtex4}{%
7426 \@namedef{ver@lastpage.sty}{1994/06/25}%
7427 }{}%
7428 \@ifpackageloaded{lastpage}{%
7429 \ifHy@pageanchor
7430 \else
7431 \Hy@WarningNoLine{%
7432 The \string\pageref{LastPage} link doesn't work\MessageBreak
7433 with disabled option `pageanchor'%
7434 }%
7435 \fi
7436 \def\lastpage@putlabel{%
7437 \addtocounter{page}{-1}%
7438 \if@filesw
7439 \begingroup
7440 \let\@number\@firstofone
7441 \ifHy@pageanchor
7442 \ifHy@hypertexnames
7443 \ifHy@plainpages
7444 \def\Hy@temp{\arabic{page}}%

```

```

7445     \else
7446     \Hy@unicodedefalse
7447     \pdfstringdef\Hy@temp{\thepage}%
7448     \fi
7449     \else
7450     \def\Hy@temp{\the\Hy@pagecounter}%
7451     \fi
7452     \fi
7453     \immediate\write\@auxout{%
7454     \string\newlabel
7455     {LastPage}{\thepage}{}%
7456     \ifHy@pageanchor page.\Hy@temp\fi}{}}%
7457     }%
7458     \endgroup
7459     \fi
7460     \addtocounter{page}{1}%
7461     }%
7462     \@ifclassloaded{revtex4}{%
7463     \begingroup
7464     \toks@\expandafter{\lastpage@putlabel}%
7465     \edef\x{\endgroup
7466     \def\noexpand\lastpage@putlabel{%
7467     \noexpand\stepcounter{page}%
7468     \the\toks@
7469     \noexpand\addtocounter{page}\noexpand\m@ne
7470     }%
7471     }%
7472     \x
7473     }{}%
7474     }{}%
7475     }
7476     </package>
7477     <*check>
7478     \checkpackage{lastpage}[1994/06/25]
7479     \checkcommand\def\lastpage@putlabel{%
7480     \addtocounter{page}{-1}%
7481     \immediate\write\@auxout{%
7482     \string\newlabel{LastPage}{\thepage}}%
7483     }%
7484     \addtocounter{page}{1}%
7485     }
7486     </check>
7487     <*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.

```
7488 \def\hypergetref#1{\getrefbykeydefault{#1}{-}{??}}
7489 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}
```

## 32 Package titlesec and titletoc support

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

Package titlesec support:

```
7490 \@ifpackageloaded{titlesec}{%
7491   \def\ttl@Hy@steplink#1{%
7492     \Hy@MakeCurrentHrefAuto{#1*}%
7493   \edef\ttl@Hy@saveanchor{%
7494     \noexpand\Hy@raisedlink{%
7495       \noexpand\hyper@anchorstart{\@currentHref}%
7496       \noexpand\hyper@anchorend
7497     \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
7498     \noexpand\ttl@Hy@PatchSaveWrite
7499   }%
7500 }%
7501 }%
7502 \def\ttl@Hy@PatchSaveWrite{%
7503   \begingroup
7504   \toks@\expandafter{\ttl@savewrite}%
7505   \edef\x{\endgroup
7506     \def\noexpand\ttl@savewrite{%
7507       \let\noexpand\@currentHref
7508         \noexpand\ttl@Hy@SavedCurrentHref
7509       \the\toks@
7510     }%
7511   }%
7512   \x
7513 }%
7514 \def\ttl@Hy@refstepcounter#1{%
7515   \let\ttl@b\Hy@raisedlink
7516   \def\Hy@raisedlink##1{%
7517     \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
7518   }%
7519   \refstepcounter{#1}%
7520   \let\Hy@raisedlink\ttl@b
7521 }%
7522 }{}
```

Package titletoc support:

```
7523 \@ifpackageloaded{titletoc}{%
7524   \def\ttl@gobblecontents#1#2#3#4{\ignorespaces}%
7525 }{}
```

### 33 Package varioref support

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

```
7526 \AtBeginDocument{%
7527 \def\Hy@varioref@undefined{??}{??}{-}{-}{-}
7528 \@ifpackageloaded{varioref}{%
7529 \def\vref@pagenum#1#2{%
7530 \ifundefined{r@#2}{%
7531 \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
7532 }{}%
7533 \edef#1{\getpagerefnumber{#2}}%
7534 }%
7535 }
```

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

```
7536 \def\Hy@varioref@refstepcounter#1{%
7537 \stepcounter{#1}%
7538 \protected@edef\@currentlabel{%
7539 \csname p@#1\expandafter\endcsname\csname the#1\endcsname
7540 }%
7541 }
7542 \ifx\refstepcounter\Hy@varioref@refstepcounter
7543 \let\H@refstepcounter\refstepcounter
7544 \let\refstepcounter\Hy@saved@refstepcounter
7545 \fi
7546 }
```

### 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

```
7547 \@ifpackageloaded{longtable}{%
7548 \begingroup
7549 \def\y{\LT@array}%
7550 \@ifundefined{scr@LT@array}{%
7551 \ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}%
7552 }{\def\y{\scr@LT@array}}%
7553 \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
7554 \expandafter\endgroup
7555 \expandafter\def\y[##1]##2{%
7556 \H@refstepcounter{#1}%
7557 \hyper@makecurrent{table}%
7558 \let\Hy@LT@currentHref\@currentHref
```

```

7559     #2\@sharp####4%
7560   }%
7561 }%
7562 \expandafter\expandafter\expandafter\x\y[#{1}]{#2}\@nil
Patch of \LT@start: add anchor before first line after \vskip\LTpre
7563 \begingroup
7564 \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
7565   \endgroup
7566   \def\LT@start{%
7567     #1%
7568     \ifvoid\LT@foot#2\fi
7569     \let\@currentHref\Hy@LT@currentHref
7570     \Hy@raisedlink{%
7571       \hyper@anchorstart{\@currentHref}\hyper@anchorend
7572     }%
7573     #3%
7574   }%
7575 }%
7576 \expandafter\x\LT@start\@nil
7577 }{}

```

## 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.

```

7578 \let\new@refstepcounter\refstepcounter
7579 \let\H@equation\equation
7580 \let\H@endequation\endequation
7581 \@ifpackageloaded{amsmath}{%
7582   \long\def\Hy@temp{%
7583     \incr@eqnum
7584     \mathdisplay@push
7585     \st@rredfalse \global\@eqnswtrue
7586     \mathdisplay{equation}%
7587   }%
7588   \ifx\Hy@temp\equation
7589     \expandafter\ifx\cename if@fleqn\expandafter\endcename
7590       \cename iftrue\endcename
7591   \else
7592     \long\def\equation{%
7593       \mathdisplay@push
7594       \st@rredfalse \global\@eqnswtrue
7595       \mathdisplay{equation}%
7596       \incr@eqnum

```

```

7597   }%
7598   \fi
7599   \fi
7600 }{%
7601 \def\equation{%
7602   \let\refstepcounter\H@refstepcounter
7603   \H@equation
7604   \@ifundefined{theHequation}{%
7605     \make@stripped@name{\theequation}%
7606     \let\theHequation\newname
7607   }{}%
7608   \hyper@makecurrent{equation}%

```

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

```

7609   \mathopen{%
7610     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%
7611   }%
7612   \let\refstepcounter\new@refstepcounter
7613 }%
7614 \def\endequation{%
7615   \ifx\Hy@raisedlink\ltx@empty
7616     \hyper@anchorend
7617   \else
7618     \mathclose{\Hy@raisedlink{\hyper@anchorend}}%
7619   \fi
7620   \H@endequation
7621 }%
7622 }

```

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.

```

7623 \newif\if@eqnstar
7624 \@eqnstarfalse
7625 \let\H@eqnarray\eqnarray
7626 \let\H@endeqnarray\endeqnarray
7627 \def\eqnarray{%
7628   \let\Hy@reserved@a\relax
7629   \def\@currentHref{}%
7630   \H@eqnarray
7631   \if@eqnstar
7632   \else
7633     \ifx\\\@currentHref\\%
7634     \else
7635       \@ifundefined{theHequation}{%
7636         \make@stripped@name{\theequation}%
7637         \let\theHequation\newname
7638       }{}%

```

```

7639 \hyper@makecurrent{equation}%
7640 \mathopen{%
7641 \Hy@raisedlink{%
7642 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7643 }%
7644 }%
7645 \fi
7646 \fi
7647 }
7648 \def\endeqnarray{%
7649 \H@endeqnarray
7650 }

```

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.

```

7651 \@namedef{eqnarray*}{%
7652 \def\@eqnocr{\nonumber\@seqnocr}\@eqnstartrue\eqnarray
7653 }
7654 \@namedef{endeqnarray*}{%
7655 \nonumber\endeqnarray\@eqnstarfalse
7656 }

```

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

```

7657 \ltx@ifundefined{subeqnarray}{}{%
7658 \let\H@subeqnarray\subeqnarray
7659 \let\H@endsubeqnarray\endsubeqnarray
7660 \def\subeqnarray{%
7661 \let\Hy@reserved@a\relax
7662 \H@subeqnarray
7663 \@ifundefined{theHequation}{%
7664 \make@stripped@name{\theequation}%
7665 \let\theHequation\newname
7666 }{}%
7667 \hyper@makecurrent{equation}%
7668 \hyper@anchorstart{\@currentHref}{}\hyper@anchorend
7669 }%
7670 \def\endsubeqnarray{%
7671 \H@endsubeqnarray
7672 }%
7673 \providecommand\theHsubequation{\theHequation\alph{subequation}}%
7674 }

```

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

```

7675 \def\make@stripped@name#1{%
7676 \begingroup
7677 \escapechar\m@ne
7678 \global\let\newname\@empty
7679 \protected@edef\Hy@tempa{#1}%

```

```

7680 \edef\@tempb{%
7681   \noexpand\@tfor\noexpand\Hy@tempa:=%
7682   \expandafter\strip@prefix\meaning\Hy@tempa
7683 }%
7684 \@tempb\do{%
7685   \if{\Hy@tempa\else
7686   \if}\Hy@tempa\else
7687     \xdef\newname{\newname\Hy@tempa}%
7688     \fi
7689   \fi
7690 }%
7691 \endgroup
7692 }

```

Support for amsmath's subequations:

```

7693 \begingroup\expandafter\expandafter\expandafter\endgroup
7694 \expandafter\ifx\csname subequations\endcsname\relax
7695 \else
7696   \let\HyOrg@subequations\subequations
7697   \def\subequations{%
7698     \stepcounter{equation}%
7699     \protected@edef\theHparentequation{%
7700       \@ifundefined{theHequation}\theequation\theHequation
7701     }%
7702     \addtocounter{equation}{-1}%
7703     \HyOrg@subequations
7704     \def\theHequation{\theHparentequation\alph{equation}}%
7705     \ignorespaces
7706   }%
7707 \fi

```

Support for package amsthm (Daniel Müllner): also cleveref.

```

7708 \Hy@AtBeginDocument{%
7709 \@ifpackageloaded{cleveref}{%
7710 \let\Hy@savedthm\@thm
7711 \def\@thm{\iffmode\unskip\fi\Hy@savedthm}%
7712 }{%
7713 \@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

7714 \def\Hy@temp#1#2#3{%
7715   \iffmode\unskip\unskip\par\fi
7716   \normalfont
7717   \trivlist
7718   \let\thmheadnl\relax
7719   \let\thm@swap\@gobble
7720   \let\thm@indent\indent % indent

```

```

7721 \thm@headfont{\scshape}% heading font small caps
7722 \thm@notefont{\fontseries\mddefault\upshape}%
7723 \thm@headpunct{.}% add period after heading
7724 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7725 \thm@space@setup
7726 #1% style overrides
7727 \@topsep \thm@preskip          % used by thm head
7728 \@topsepadd \thm@postskip      % used by \@endparenv
7729 \def\@tempa{#2}\ifx\@empty\@tempa
7730   \def\@tempa{\@oparg{\@begintheorem{#3}{}}}%
7731 \else
7732   \refstepcounter{#2}%
7733   \def\@tempa{%
7734     \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}}%
7735   }%
7736 \fi
7737 \@tempa
7738 }%
7739 \ifx\Hy@temp\@thm
7740   \def\@thm#1#2#3{%
7741     \ifhmode
7742       \unskip\unskip\par
7743     \fi
7744     \normalfont
7745     \trivlist
7746     \let\thmheadnl\relax
7747     \let\thm@swap\@gobble
7748     \let\thm@indent\indent % indent
7749     \thm@headfont{\scshape}% heading font small caps
7750     \thm@notefont{\fontseries\mddefault\upshape}%
7751     \thm@headpunct{.}% add period after heading
7752     \thm@headsep 5\p@ plus\p@ minus\p@\relax
7753     \thm@space@setup
7754     #1% style overrides
7755     \@topsep \thm@preskip          % used by thm head
7756     \@topsepadd \thm@postskip      % used by \@endparenv
7757     \def\dth@counter{#2}%
7758     \ifx\@empty\dth@counter
7759       \def\@tempa{%
7760         \@oparg{\@begintheorem{#3}{}}}%
7761       }%
7762     \else
7763       \H@refstepcounter{#2}%
7764       \hyper@makecurrent{#2}%
7765       \let\Hy@dth@currentHref\@currentHref
7766       \def\@tempa{%
7767         \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}}%
7768       }%
7769     \fi
7770     \@tempa

```

```

7771 }%
7772 \else
7773 \def\@thm#1#2#3{%
7774 \ifhmode
7775 \unskip\unskip\par
7776 \fi
7777 \normalfont
7778 \trivlist
7779 \let\thmheadnl\relax
7780 \let\thm@swap\@gobble
7781 \thm@notefont{\fontseries\mddefault\upshape}%
7782 \thm@headpunct{.}% add period after heading
7783 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7784 \thm@space@setup
7785 #1% style overrides
7786 \@topsep \thm@preskip % used by thm head
7787 \@topsepadd \thm@postskip % used by \@endparenv
7788 \def\dth@counter{#2}%
7789 \ifx\@empty\dth@counter
7790 \def\@tempa{%
7791 \@oparg{\@begintheorem{#3}{}}[]%
7792 }%
7793 \else
7794 \H@refstepcounter{#2}%
7795 \hyper@makecurrent{#2}%
7796 \let\Hy@dth@currentHref\@currentHref
7797 \def\@tempa{%
7798 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
7799 }%
7800 \fi
7801 \@tempa
7802 }%
7803 \fi
7804 \dth@everypar={%
7805 \@minipagefalse
7806 \global\@newlistfalse
7807 \@noparitemfalse
7808 \if@inlabel
7809 \global\@inlabelfalse
7810 \begingroup
7811 \setbox\z@\lastbox
7812 \ifvoid\z@
7813 \kern-\itemindent
7814 \fi
7815 \endgroup
7816 \ifx\@empty\dth@counter
7817 \else
7818 \Hy@raisedlink{%
7819 \hyper@anchorstart{%
7820 \ltx@ifundefined{Hy@dth@currentHref}%

```

```

7821         \@currentHref\Hy@dth@currentHref
7822     }\hyper@anchorend
7823 }%
7824 \fi
7825 \unhbox\@labels
7826 \fi
7827 \if@nobreak
7828 \clubpenalty\@M
7829 \else
7830 \clubpenalty\@clubpenalty \everypar{}%
7831 \fi
7832 }%
7833 }%

```

non `amsthm` case, remove final space on line before a theorem for github issue 11.

```

7834 {%
7835 \let\Hy@savethm\@thm
7836 \def\@thm{\ifhmode\unskip\fi\Hy@savethm}%
7837 }%
7838 }%
7839 }

```

## 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.

```

7840 \ifHy@hyperfootnotes
7841 \newcounter{Hfootnote}%
7842 \let\H@@footnotetext\@footnotetext
7843 \let\H@@footnotemark\@footnotemark
7844 \def\@xfootnotenext[#1]{%
7845 \begingroup
7846 \csname c@\@mpfn\endcsname #1\relax
7847 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7848 \endgroup
7849 \ifx\@footnotetext\@mpfootnotetext
7850 \expandafter\H@@mpfootnotetext
7851 \else
7852 \expandafter\H@@footnotetext
7853 \fi
7854 }%
7855 \def\@xfootnotemark[#1]{%
7856 \begingroup
7857 \c@footnote #1\relax
7858 \unrestored@protected@xdef\@thefnmark{\thefootnote}%

```

```

7859 \endgroup
7860 \H@@footnotemark
7861 }%
7862 \let\H@@mpfootnotetext\@mpfootnotetext
7863 \long\def\@mpfootnotetext#1{%
7864 \H@@mpfootnotetext{%
7865 \ifHy@nesting
7866 \expandafter\ltx@firstoftwo
7867 \else
7868 \expandafter\ltx@secondoftwo
7869 \fi
7870 {%
7871 \expandafter\hyper@@anchor\expandafter{%
7872 \Hy@footnote@currentHref
7873 }{\ignorespaces #1}%
7874 }{%
7875 \Hy@raisedlink{%
7876 \expandafter\hyper@@anchor\expandafter{%
7877 \Hy@footnote@currentHref
7878 }{\relax}%
7879 }\ignorespaces #1%
7880 }%
7881 }%
7882 }%
7883 \long\def\@footnotetext#1{%
7884 \H@@footnotetext{%
7885 \ifHy@nesting
7886 \expandafter\ltx@firstoftwo
7887 \else
7888 \expandafter\ltx@secondoftwo
7889 \fi
7890 {%
7891 \expandafter\hyper@@anchor\expandafter{%
7892 \Hy@footnote@currentHref
7893 }{\ignorespaces #1}%
7894 }{%
7895 \Hy@raisedlink{%
7896 \expandafter\hyper@@anchor\expandafter{%
7897 \Hy@footnote@currentHref
7898 }{\relax}%
7899 }%
7900 \let\@currentHref\Hy@footnote@currentHref
7901 \let\@currentlabelname\@empty
7902 \ignorespaces #1%
7903 }%
7904 }%
7905 }%

```

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.

```

7906 \def\@footnotemark{%
7907 \leavevmode
7908 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7909 \stepcounter{Hfootnote}%
7910 \global\let\Hy@saved@currentHref\@currentHref
7911 \hyper@makecurrent{Hfootnote}%
7912 \global\let\Hy@footnote@currentHref\@currentHref
7913 \global\let\@currentHref\Hy@saved@currentHref
7914 \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7915 \@makefnmark
7916 \hyper@linkend
7917 \ifhmode\spacefactor\@x@sf\fi
7918 \relax
7919 }%

```

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

```

7920 \@ifpackageloaded{tabularx}{%
7921 \let\HyOrg@TX@endtabularx\TX@endtabularx
7922 \def\Hy@tabularx@hook{%
7923 \let\@footnotetext\H@@footnotetext
7924 \let\@footnotemark\H@@footnotemark
7925 \let\@mpfootnotetext\H@@mpfootnotetext
7926 }%
7927 \begingroup
7928 \toks@\expandafter{\TX@endtabularx}%
7929 \xdef\Hy@gtemp{%
7930 \noexpand\Hy@tabularx@hook
7931 \the\toks@
7932 }%
7933 \endgroup
7934 \let\TX@endtabularx\Hy@gtemp
7935 }{}%

```

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

```

7936 \@ifpackageloaded{longtable}{%
7937 \CheckCommand*\LT@p@ftntext}[1]{%
7938 \edef\@tempa{%
7939 \the\LT@p@ftn
7940 \noexpand\footnotetext[\the\c@footnote]%
7941 }%
7942 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7943 }%
7944 \long\def\LT@p@ftntext#1{%

```

```

7945 \edef\@tempa{%
7946 \the\LT@p@ftn
7947 \begingroup
7948 \noexpand\c@footnote=\the\c@footnote\relax
7949 \noexpand\protected@xdef\noexpand\@thefnmark{%
7950 \noexpand\thempfn
7951 }%
7952 \noexpand\Hy@LT@footnotetext{%
7953 \Hy@footnote@currentHref
7954 }%
7955 }%
7956 \global\LT@p@ftn\expandafter{%
7957 \@tempa{#1}%
7958 \endgroup
7959 }%
7960 }%
7961 \long\def\Hy@LT@footnotetext#1#2{%
7962 \H@@footnotetext{%
7963 \ifHy@nesting
7964 \hyper@@anchor{#1}{#2}%
7965 \else
7966 \Hy@raisedlink{%
7967 \hyper@@anchor{#1}{\relax}%
7968 }%
7969 \def\@currentHref{#1}%
7970 \let\@currentlabelname\@empty
7971 #2%
7972 \fi
7973 }%
7974 }%
7975 }{}%

```

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

```

7976 \@ifpackageloaded{fancyvrb}{%
7977 \def\V@@@footnotetext{%
7978 \insert\footins\bgroup
7979 \csname reset@font\endcsname
7980 \footnotesize
7981 \interlinepenalty\interfootnotelinepenalty
7982 \splittopskip\footnotesep
7983 \splitmaxdepth\dp\strutbox
7984 \floatingpenalty \@MM
7985 \hsize\columnwidth
7986 \@parboxrestore
7987 \edef\@currentlabel{\csname p@footnote\endcsname\@thefnmark}%
7988 \@makefntext{}%
7989 \rule{\z@}{\footnotesep}%
7990 \bgroup
7991 \aftergroup\V@@@footnotetext
7992 \Hy@raisedlink{%

```

```

7993     \expandafter\hyper@@anchor\expandafter{%
7994         \Hy@footnote@currentHref
7995     }{\relax}%
7996 }%
7997 \let\@currentHref\Hy@footnote@currentHref
7998 \let\@currentlabelname\@empty
7999 \ignorespaces
8000 }%
8001 }{}%

```

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

```

8002 \def\Hy@temp#1{%
8003     \begingroup
8004     \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
8005     \endgroup
8006     \@footnotemark
8007 }%
8008 \ifx\Hy@temp\footref
8009     \def\footref#1{%
8010         \begingroup
8011         \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
8012         \endgroup
8013         \H@@footnotemark
8014     }%
8015 \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.

```

8016 \let\HyOrg@maketitle\maketitle
8017 \def\maketitle{%
8018     \let\Hy@saved@footnotemark\@footnotemark
8019     \let\Hy@saved@footnotetext\@footnotetext
8020     \let\@footnotemark\H@@footnotemark
8021     \let\@footnotetext\H@@footnotetext
8022     \@ifnextchar[\Hy@maketitle@optarg{% ]
8023         \HyOrg@maketitle
8024         \Hy@maketitle@end
8025     }%
8026 }%
8027 \def\Hy@maketitle@optarg[#1]{%
8028     \HyOrg@maketitle[#{#1}]%
8029     \Hy@maketitle@end
8030 }%
8031 \def\Hy@maketitle@end{%
8032     \ifx\@footnotemark\H@@footnotemark
8033         \let\@footnotemark\Hy@saved@footnotemark
8034     \fi
8035     \ifx\@footnotetext\H@@footnotetext

```

```

8036 \let\@footnotetext\Hy@saved@footnotetext
8037 \fi
8038 }%

```

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

```

8039 \def\realfootnote{%
8040 \@ifnextchar[\@xfootnote{%
8041 \stepcounter{\@mpfn}%
8042 \protected@xdef\@thefnmark{\thempfn}%
8043 \H@@footnotemark\H@@footnotetext
8044 }%
8045 }%

8046 \fi
8047 \Hy@DisableOption{hyperfootnotes}

8048 </package>
8049 <*check>
8050 \checklatex
8051 \checkcommand\def\@xfootnotenext[#1]{%
8052 \begingroup
8053 \csname c@\@mpfn\endcsname #1\relax
8054 \unrestored@protected@xdef\@thefnmark{\thempfn}%
8055 \endgroup
8056 \@footnotetext
8057 }
8058 \checkcommand\def\@xfootnotemark[#1]{%
8059 \begingroup
8060 \c@footnote #1\relax
8061 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
8062 \endgroup
8063 \@footnotemark
8064 }
8065 \checkcommand\def\@footnotemark{%
8066 \leavevmode
8067 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
8068 \@makefnmark
8069 \ifhmode\spacefactor\@x@sf\fi
8070 \relax
8071 }
8072 </check>
8073 <*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.

```

8074 \def\caption{%
8075 \ifx\@capttype\@undefined

```

```

8076 \latex@error{\noexpand\caption outside float}\@ehd
8077 \expandafter\@gobble
8078 \else
8079 \H@refstepcounter\@capttype
8080 \let\Hy@tempa\@caption
8081 \@ifundefined{float@caption}{%
8082 }{%
8083 \expandafter\ifx\csname @float@c@\@capttype\endcsname
8084 \float@caption
8085 \let\Hy@tempa\Hy@float@caption
8086 \fi
8087 }%
8088 \expandafter\@firstofone
8089 \fi
8090 {\@dblarg{\Hy@tempa\@capttype}}%
8091 }
8092 \long\def\@caption#1[#2]#3{%
8093 \expandafter\ifx\csname if@capstart\expandafter\endcsname
8094 \csname iftrue\endcsname
8095 \global\let\@currentHref\hc@currentHref
8096 \else
8097 \hyper@makecurrent{\@capttype}%
8098 \fi
8099 \@ifundefined{NR@gettitle}{%
8100 \def\@currentlabelname{#2}%
8101 }{%
8102 \NR@gettitle{#2}%
8103 }%
8104 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
8105 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
8106 }%
8107 \begingroup
8108 \@parboxrestore
8109 \if@minipage
8110 \setminipage
8111 \fi
8112 \normalsize
8113 \expandafter\ifx\csname if@capstart\expandafter\endcsname
8114 \csname iftrue\endcsname
8115 \global\@capstartfalse
8116 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
8117 \else
8118 \@makecaption{\csname fnum@#1\endcsname}{%
8119 \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

8120 \ifHy@nesting
8121 \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
8122 \else
8123 \Hy@raisedlink{%

```

```

8124     \expandafter\hyper@@anchor\expandafter{%
8125     \@currentHref
8126     }{\relax}%
8127     }%
8128     #3%
8129     \fi
8130     }%
8131     \fi
8132     \par
8133 \endgroup
8134 }

```

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’.

```

8135 \let\Hy@float@caption\@caption
8136 \newcommand{\HyNew@float@makebox}[1]{%
8137 \HyOrg@float@makebox{%
8138 #1\relax
8139 \ifx\Hy@float@currentHref\@undefined
8140 \else
8141 \expandafter\hyper@@anchor\expandafter{%
8142 \Hy@float@currentHref
8143 }{\relax}%
8144 \global\let\Hy@float@currentHref\@undefined
8145 \fi
8146 }%
8147 }%
8148 \@ifpackageloaded{float}{%
8149 \def\Hy@float@caption{%
8150 \ifx\Hy@float@currentHref\@undefined
8151 \hyper@makecurrent{\@capttype}%
8152 \global\let\Hy@float@currentHref\@currentHref
8153 \else
8154 \let\@currentHref\Hy@float@currentHref
8155 \fi
8156 \float@caption
8157 }%
8158 \let\HyOrg@float@makebox\float@makebox
8159 \let\float@makebox\HyNew@float@makebox
8160 }{}

8161 </package>
8162 <*check>
8163 \checklatex[1999/06/01 - 2000/06/01]
8164 \checkcommand\def\caption{%
8165 \ifx\@capttype\@undefined
8166 \@latex@error{\noexpand\caption outside float}\@ehd

```

```

8167 \expandafter\@gobble
8168 \else
8169 \refstepcounter\@captype
8170 \expandafter\@firstofone
8171 \fi
8172 {\@dblarg{\@caption\@captype}}%
8173 }
8174 \checkcommand\long\def\@caption#1[#2]#3{%
8175 \par
8176 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
8177 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
8178 }%
8179 \begingroup
8180 \@parboxrestore
8181 \if@minipage
8182 \setminipage
8183 \fi
8184 \normalsize
8185 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
8186 \endgroup
8187 }
8188 </check>
8189 <*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.

```

8190 \def\hyper@natlinkstart#1{%
8191 \Hy@backout{#1}%
8192 \hyper@linkstart{cite}{cite.#1}%
8193 \def\hyper@nat@current{#1}%
8194 }
8195 \def\hyper@natlinkend{%
8196 \hyper@linkend
8197 }
8198 \def\hyper@natlinkbreak#1#2{%
8199 \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
8200 }
8201 \def\hyper@natanchorstart#1{%
8202 \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
8203 }

```

```
8204 \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.

```
8205 \ltx@ifundefined{NAT@parse}{%
8206 \providecommand*\@extra@binfo{}}%
8207 \providecommand*\@extra@b@citeb{}}%
8208 \def\bibcite#1#2{%
8209 \@newl@bel{b}{#1}\@extra@binfo}{%
8210 \hyper@link[cite]{}{cite.#1\@extra@b@citeb}{#2}}%
8211 }%
8212 }%
8213 \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.”

```
8214 \let\Hy@bibcite\bibcite
8215 \begingroup
8216 \@ifundefined{bbl@cite@choice}{}{%
8217 \g@addto@macro\bbl@cite@choice{%
8218 \let\bibcite\Hy@bibcite
8219 }%
8220 }%
8221 \endgroup
```

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

```
8222 \providecommand*\@BIBLABEL{\@biblabel}%
8223 \def\@bibitem[#1]#2{%
8224 \@skiphyperreftrue
8225 \H@item[%
8226 \ifx\Hy@raisedlink\@empty
8227 \hyper@anchorstart{cite.#2\@extra@b@citeb}}%
8228 \@BIBLABEL{#1}}%
8229 \hyper@anchorend
8230 \else
8231 \Hy@raisedlink{%
8232 \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
8233 }%
8234 \@BIBLABEL{#1}}%
8235 \fi
8236 \hfill
8237 ]%
8238 \@skiphyperreffalse
8239 \if@filesw
8240 \begingroup
8241 \let\protect\noexpand
8242 \immediate\write\@auxout{%
8243 \string\bibcite{#2}{#1}}%
8244 }%
```

```

8245 \endgroup
8246 \fi
8247 \ignorespaces
8248 }%

```

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

```

8249 \def\@bibitem#1{%
8250 \@skiphyperreftrue\H@item\@skiphyperreffalse
8251 \Hy@raisedlink{%
8252 \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
8253 }%
8254 \if@filesw
8255 \begingroup
8256 \let\protect\noexpand
8257 \immediate\write\@auxout{%
8258 \string\bibcite{#1}{\the\value{\@listctr}}%
8259 }%
8260 \endgroup
8261 \fi
8262 \ignorespaces
8263 }%
8264 }{}

```

```

8265 </package>
8266 <*check>
8267 \checklatex
8268 \checkcommand\def\@lbibitem[#1]#2{%
8269 \item[\@biblabel{#1}\hfill]%
8270 \if@filesw
8271 {%
8272 \let\protect\noexpand
8273 \immediate\write\@auxout{%
8274 \string\bibcite{#2}{#1}%
8275 }%
8276 }%
8277 \fi
8278 \ignorespaces
8279 }
8280 \checkcommand\def\@bibitem#1{%
8281 \item
8282 \if@filesw
8283 \immediate\write\@auxout{%
8284 \string\bibcite{#1}{\the\value{\@listctr}}%
8285 }%
8286 \fi
8287 \ignorespaces
8288 }
8289 </check>
8290 <*package>

```

Revtex (bless its little heart) takes over `\bibtex` 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.

```

8291 \ifclassloaded{revtex}{%
8292 \Hy@Info{*** compatibility with revtex **** }%
8293 \def\revtex@checking#1#2{%
8294 \expandafter\let\expandafter\T@temp\csname b@#1\endcsname
8295 \expandafter\def\csname b@#1\endcsname{#2}%
8296 \@SetMaxRnhefLabel{#1}%
8297 \expandafter\let\csname b@#1\endcsname\T@temp
8298 }%

```

Tanmoy provided this replacement for CITE<sub>X</sub>. Lord knows what it does. For chapterbib added: `extra@b@citeb`

```

8299 \@ifundefined{CITE}{\def\CITE{\cite}}{}%
8300 \providecommand*\extra@b@citeb{}%
8301 \def\CITEX[#1]#2{%
8302 \let\citea\@empty
8303 \leavevmode
8304 \unskip
8305 $^{%
8306 \scriptstyle
8307 \@CITE{%
8308 \@for\citeb:=#2\do{%
8309 \citea
8310 \def\citea{\penalty\@m }%
8311 \edef\citeb{\expandafter\@firstofone\citeb}%
8312 \if@filesw
8313 \immediate\write\@auxout{\string\citation{\citeb}}%
8314 \fi
8315 \@ifundefined{b@\citeb\extra@b@citeb}{}%
8316 \mbox{\reset@font\bfseries ?}%
8317 \G@refundefinedtrue
8318 \@latex@warning{%
8319 Citation `'\citeb' on page \thepage \space undefined%
8320 }%
8321 }{%
8322 {\csname b@\citeb\extra@b@citeb\endcsname}%
8323 }%
8324 }%
8325 }{#1}%
8326 }$%
8327 }%

```

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.

```

8328 \def\citex[#1]#2{%
8329 \let\citea\@empty
8330 \@cite{%
8331 \@for\citeb:=#2\do{%

```

```

8332 \citea
8333 \def\citea{\penalty\@m }%
8334 \edef\citeb{\expandafter\@firstofone\citeb}%
8335 \if@filesw
8336 \immediate\write\@auxout{\string\citation{\citeb}}%
8337 \fi
8338 \ifundefined{b@\citeb\extra@b\citeb}{%
8339 \mbox{\reset@font\bfseries ?}%
8340 \G@refundefinedtrue
8341 \latex@warning{%
8342 Citation ` \citeb' on page \thepage \space undefined%
8343 }%
8344 }{%
8345 \hbox{\csname b@\citeb\extra@b\citeb\endcsname}%
8346 }%
8347 }%
8348 }{#1}%
8349 }%
8350 }{}

```

### 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.

```

8351 \ifpackageloaded{harvard}{%
8352 \Hy@AtBeginDocument{%
8353 \Hy@Info{*** compatibility with harvard *** }%
8354 \Hy@raiselinksfalse
8355 \def\harvardcite#1#2#3#4{%
8356 \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{cite.#1}{#2}}%
8357 \global\@namedef{HAR@an@#1}{\hyper@link[cite]{cite.#1}{#3}}%
8358 \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{cite.#1}{#4}}%
8359 \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
8360 }%
8361 \def\HAR@citetoaux#1{%
8362 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
8363 \ifHy@backref
8364 \ifx\@empty\@currentlabel
8365 \else
8366 \@bsphack
8367 \if@filesw
8368 \protected@write\@auxout{}{%
8369 \string\@writefile{brf}{%
8370 \string\backcite{#1}{%

```

```

8371         {\thepage}{\@currentlabel}{\@currentHref}%
8372     }%
8373     }%
8374     }%
8375     \fi
8376     \@esphack
8377     \fi
8378     \fi
8379 }%
8380 \def\harvarditem{%
8381     \ifnextchar{\@harvarditem}{\@harvarditem[\null]}%
8382 }%
8383 \def\@harvarditem[#1]#2#3#4#5\par{%
8384     \item[]%
8385     \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
8386 \if@filesw
8387     \begingroup
8388     \def\protect##1{\string ##1\space}%
8389     \ifthenelse{equal{#1}{\null}}%
8390     {\def\next{{#4}{#2}{#2}{#3}}}%
8391     {\def\next{{#4}{#2}{#1}{#3}}}%
8392     \immediate\write\@auxout{\string\harvardcite\codeof\next}%
8393     \endgroup
8394     \fi
8395     \protect\hspace*{-\labelwidth}%
8396     \protect\hspace*{-\labelsep}%
8397     \ignorespaces
8398     #5%
8399     \ifHy@backref
8400         \newblock
8401         \backref{\csname br@#4\endcsname}%
8402     \fi
8403     \par
8404 }%

```

`\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`:

```

8405 \long\def\HAR@checkcitations#1#2#3#4{%
8406     \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
8407     \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
8408     \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
8409     \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
8410     \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
8411     \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
8412     \else
8413         \@tempwatruel
8414     \fi
8415     \else
8416         \@tempwatruel

```

```

8417     \fi
8418     \else
8419     \@tempswatru
8420     \fi
8421   }%
8422 }%

8423 }{}

```

## 38.2 Package chicago

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

```

8424 \@ifpackageloaded{chicago}{%

```

```

\citeN

```

```

8425 \def\citeN{%
8426 \def\@citesep{-1000}%
8427 \def\@cite##1##2{##1}%
8428 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
8429 \@citedata@opt
8430 }%

```

```

\shortciteN

```

```

8431 \def\shortciteN{%
8432 \def\@citesep{-1000}%
8433 \def\@cite##1##2{##1}%
8434 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
8435 \@citedata@opt
8436 }%

```

```

\@citedata@opt

```

```

8437 \def\@citedata@opt{%
8438 \let\@cite@opt\@empty
8439 \ifnextchar [{%
8440 \@tempswatru
8441 \@citedatax@opt
8442 }{%
8443 \@tempswafalse
8444 \@citedatax[]%
8445 }%
8446 }%

```

```

\@citedatax@opt

```

```

8447 \def\@citedatax@opt[#1]{%
8448 \def\@cite@opt{, #1}%
8449 \@citedatax[{#1}]%
8450 }%

8451 }{}

```

## 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{pdf-pageduration={}}`. 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.

```
8452 \ltx@ifclassloaded{slides}{%
8453   \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
8454   \def\Hy@PageAnchorSlidesPlain{%
8455     \advance\c@page\ltx@one
8456     \edef\Hy@TempPageAnchor{%
8457       \noexpand\hyper@@anchor{%
8458         page.\the\c@slide.\the\c@overlay.\the\c@note%
8459         \ifnum\c@page=\ltx@one
8460           \else
8461             .\the\c@page
8462           \fi
8463         }%
8464       }%
8465     \advance\c@page-\ltx@one
8466   }%
8467   \def\Hy@PageAnchorSlide{%
8468     \advance\c@page\ltx@one
8469     \ifnum\c@page>\ltx@one
8470       \ltx@ifundefined{theHpage}{%
8471         \protected@edef\Hy@TheSlideOptionalPage{%
8472           \Hy@SlidesFormatOptionalPage{\thepage}%
8473         }%
8474       }{%
8475         \protected@edef\Hy@TheSlideOptionalPage{%
8476           \Hy@SlidesFormatOptionalPage{\theHpage}%
8477         }%
8478       }%
8479     \else
8480       \def\Hy@TheSlideOptionalPage{}%
8481     \fi
8482     \advance\c@page-\ltx@one
8483     \pdfstringdef\@the@H@page{%
8484       \csname
8485         the%
8486         \ltx@ifundefined{theH\Hy@SlidesPage}{H}%
8487         \Hy@SlidesPage
8488       \endcsname
8489     \Hy@TheSlideOptionalPage
8490   }%
8491   \ltx@gobblethree
8492 }%
```

```

8493 \def\Hy@SlidesPage{slide}%
8494 \g@addto@macro\slide{%
8495   \def\Hy@SlidesPage{slide}%
8496 }%
8497 \g@addto@macro\overlay{%
8498   \def\Hy@SlidesPage{overlay}%
8499 }%
8500 \g@addto@macro\note{%
8501   \def\Hy@SlidesPage{note}%
8502 }%
8503 }{%
8504 \def\Hy@PageAnchorSlidesPlain{}%
8505 \def\Hy@PageAnchorSlide{}%
8506 }
8507 \def\Hy@EveryPageAnchor{%
8508   \Hy@DistillerDestFix
8509   \ifHy@pageanchor
8510     \ifHy@hypertextnames
8511       \ifHy@plainpages
8512         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
8513         \Hy@PageAnchorSlidesPlain
8514       \else
8515         \begingroup
8516           \let\@number\@firstofone
8517           \Hy@unicodefalse
8518           \Hy@PageAnchorSlide
8519           \pdfstringdef\@the@H@page{\thepage}%
8520         \endgroup
8521         \EdefUnescapeString\@the@H@page{\@the@H@page}%
8522         \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
8523       \fi
8524     \else
8525       \Hy@GlobalStepCount\Hy@pagecounter
8526       \def\Hy@TempPageAnchor{%
8527         \hyper@@anchor{page.\the\Hy@pagecounter}%
8528       }%
8529     \fi
8530   \vbox to 0pt{%
8531     \kern\voffset
8532     \kern\topmargin
8533     \kern-1bp\relax
8534     \hbox to 0pt{%
8535       \kern\hoffset
8536       \kern\ifodd\value{page}%
8537         \oddsidemargin
8538       \else
8539         \evensidemargin
8540       \fi
8541     \kern-1bp\relax
8542     \Hy@TempPageAnchor\relax

```

```

8543     \hss
8544     }%
8545     \vss
8546     }%
8547 \fi
8548 }
8549 \g@addto@macro\Hy@EveryPageBoxHook{%
8550 \Hy@EveryPageAnchor
8551 }

```

## 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.

```

8552 % In newer \LaTeX\ releases this is defined to put a \verb|%| at the end of the
8553 % line in the \textt{toc}file.
8554 % \begin{macrocode}
8555 \providecommand\protected@file@percent{}

8556 \def\addcontentsline#1#2#3{% toc extension, type, tag
8557 \begingroup
8558 \let\label\@gobble
8559 \ifx\@currentHref\@empty
8560 \Hy@Warning{%
8561 No destination for bookmark of \string\addcontentsline,%
8562 \MessageBreak destination is added%
8563 }%
8564 \phantomsection
8565 \fi
8566 \expandafter\ifx\csname toplevel@#2\endcsname\relax
8567 \begingroup
8568 \def\Hy@tempa{#1}%
8569 \ifx\Hy@tempa\Hy@bookmarkstype
8570 \Hy@WarningNoLine{%
8571 bookmark level for unknown #2 defaults to 0%
8572 }%
8573 \else
8574 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
8575 \fi
8576 \endgroup
8577 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
8578 \fi
8579 \edef\Hy@toclevel{\csname toplevel@#2\endcsname}%
8580 \Hy@writebookmark{\csname the#2\endcsname}%
8581 {#3}%
8582 {\@currentHref}%
8583 {\Hy@toclevel}%
8584 {#1}%

```

```

8585 \ifHy@verbose
8586 \begingroup
8587 \def\Hy@tempa{#3}%
8588 \@onelevel@sanitize\Hy@tempa
8589 \let\temp@online\on@line
8590 \let\on@line\@empty
8591 \Hy@Info{%
8592   bookmark\temp@online:\MessageBreak
8593   thecounter {\csname the#2\endcsname}\MessageBreak
8594   text {\Hy@tempa}\MessageBreak
8595   reference {\@currentHref}\MessageBreak
8596   toplevel {\Hy@toclevel}\MessageBreak
8597   type {#1}%
8598 }%
8599 \endgroup
8600 \fi
8601 \addtocontents{#1}{%
8602 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}\protected@file@per-
cent
8603 }%
8604 \endgroup
8605 }

```

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

```

8606 \def\contentsline#1#2#3#4{%
8607 \begingroup
8608 \Hy@safe@activestrue
8609 \edef\x{\endgroup
8610 \def\noexpand\Hy@tocdestname{#4}%
8611 }\x
8612 \ifx\Hy@tocdestname\ltx@empty
8613 \csname l@#1\endcsname{#2}{#3}%
8614 \else
8615 \ifcase\Hy@linktoc % none
8616 \csname l@#1\endcsname{#2}{#3}%
8617 \or % section
8618 \csname l@#1\endcsname{%
8619 \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend
8620 }{#3}%
8621 \or % page
8622 \def\Hy@temp{#3}%
8623 \ifx\Hy@temp\ltx@empty
8624 \csname l@#1\endcsname{#2}{#3}%
8625 \else
8626 \csname l@#1\endcsname{{#2}}{%
8627 \hyper@linkstart{link}{\Hy@tocdestname}{#3}\hyper@linkend
8628 }%
8629 \fi
8630 \else % all

```

```

8631 \def\Hy@temp{#3}%
8632 \ifx\Hy@temp\ltx@empty
8633 \csname l@#1\endcsname{%
8634 \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend
8635 }{%
8636 \else
8637 \csname l@#1\endcsname{%
8638 \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend
8639 }{%
8640 \hyper@linkstart{link}{\Hy@tocdestname}{#3}\hyper@linkend
8641 }%
8642 \fi
8643 \fi
8644 \fi
8645 }

8646 </package>
8647 <*check>
8648 \checklatex
8649 \checkcommand\def\addcontentsline#1#2#3{%
8650 \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
8651 }
8652 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
8653 </check>
8654 <*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.

```

8655 \let\H@definecounter\@definecounter
8656 \def\@definecounter#1{%
8657 \H@definecounter{#1}%
8658 \expandafter\gdef\csname theH#1\endcsname{\arabic{#1}}%
8659 }

```

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.

```

8660 \let\H@newctr\@newctr
8661 \def\@newctr#1[#2]{%
8662 \H@newctr#1[#2]}%
8663 \expandafter\gdef\csname theH#1\endcsname{%
8664 \csname the\@ifundefined{theH#2}{H}#2\endcsname.\arabic{#1}}%
8665 }%
8666 }

```

## 42 AMS<sup>L</sup>AT<sub>E</sub>X 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.

```
8667 \ifpackageloaded{amsmath}{%
8668   \def\Hy@make@anchor{%
8669     \Hy@MakeCurrentHrefAuto{AMS}%
8670     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
8671   }%
8672   \def\Hy@make@df@tag@@#1{%
8673     \gdef\df@tag{%
8674       \maketag@@@{\Hy@make@anchor#1}%
8675     \def\@currentlabel{#1}%
8676   }%
8677 }%
8678   \def\Hy@make@df@tag@@@#1{%
8679     \gdef\df@tag{%
8680       \tagform@{\Hy@make@anchor#1}%
8681       \toks@{\@xp{\p@equation{#1}}}%
8682       \edef\@currentlabel{\the\toks@}%
8683     }%
8684   }%
8685   \let\HyOrg@make@df@tag@@\make@df@tag@@
8686   \let\HyOrg@make@df@tag@@@\make@df@tag@@@
8687   \let\make@df@tag@@\Hy@make@df@tag@@
8688   \let\make@df@tag@@@\Hy@make@df@tag@@@
8689 }{}
```

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

```
8690 \ifpackagewith{hyperref}{pdftex}{%
8691   \let\H@seteqlabel\seteqlabel
8692   \def\@seteqlabel#1{%
8693     \H@seteqlabel{#1}%
8694     \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
8695     \Hy@raisedlink{%
8696       \hyper@anchorstart{\@currentHref}\hyper@anchorend
8697     }%
8698   }%
8699 }{}
```

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.

```

8700 \let\HyOrg@addtoreset\@addtoreset
8701 \def\@addtoreset#1#2{%
8702   \HyOrg@addtoreset{#1}{#2}%
8703   \expandafter\xdef\csname theH#1\endcsname{%
8704     \expandafter\noexpand
8705       \csname the\@ifundefined{theH#2}{}H#2\endcsname
8706     .\noexpand\the\noexpand\value{#1}%
8707   }%
8708 }

```

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

```

8709 </package>
8710 <*check>
8711 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
8712 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
8713   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8714     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8715       \@addtoreset{#2}{#3}%
8716       \@xp\xdef\csname the#2\endcsname{%
8717         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8718       }%
8719     }%
8720   }%
8721 }%
8722 </check>
8723 <*package>
8724 \@ifpackageloaded{amsmath}{%
8725   \@ifpackagelater{amsmath}{1999/12/14}{%
8726     \renewcommand*\numberwithin}[3][\arabic]{%
8727       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8728         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8729           \HyOrg@addtoreset{#2}{#3}%
8730           \@xp\xdef\csname the#2\endcsname{%
8731             \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8732           }%
8733         \@xp\xdef\csname theH#2\endcsname{%
8734           \@xp\@nx

```

```

8735     \csname the\@ifundefined{theH#3}{H#3}\endcsname
8736     .\@nx#1{#2}%
8737     }%
8738     }%
8739     }%
8740     }%
8741     }{%
8742     \Hy@WarningNoLine{%
8743     \string\numberwithin\space of package `amsmath' %
8744     only fixed\MessageBreak
8745     for version 2000/06/06 v2.12 or newer%
8746     }%
8747     }%
8748     }{}

```

## 43 Included figures

Simply intercept the low level graphics package macro.

```

8749 \ifHy@hyperfigures
8750 \let\Hy@Gin@setfile\Gin@setfile
8751 \def\Gin@setfile#1#2#3{%
8752 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
8753 }%
8754 \fi
8755 \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.

```

8756 \ifHy@hyperindex
8757 \def\HyInd@ParenLeft{({}%
8758 \def\HyInd@ParenRight{)}}%
8759 \def\hyperindexformat#1#2{%
8760 \let\HyOrg@hyperpage\hyperpage
8761 \let\hyperpage\@firstofone
8762 #1{\HyOrg@hyperpage{#2}}%
8763 \let\hyperpage\HyOrg@hyperpage
8764 }%

```

```

8765 \Hy@nextfalse
8766 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
8767 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
8768 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
8769 \begingroup
8770 \lccode`|= \expandafter` \HyInd@EncapChar\relax
8771 \lccode`/= `\\ \relax
8772 \lowercase{\endgroup
8773 \ifHy@next
8774 \let\HyInd@org@wrindex\@wrindex
8775 \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\}%
8776 \def\HyInd@@wrindex#1#2|#3|#4\{\%
8777 \ifx\\#3\%
8778 \HyInd@org@wrindex{#1}{#2|hyperpage}%
8779 \else
8780 \HyInd@@@wrindex{#1}{#2}#3\%
8781 \fi
8782 }%
8783 \def\HyInd@@@wrindex#1#2#3#4\{\%
8784 \def\Hy@temp@A{#3}%
8785 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8786 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8787 \relax
8788 \HyInd@org@wrindex{#1}{%
8789 #2|hyperindexformat{/#3#4}%
8790 }%
8791 \else
8792 \ifx\\#4\%
8793 \ifx\Hy@temp@A\HyInd@ParenRight
8794 \HyInd@org@wrindex{#1}{#2|#3}%
8795 \else
8796 \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
8797 \fi
8798 \else
8799 \HyInd@org@wrindex{#1}{%
8800 #2|#3hyperindexformat{/#4}%
8801 }%
8802 \fi
8803 \fi
8804 }%
8805 \else
8806 \def\@wrindex#1{\@wrindex#1||\}%
8807 \def\@wrindex#1|#2|#3\{\%
8808 \if@filesw
8809 \ifx\\#2\%
8810 \protected@write\@indexfile{}{%
8811 \string\indexentry{#1|hyperpage}{\thepage}%
8812 }%
8813 \else
8814 \HyInd@@@wrindex{#1}#2\%

```

```

8815     \fi
8816     \fi
8817     \endgroup
8818     \@esphack
8819 }%
8820 \def\HyInd@@@wrindex#1#2#3\{\{%
8821 \def\Hy@temp@A{#2}%
8822 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8823     \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8824     \relax
8825     \protected@write\@indexfile{\{%
8826     \string\indexentry{\%
8827     #1|hyperindexformat{/#2#3}%
8828     }\{the page}%
8829     }\%
8830 \else
8831 \ifx\#3\%
8832     \ifx\Hy@temp@A\HyInd@ParenRight
8833     \HyInd@DefKey{#1}%
8834     \ltx@ifundefined{HyInd@(\HyInd@key)}{\%
8835     \let\Hy@temp\ltx@empty
8836     }\%
8837     \expandafter\let\expandafter\Hy@temp
8838     \csname HyInd@(\HyInd@key)\endcsname
8839     }\%
8840     \protected@write\@indexfile{\{%
8841     \string\indexentry{#1|#2\Hy@temp}\{the page}%
8842     }\%
8843 \else
8844     \protected@write\@indexfile{\{%
8845     \string\indexentry{#1|#2hyperpage}\{the page}%
8846     }\%
8847     \HyInd@DefKey{#1}%
8848     \expandafter
8849     \gdef\csname HyInd@(\HyInd@key)\endcsname{\%
8850     hyperpage%
8851     }\%
8852     \fi
8853 \else
8854     \protected@write\@indexfile{\{%
8855     \string\indexentry{\%
8856     #1|#2hyperindexformat{/#3}%
8857     }\{the page}%
8858     }\%
8859     \ifx\Hy@temp@A\HyInd@ParenLeft
8860     \HyInd@DefKey{#1}%
8861     \expandafter
8862     \gdef\csname HyInd@(\HyInd@key)\endcsname{\%
8863     hyperindexformat{/#3}%
8864     }\%

```

```

8865     \fi
8866     \fi
8867     \fi
8868   }%
8869   \def\HyInd@DefKey#1{%
8870     \begingroup
8871     \let\protect\@unexpandable@protect
8872     \edef\Hy@temp{#1}%
8873     \tx@onelevel@sanitize\Hy@temp
8874     \global\let\HyInd@key\Hy@temp
8875     \endgroup
8876   }%
8877   \fi
8878 }%
8879 \fi
8880 \Hy@DisableOption{hyperindex}
8881 \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.

```
8882 \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.

```

8883 \def\hyperpage#1{%
8884   \HyInd@hyperpage#1\nohyperpage{ }\@nil
8885 }
8886 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8887   \HyInd@@hyperpage{#1}%
8888   #2%
8889   \def\Hy@temp{#3}%
8890   \ifx\Hy@temp\@empty
8891     \else
8892     \tx@ReturnAfterFi{%
8893       \HyInd@hyperpage#3\@nil
8894     }%
8895   \fi
8896 }
8897 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8898 \def\@hyperpage#1--#2--#3\{\%
8899   \ifx\#2\%
8900     \@commahyperpage{#1}%
8901   \else
8902     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8903   \fi
8904 }
8905 \def\@commahyperpage#1{\@commahyperpage#1, \}
8906 \def\@commahyperpage#1, #2,#3\{\%
8907   \ifx\#2\%

```

```

8908 \HyInd@pagelink{#1}%
8909 \else
8910 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8911 \fi
8912 }

```

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

```

8913 \def\HyInd@pagelink#1{%
8914 \begingroup
8915 \toks@={}%
8916 \HyInd@removespaces#1 \@nil
8917 \endgroup
8918 }
8919 \def\HyInd@removespaces#1 #2\@nil{%
8920 \toks@=\expandafter{\the\toks@#1}%
8921 \ifx\#2\%
8922 \edef\x{\the\toks@}%
8923 \ifx\x\@empty
8924 \else
8925 \hyperlink{page.\the\toks@}{\the\toks@}%
8926 \fi
8927 \else
8928 \ltx@ReturnAfterFi{%
8929 \HyInd@removespaces#2\@nil
8930 }%
8931 \fi
8932 }

```

## 45 Compatibility with foiltex

```

8933 \@ifclassloaded{foils}{%
8934 \providecommand*\ext@table{lot}%
8935 \providecommand*\ext@figure{lof}%
8936 }{}

```

## 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)).

```

8937 \@ifclassloaded{seminar}{%
8938 \Hy@seminarssidestruer
8939 \providecommand\theHslide{\arabic{slide}}%
8940 }{%
8941 \Hy@seminarssidestruer
8942 }
8943 \@ifpackageloaded{slidesec}{%
8944 \providecommand\theHslidesection {\arabic{slidesection}}%
8945 \providecommand\theHslidesubsection{%

```

```

8946 \theHslidesection.\arabic{slidesubsection}%
8947 }%
8948 \def\slide@heading[#1]#2{%
8949 \H@refstepcounter{slidesection}%
8950 \@addtoreset{slidesubsection}{slidesection}%
8951 \addtocontents{los}{%
8952 \protect\l@slide{\the\c@slidesection}{\ignorespaces#1}%
8953 {\@SCTR}{slideheading.\theslidesection}%
8954 }%
8955 \def\Hy@tempa{#2}%
8956 \ifx\Hy@tempa\@empty
8957 \else
8958 {%
8959 \edef\@currentlabel{%
8960 \csname p@slidesection\endcsname\theslidesection
8961 }%
8962 \makeslideheading{#2}%
8963 }%
8964 \fi
8965 \gdef\theslideheading{#1}%
8966 \gdef\theslidesubheading{}%
8967 \ifHy@bookmarksnumbered
8968 \def\Hy@slidetitle{\theslidesection\space #1}%
8969 \else
8970 \def\Hy@slidetitle{#1}%
8971 \fi
8972 \ifHy@hypertextnames
8973 \ifHy@naturalnames
8974 \hyper@@anchor{slideheading.\theslidesection}{\relax}%
8975 \Hy@writebookmark
8976 {\theslidesection}%
8977 {\Hy@slidetitle}%
8978 {slideheading.\theslidesection}%
8979 {1}%
8980 {toc}%
8981 \else
8982 \hyper@@anchor{slideheading.\theHslidesection}{\relax}%
8983 \Hy@writebookmark
8984 {\theslidesection}%
8985 {\Hy@slidetitle}%
8986 {slideheading.\theHslidesection}%
8987 {1}%
8988 {toc}%
8989 \fi
8990 \else
8991 \Hy@GlobalStepCount\Hy@linkcounter
8992 \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
8993 \Hy@writebookmark
8994 {\theslidesection}%
8995 {\Hy@slidetitle}%

```

```

8996     {slideheading.\the\Hy@linkcounter}%
8997     {1}%
8998     {toc}%
8999   \fi
9000 }%
9001 \def\slide@subheading[#1]#2{%
9002   \H@refstepcounter{slidesubsection}%
9003   \addtocontents{los}{%
9004     \protect\l@subslide{\the\c@slidesubsection}{\ignorespaces#1}%
9005     {\@SCTR}{slideheading.\theslidesubsection}%
9006   }%
9007   \def\Hy@tempa{#2}%
9008   \ifx\Hy@tempa\@empty
9009   \else
9010   {%
9011     \edef\@currentlabel{%
9012       \csname p@slidesubsection\endcsname\theslidesubsection
9013     }%
9014     \makeslidesubheading{#2}%
9015   }%
9016   \fi
9017   \gdef\theslidesubheading{#1}%
9018   \ifHy@bookmarksnumbered
9019     \def\Hy@slidetitle{\theslidesubsection\space #1}%
9020   \else
9021     \def\Hy@slidetitle{#1}%
9022   \fi
9023   \ifHy@hypertexnames
9024     \ifHy@naturalnames
9025       \hyper@@anchor{slideheading.\theslidesubsection}{\relax}%
9026       \Hy@writebookmark
9027         {\theslidesubsection}%
9028         {\Hy@slidetitle}%
9029         {slideheading.\theslidesubsection}%
9030         {2}%
9031         {toc}%
9032     \else
9033       \hyper@@anchor{slideheading.\theHslidesubsection}{\relax}%
9034       \Hy@writebookmark
9035         {\theslidesubsection}%
9036         {\Hy@slidetitle}%
9037         {slideheading.\theHslidesubsection}%
9038         {2}%
9039         {toc}%
9040     \fi
9041   \else
9042     \Hy@GlobalStepCount\Hy@linkcounter
9043     \hyper@@anchor{slideheading.\the\Hy@linkcounter}{\relax}%
9044     \Hy@writebookmark
9045     {\theslidesubsection}%

```

```

9046     {\Hy@slidetitle}%
9047     {slideheading.\the\Hy@linkcounter}%
9048     {1}%
9049     {toc}%
9050   \fi
9051 }%
9052 \providecommand*\listslidename{List of Slides}%
9053 \def\listofslides{%
9054   \section*{%
9055     \listslidename
9056     \@mkboth{%
9057       \expandafter\MakeUppercase\listslidename
9058     }{%
9059       \expandafter\MakeUppercase\listslidename
9060     }%
9061   }%
9062   \def\l@slide##1##2##3##4{%
9063     \slide@undottedcline{%
9064       \slidenumberline{##3}{\hyperlink{##4}{##2}}%
9065     }{}%
9066   }%
9067   \let\l@subslide\l@slide
9068   \@startlos
9069 }%
9070 \def\slide@contents{%
9071   \def\l@slide##1##2##3##4{%
9072     \slide@ccline{\slidenumberline{##3}{\hyperlink{##4}{##2}}}{##3}%
9073   }%
9074   \let\l@subslide\@gobblefour
9075   \@startlos
9076 }%
9077 \def\Slide@contents{%
9078   \def\l@slide##1##2##3##4{%
9079     \ifcase\lslide@flag
9080       \message{##1 ** \the\c@slidesection}%
9081       \ifnum##1>\c@slidesection
9082         \def\lslide@flag{1}%
9083         {%
9084           \large
9085           \slide@ccline{%
9086             \slidenumberline{\$\Rightarrow\bullet$}%
9087             {\hyperlink{##4}{##2}}%
9088           }{##3}%
9089         }%
9090       \else
9091         {%
9092           \large
9093           \slide@ccline{%
9094             \slidenumberline{\$\surd\;\bullet$}%
9095             {\hyperlink{##4}{##2}}%

```

```

9096     }{##3}%
9097     }%
9098     \fi
9099     \or
9100     \def\lslide@flag{2}%
9101     {%
9102     \large
9103     \slide@cline{%
9104     \slidnumberline{$\bullet$}%
9105     {\hyperlink{##4}{##2}}}%
9106     }{##3}%
9107     }%
9108     \or
9109     {%
9110     \large
9111     \slide@cline{%
9112     \slidnumberline{$\bullet$}%
9113     {\hyperlink{##4}{##2}}}%
9114     }{##3}%
9115     }%
9116     \fi
9117     }%
9118     \def\l@subslide##1##2##3##4{%
9119     \ifnum\lslide@flag=1 %
9120     \@undottedtocline{2}{3.8em}{3.2em}{\hyperlink{##4}{##2}}{}}%
9121     \fi
9122     }%
9123     \def\lslide@flag{0}%
9124     \@startlos
9125     }%
9126     }{}

```

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.)

```

9127 \ifHy@texht
9128 \expandafter\endinput
9129 \fi
9130 \let\real@setref\@setref
9131 \def\@setref#1#2#3{% csname, extract group, refname
9132 \ifx#1\relax
9133 \protect\G@refundefinedtrue
9134 \nfss@text{\reset@font\bfseries ??}%
9135 \@latex@warning{%
9136 Reference `#3' on page \thepage \space undefined%
9137 }%
9138 \else
9139 \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%
9140 \fi
9141 }

```

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

```

9142 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
9143 \begingroup
9144 \toks0={\hyper@@link{#5}{#4}}%
9145 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
9146 \edef\x{\endgroup
9147 \the\toks0 {\the\toks1 }}%
9148 }%
9149 \x
9150 }
9151 \def\@pagesetref#1#2#3{% csname, extract macro, ref
9152 \ifx#1\relax
9153 \protect\G@refundefinedtrue
9154 \nfss@text{\reset@font\bfseries ??}%
9155 \@latex@warning{%
9156 Reference `#3' on page \thepage \space undefined%
9157 }%
9158 \else
9159 \protect\hyper@@link
9160 {\expandafter\@fifthoffive#1}%
9161 {page.\expandafter\@secondoffive#1}%
9162 {\expandafter\@secondoffive#1}%
9163 \fi
9164 }

9165 </package>
9166 <*check>
9167 \checklatex
9168 \checkcommand\def\@setref#1#2#3{%
9169 \ifx#1\relax
9170 \protect\G@refundefinedtrue
9171 \nfss@text{\reset@font\bfseries ??}%
9172 \@latex@warning{%
9173 Reference `#3' on page \thepage\space undefined%
9174 }%
9175 \else
9176 \expandafter#2#1\null
9177 \fi
9178 }
9179 </check>
9180 <*package>

```

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

```

9181 \def\HyRef@StarSetRef#1{%
9182 \begingroup
9183 \Hy@safe@activestrue
9184 \edef\x{#1}%
9185 \@onelevel@sanitize\x

```

```

9186 \edef\x{\endgroup
9187 \noexpand\HyRef@@StarSetRef
9188 \expandafter\noexpand\csname r@\x\endcsname{\x}%
9189 }%
9190 \x
9191 }
9192 \def\HyRef@@StarSetRef#1#2#3{%
9193 \ifx#1\@undefined
9194 \let#1\relax
9195 \fi
9196 \real@setref#1#3{#2}%
9197 }
9198 \def\@refstar#1{%
9199 \HyRef@StarSetRef{#1}\@firstoffive
9200 }
9201 \def\@pagerefstar#1{%
9202 \HyRef@StarSetRef{#1}\@secondoffive
9203 }
9204 \def\@namerefstar#1{%
9205 \HyRef@StarSetRef{#1}\@thirdoffive
9206 }
9207
9208 \Hy@AtBeginDocument{%
9209 \@ifpackageloaded{varioref}{%
9210 \def\@Refstar#1{%
9211 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
9212 }%
9213 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
9214 \MakeUppercase#1%
9215 }%
9216 \DeclareRobustCommand*\@Ref}{%
9217 \@ifstar\@Refstar\HyRef@Ref
9218 }%
9219 \def\HyRef@Ref#1{%
9220 \hyperref[#{1}]{\Ref*{#1}}%
9221 }%

```

Test if we are running new 2019 varioref or old one:

```

9222 %FMi
9223 \ifdefined\vp@gerefstar
9224 \renewcommand\Vref@star[2][]{%
9225 \begingroup
9226 \let\T@pageref\@pagerefstar
9227 \Ref*{#2}
9228 \vpageref[#{1}]{#2}%
9229 \endgroup
9230 }%
9231 \renewcommand\Vr@f[2][]{%
9232 \begingroup
9233 \let\T@pageref\@pagerefstar

```

```

9234     \hyperref[#{2}]{%
9235     \Ref*{#2}
9236     \vpageref[#{1}]{#2}%
9237     }%
9238   \endgroup
9239 }%
9240 \renewcommand\vr@f[2][]{%
9241   \begingroup
9242   \let\T@pageref\@pagerefstar
9243   \hyperref[#{2}]{%
9244   \ref*{#2}
9245   \vpageref[#{1}]{#2}%
9246   }%
9247   \endgroup
9248 }%
9249 \renewcommand\vref@star[2][]{%
9250   \begingroup
9251   \let\T@pageref\@pagerefstar
9252   \ref*{#2}
9253   \vpageref[#{1}]{#2}%
9254   \endgroup
9255   }%

```

old varioref:

```

9256 \else
9257 \def\Vr@f#1{%
9258   \leavevmode\unskip\vref@space
9259   \hyperref[#{1}]{%
9260   \Ref*{#1}%
9261   \let\vref@space\nobreakspace
9262   \@vpageref[\unskip]{#1}%
9263   }%
9264 }%
9265 \def\vr@f#1{%
9266   \leavevmode\unskip\vref@space
9267   \begingroup
9268   \let\T@pageref\@pagerefstar
9269   \hyperref[#{1}]{%
9270   \ref*{#1}%
9271   \vpageref[\unskip]{#1}%
9272   }%
9273   \endgroup
9274 }%
9275 \fi
9276 %FMi -end mod
9277 }{}%
9278 }
9279
9280 \DeclareRobustCommand*\autopageref{%
9281   \@ifstar{%

```

```

9282 \HyRef@autopagerefname\pageref*%
9283 }\HyRef@autopageref
9284 }
9285 \def\HyRef@autopageref#1{%
9286 \hyperref[#{1}]{\HyRef@autopagerefname\pageref*{#1}}%
9287 }
9288 \def\HyRef@autopagerefname{%
9289 \ltx@ifundefined{pageautorefname}{%
9290 \ltx@ifundefined{pagename}{%
9291 \Hy@Warning{No autoref name for `page'}%
9292 }{%
9293 \pagename\nobreakspace
9294 }%
9295 }{%
9296 \pageautorefname\nobreakspace
9297 }%
9298 }

```

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

```

9299 \DeclareRobustCommand*\autoref{%
9300 \leavevmode
9301 \@ifstar{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}%
9302 }
9303 \def\HyRef@autoref#1#2{%
9304 \begingroup
9305 \Hy@safe@activetrue
9306 \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
9307 \endgroup
9308 }
9309 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
9310 \HyRef@ShowKeysRef{#2}%
9311 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
9312 \edef\HyRef@thisref{%
9313 \expandafter\@fourthoffive#1\@empty\@empty\@empty
9314 }%
9315 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
9316 \Hy@safe@activesfalse
9317 #3{%
9318 \expandafter\@fifthoffive#1\@empty\@empty\@empty
9319 }{%
9320 \expandafter\@fourthoffive#1\@empty\@empty\@empty
9321 }{%
9322 \HyRef@currentHtag
9323 \expandafter\@firstoffive#1\@empty\@empty\@empty
9324 \null
9325 }%
9326 \else
9327 \protect\G@refundefinedtrue
9328 \nfss@text{\reset@font\bfseries ??}%

```

```

9329 \@latex@warning{%
9330   Reference `#2' on page \thepage\space undefined%
9331 }%
9332 \fi
9333 }
9334 \def\HyRef@testreftype#1.#2\{\%
9335 \ltx@ifundefined{#1autorefname}\%
9336 \ltx@ifundefined{#1name}\%
9337 \HyRef@StripStar#1\*\@nil{#1}%
9338 \ltx@ifundefined{\HyRef@name autorefname}\%
9339 \ltx@ifundefined{\HyRef@name name}\%
9340 \def\HyRef@currentHtag{\%
9341 \Hy@Warning{No autoref name for `#1'}%
9342 }{\%
9343 \edef\HyRef@currentHtag{\%
9344 \expandafter\noexpand\csname\HyRef@name name\endcsname
9345 \noexpand~%
9346 }%
9347 }%
9348 }{\%
9349 \edef\HyRef@currentHtag{\%
9350 \expandafter\noexpand
9351 \csname\HyRef@name autorefname\endcsname
9352 \noexpand~%
9353 }%
9354 }%
9355 }{\%
9356 \edef\HyRef@currentHtag{\%
9357 \expandafter\noexpand\csname#1name\endcsname
9358 \noexpand~%
9359 }%
9360 }%
9361 }{\%
9362 \edef\HyRef@currentHtag{\%
9363 \expandafter\noexpand\csname#1autorefname\endcsname
9364 \noexpand~%
9365 }%
9366 }%
9367 }
9368 \def\HyRef@StripStar#1*\#2\@nil#3{\%
9369 \def\HyRef@name{#2}%
9370 \ifx\HyRef@name\HyRef@CaseStar
9371 \def\HyRef@name{#1}%
9372 \else
9373 \def\HyRef@name{#3}%
9374 \fi
9375 }
9376 \def\HyRef@CaseStar{*}
9377 \def\HyRef@currentHtag{}

```

Support for package showkeys.

`\HyRef@ShowKeysRef`

```
9378 \let\HyRef@ShowKeysRef\@gobble
9379 \def\HyRef@ShowKeysInit{%
9380 \begingroup\expandafter\expandafter\expandafter\endgroup
9381 \expandafter\ifx\csname SK@@label\endcsname\relax
9382 \else
9383 \ifx\SK@ref\@empty
9384 \else
9385 \def\HyRef@ShowKeysRef{%
9386 \SK@\SK@@ref
9387 }%
9388 \fi
9389 \fi
9390 }
9391 \@ifpackageloaded{showkeys}{%
9392 \HyRef@ShowKeysInit
9393 }{%
9394 \Hy@AtBeginDocument{%
9395 \@ifpackageloaded{showkeys}{%
9396 \HyRef@ShowKeysInit
9397 }{}}%
9398 }%
9399 }
```

Defaults for the names that `\autoref` uses.

```
9400 \providecommand*\AMSautorefname{\equationautorefname}
9401 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
9402 \providecommand*\Itemautorefname{\itemautorefname}
9403 \providecommand*\itemautorefname{item}
9404 \providecommand*\equationautorefname{Equation}
9405 \providecommand*\footnoteautorefname{footnote}
9406 \providecommand*\itemautorefname{item}
9407 \providecommand*\figureautorefname{Figure}
9408 \providecommand*\tableautorefname{Table}
9409 \providecommand*\partautorefname{Part}
9410 \providecommand*\appendixautorefname{Appendix}
9411 \providecommand*\chapterautorefname{chapter}
9412 \providecommand*\sectionautorefname{section}
9413 \providecommand*\subsectionautorefname{subsection}
9414 \providecommand*\subsubsectionautorefname{subsubsection}
9415 \providecommand*\paragraphautorefname{paragraph}
9416 \providecommand*\subparagraphautorefname{subparagraph}
9417 \providecommand*\FancyVerbLineautorefname{line}
9418 \providecommand*\theoremautorefname{Theorem}
9419 \providecommand*\pageautorefname{page}
9420 </package>
```

## 47 Configuration files

### 47.1 PS/PDF strings

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

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

```
9421 <*pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
9422 \begingroup\expandafter\expandafter\expandafter\endgroup
9423 \expandafter\ifx\curname pdf@escapestring\endcurname\relax
9424 \begingroup
9425 \catcode`\|=0 %
9426 \@makeother\|%
9427 |@firstofone{|endgroup
9428 |def|Hy@pstringdef#1#2{%
9429 |begingroup
9430 |edef~{|string~}%
9431 |xdef|Hy@gtemp{#2}%
9432 |endgroup
9433 |let#1|Hy@gtemp
9434 |@onelevel@sanitize#1%
9435 |edef#1{|expandafter|Hy@ExchangeBackslash#1|@nil}%
9436 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
9437 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1)|@nil}%
9438 }%
9439 |def|Hy@ExchangeBackslash#1\#2|@nil{%
9440 #1%
9441 |ifx|\#2|\%
9442 |else
9443 \|%
9444 |ltx@ReturnAfterFi{%
9445 |Hy@ExchangeBackslash#2|@nil
9446 }%
9447 |fi
9448 }%
9449 }%
9450 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
9451 #1%
9452 \ifx\#2\%
9453 \else
9454 \@backslashchar(%
9455 \ltx@ReturnAfterFi{%
9456 \Hy@ExchangeLeftParenthesis#2\@nil
9457 }%
9458 \fi
```

```

9459 }%
9460 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
9461   #1%
9462   \ifx\\#2\\%
9463   \else
9464     \@backslashchar)%
9465     \ltx@ReturnAfterFi{%
9466       \Hy@ExchangeRightParenthesis#2\@nil
9467     }%
9468   \fi
9469 }%
9470 \else
9471 \def\Hy@pstringdef#1#2{%
9472   \begingroup
9473   \edef~{\string~}%
9474   \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
9475   \endgroup
9476   \let#1\Hy@gtemp
9477 }%
9478 \fi
9479 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

## 47.2 pdfTeX

```

9480 <*pdfTeX>
9481 \providecommand*\XR@ext}{pdf}
9482 \Hy@setbreaklinks{true}
9483 \def\HyPat@ObjRef{%
9484   [0-9]*[1-9][0-9]* 0 R%
9485 }

```

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`

```

9486 \let\Hy@pdfminorversion\relax
9487 \begingroup\expandafter\expandafter\expandafter\endgroup
9488 \expandafter\ifx\cscname pdfminorversion\endcsname\relax
9489 \begingroup\expandafter\expandafter\expandafter\endgroup
9490 \expandafter\ifx\cscname pdfoptionpdfminorversion\endcsname\relax
9491 \else
9492   \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
9493 \fi
9494 \else
9495   \def\Hy@pdfminorversion{\pdfminorversion}%
9496 \fi

```

```

9497 \@ifundefined{Hy@pdfminorversion}{%
9498   \PackageInfo{hyperref}{%
9499     PDF version is not set, because pdfTeX is too old (<1.10a)%
9500   }%
9501 }{%
9502   \ifHy@ocgcolorlinks
9503     \ifnum\Hy@pdfmajorminor@version<105 %
9504       \kvsetkeys{Hyp}{pdfversion=1.5}%
9505     \fi
9506   \fi
9507   \ifHy@setpdfversion
9508     \ifnum\Hy@pdf@majorminor@version<105 %
9509       \ltx@ifundefined{pdfobjcompresslevel}{%
9510         }{%
9511           \ifHy@verbose
9512             \Hy@InfoNoLine{%
9513               PDF object streams are disabled, because they are%
9514               \MessageBreak
9515               not supported in requested PDF version %
9516               \Hy@pdf@majorversion.\Hy@pdf@minorversion
9517             }%
9518           \fi
9519           \pdfobjcompresslevel=\ltx@zero
9520         }%
9521       \fi
9522     \ifnum\Hy@pdfmajorminor@version=\Hy@pdf@majorminor@version\relax
9523   \else
9524     \let\Hy@temp\ltx@empty
9525     \def\Hy@temp@A#1#2{%
9526       \ifnum#1>\ltx@zero
9527         \edef\Hy@temp{%
9528           \Hy@temp
9529           \space\space
9530           \the#1\space #2%
9531         \ifnum#1=\ltx@one\else s\fi
9532         \MessageBreak
9533       }%
9534     \fi
9535   }%
9536   \Hy@temp@A\pdflastobj{PDF object}%
9537   \Hy@temp@A\pdflastxform{form XObject}%
9538   \Hy@temp@A\pdflastximage{image XObject}%
9539   \Hy@temp@A\pdflastannot{annotation}%
9540   \ltx@ifundefined{pdflastlink}{%
9541     }{%
9542     \Hy@temp@A\pdflastlink{link}%
9543   }%
9544   \ifx\Hy@temp\ltx@empty
9545     \Hy@pdfmajorversion=\Hy@pdf@majorversion\relax
9546     \Hy@pdfminorversion=\Hy@pdf@minorversion\relax

```

```

9547 \else
9548 \let\Hy@temp@A\ltx@empty
9549 \ifnum\Hy@pdf@majorminor@version=104 %
9550 \IfFileExists{pdf14.sty}{%
9551 \def\Hy@temp@A{%
9552 \MessageBreak
9553 Or \string\RequirePackage{pdf14} can be used%
9554 \MessageBreak
9555 before \string\documentclass\space as shortcut%
9556 }%
9557 }{}%
9558 \fi
9559 \Hy@WarningNoLine{%
9560 The PDF version number could not be set,\MessageBreak
9561 because some PDF objects are already written:%
9562 \MessageBreak
9563 \Hy@temp
9564 The version should be set as early as possible:%
9565 \MessageBreak
9566 \space\space
9567 \expandafter\string\Hy@pdfmajorversion=\Hy@pdf@majorversion, %
9568 \expandafter\string\Hy@pdfminorversion=\Hy@pdf@minorversion
9569 \string\relax
9570 \ifnum\Hy@pdf@majorminor@version<105 %
9571 \ltx@ifundefined{pdfobjcompresslevel}{%
9572 }{%
9573 \MessageBreak
9574 \space\space
9575 \string\pdfobjcompresslevel=0\string\relax
9576 }%
9577 \fi
9578 \Hy@temp@A
9579 }%
9580 \fi
9581 \fi
9582 \PackageInfo{hyperref}{%
9583 \expandafter\string\Hy@pdfmajorversion.%
9584 \expandafter\string\Hy@pdfminorversion
9585 :=\number\Hy@pdf@majorversion.\number\Hy@pdf@minorversion\space
9586 }%
9587 \fi
9588 \edef\Hy@pdf@majorversion{\number\Hy@pdfmajorversion}%
9589 \edef\Hy@pdf@minorversion{\number\Hy@pdfminorversion}%
9590 }
9591 \Hy@DisableOption{pdfversion}%
9592 \ifHy@ocgcolorlinks
9593 \pdf@ifdraftmode{}{%
9594 \immediate\pdfobj{%
9595 <<%

```

```

9596 /Type/OCG%
9597 /Name(View)%
9598 /Usage<<%
9599 /Print<<%
9600 /PrintState/OFF%
9601 >>%
9602 /View<<%
9603 /ViewState/ON%
9604 >>%
9605 >>%
9606 >>%
9607 }%
9608 \edef\OBJ@OCG@view{\the\pdfflastobj\space 0 R}%
9609 \immediate\pdfobj{%
9610 <<%
9611 /Type/OCG%
9612 /Name(Print)%
9613 /Usage<<%
9614 /Print<<%
9615 /PrintState/ON%
9616 >>%
9617 /View<<%
9618 /ViewState/OFF%
9619 >>%
9620 >>%
9621 >>%
9622 }%
9623 \edef\OBJ@OCG@print{\the\pdfflastobj\space 0 R}%
9624 \immediate\pdfobj{%
9625 [%
9626 \OBJ@OCG@view\space\OBJ@OCG@print
9627 ]%
9628 }%
9629 \edef\OBJ@OCGs{\the\pdfflastobj\space 0 R}%
9630 \pdfcatalog{%
9631 /OCProperties<<%
9632 /OCGs \OBJ@OCGs
9633 /D<<%
9634 /OFF[\OBJ@OCG@print]%
9635 /AS[%
9636 <<%
9637 /Event/View%
9638 /OCGs \OBJ@OCGs
9639 /Category[/View]%
9640 >>%
9641 <<%
9642 /Event/Print%
9643 /OCGs \OBJ@OCGs
9644 /Category[/Print]%
9645 >>%

```

```

9646     <<%
9647         /Event/Export%
9648         /OCGs \OBJ@OCGs
9649         /Category[/Print]%
9650     >>%
9651     ]%
9652     >>%
9653     >>%
9654     }%
9655     \begingroup
9656     \edef\x{\endgroup
9657     \pdfpageresources{%
9658     \the\pdfpageresources
9659     /Properties<<%
9660     /OCView \OBJ@OCG@view
9661     /OCPrint \OBJ@OCG@print
9662     >>%
9663     }%
9664     }%
9665     \x
9666     }%
9667     \Hy@AtBeginDocument{%
9668     \def\Hy@colorlink#1{%
9669     \begingroup
9670     \ifHy@ocgcolorlinks
9671     \def\Hy@ocgcolor{#1}%
9672     \setbox0=\hbox\bgroup\color@begingroup
9673     \else
9674     \HyColor@UseColor#1%
9675     \fi
9676     }%
9677     \def\Hy@endcolorlink{%
9678     \ifHy@ocgcolorlinks
9679     \color@endgroup\egroup
9680     \mbox{%
9681     \pdfliteral page{/OC/OCPrint BDC}%
9682     \rlap{\copy0}%
9683     \pdfliteral page{EMC/OC/OCView BDC}%
9684     \begingroup
9685     \expandafter\HyColor@UseColor\Hy@ocgcolor
9686     \box0 %
9687     \endgroup
9688     \pdfliteral page{EMC}%
9689     }%
9690     \fi
9691     \endgroup
9692     }%
9693     }%
9694     \else
9695     \Hy@DisableOption{ocgcolorlinks}%

```

```
9696 \fi
```

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

```
9697 \def\setpdfinkmargin#1{%
9698   \begingroup
9699   \setlength{\dimen@}{#1}%
9700   \expandafter\endgroup
9701   \expandafter\pdfinkmargin\the\dimen@\relax
9702 }
9703 \ifx\pdfstartlink\@undefined% less than version 14
9704   \let\pdfstartlink\pdfannotlink
9705   \let\pdfinkmargin\@tempdima
9706   \let\pdfxform\pdfform
9707   \let\pdflastxform\pdfastform
9708   \let\pdfrefxform\pdfrefform
9709 \else
9710   \pdfinkmargin1pt %
9711 \fi
```

First set up the default linking

```
9712 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```
9713 \Hy@WrapperDef\new@pdfink#1{%
9714   \ifhmode
9715     \@savsf\spacefactor
9716   \fi
9717   \Hy@SaveLastskip
9718   \Hy@VerboseAnchor{#1}%
9719   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9720   \Hy@DestName\Hy@pstringDest\@pdfview
9721   \Hy@RestoreLastskip
9722   \ifhmode
9723     \spacefactor\@savsf
9724   \fi
9725 }
9726 \let\pdf@endanchor\@empty
```

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

```
9727 \def\Hy@DestName#1#2{%
9728   \pdfdest name{#1}#2\relax
9729 }
```

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.

```
9730 \providecommand*\@pdfborder{0 0 1}
9731 \providecommand*\@pdfborderstyle{}
```

```

9732 \def\Hy@undefinedname{UNDEFINED}
9733 \def\find@pdfink#1#2{%
9734   \leavevmode
9735   \protected@edef\Hy@testname{#2}%
9736   \ifx\Hy@testname\@empty
9737     \Hy@Warning{%
9738       Empty destination name,\MessageBreak
9739       using ` \Hy@undefinedname'%
9740     }%
9741     \let\Hy@testname\Hy@undefinedname
9742   \else
9743     \Hy@pstringdef\Hy@testname{%
9744       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
9745     }%
9746   \fi
9747   \Hy@StartlinkName{%
9748     \ifHy@pdfa /F 4\fi
9749     \Hy@setpdfborder
9750     \Hy@setpdfhighlight
9751     \ifx\CurrentBorderColor\relax
9752     \else
9753       /C[\CurrentBorderColor]%
9754     \fi
9755   }\Hy@testname
9756   \expandafter\Hy@colorlink\csname @#1color\endcsname
9757 }
9758 \def\Hy@StartlinkName#1#2{%
9759   \pdfstartlink attr{#1}goto name{#2}\relax
9760 }
9761 \def\close@pdfink{%
9762   \Hy@endcolorlink
9763   \Hy@VerboseLinkStop
9764   \pdfendlink
9765 }
9766 \def\hyper@anchor#1{%
9767   \new@pdfink{#1}\anchor@spot\pdf@endanchor
9768 }
9769 \def\hyper@anchorstart#1{%
9770   \new@pdfink{#1}%
9771   \Hy@activeanchortrue
9772 }
9773 \def\hyper@anchorend{%
9774   \pdf@endanchor
9775   \Hy@activeanchorfalse
9776 }
9777 \def\hyper@linkstart#1#2{%
9778   \Hy@VerboseLinkStart{#1}{#2}%
9779   \ltx@ifundefined{@#1bordercolor}{%
9780     \let\CurrentBorderColor\relax
9781   }{%

```

```

9782 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9783 }%
9784 \find@pdfink{#1}{#2}%
9785 }
9786 \def\hyper@linkend{\close@pdfink}
9787 \def\hyper@link#1#2#3{%
9788 \Hy@VerboseLinkStart{#1}{#2}%
9789 \ltx@ifundefined{@#1bordercolor}{%
9790 \let\CurrentBorderColor\relax
9791 }{%
9792 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9793 }%
9794 \find@pdfink{#1}{#2}#3\Hy@xspace@end
9795 \close@pdfink
9796 }
9797 \let\CurrentBorderColor\@linkbordercolor
9798 \def\hyper@linkurl#1#2{%
9799 \begingroup
9800 \Hy@pstringdef\Hy@pstringURI{#2}%
9801 \hyper@chars
9802 \leavevmode
9803 \pdfstartlink
9804 attr{%
9805 \Hy@setpdfborder
9806 \Hy@setpdfhighlight
9807 \ifx\@urlbordercolor\relax
9808 \else
9809 /C[\@urlbordercolor]%
9810 \fi
9811 }%
9812 user{%
9813 /Subtype/Link%
9814 \ifHy@pdfa /F 4\fi
9815 /A<<%
9816 /Type/Action%
9817 /S/URI%
9818 /URI(\Hy@pstringURI)%
9819 \ifHy@href@ismap
9820 /IsMap true%
9821 \fi
9822 \Hy@href@nextactionraw
9823 >>%
9824 }%
9825 \relax
9826 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9827 \close@pdfink
9828 \endgroup
9829 }
9830 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
9831 \begingroup

```

```

9832 \def\Hy@pstringF{#2}%
9833 \Hy@CleanupFile\Hy@pstringF
9834 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9835 \Hy@pstringdef\Hy@pstringD{#3}%
9836 \Hy@MakeRemoteAction
9837 \leavevmode
9838 \pdfstartlink
9839 attr{%
9840   \Hy@setpdfborder
9841   \Hy@setpdfhighlight
9842   \ifx\@filebordercolor\relax
9843   \else
9844     /C[\@filebordercolor]%
9845   \fi
9846 }%
9847 user {%
9848   /Subtype/Link%
9849   \ifHy@pdfa /F 4\fi
9850   /A<<%
9851   /F(\Hy@pstringF)%
9852   /S/GoToR%
9853   \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!{%
\if\xxx#1\xxx
  foo was an integer
\else
  it wasnt
\fi}

9854   \ifx\#3\%
9855     /D[\Hy@href@page\@pdfremotestartview]%
9856   \else
9857     /D(\Hy@pstringD)%
9858   \fi
9859   \Hy@href@nextactionraw
9860   >>%
9861 }%
9862 \relax
9863 \Hy@colorlink\@filecolor#1\Hy@xspace@end
9864 \close@pdflink
9865 \endgroup
9866 }
9867 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
9868 \begingroup

```

```

9869 \Hy@pstringdef\Hy@pstringF{#1}%
9870 \Hy@pstringdef\Hy@pstringP{#3}%
9871 \leavevmode
9872 \pdfstartlink
9873   attr{%
9874     \Hy@setpdfborder
9875     \Hy@setpdfhighlight
9876     \ifx\@runbordercolor\relax
9877     \else
9878       /C[\@runbordercolor]%
9879     \fi
9880   }%
9881   user {%
9882     /Subtype/Link%
9883     \ifHy@pdfa /F 4\fi
9884     /A<<%
9885       /F(\Hy@pstringF)%
9886       /S/Launch%
9887       \Hy@SetNewWindow
9888       \ifx\#3\%
9889       \else
9890         /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9891       \fi
9892       \Hy@href@nextactionraw
9893     >>%
9894   }%
9895   \relax
9896   \Hy@colorlink\@runcolor#2\Hy@xspace@end
9897   \close@pdflink
9898 \endgroup
9899 }

```

\PDF@SetupDox

```

9900 \def\PDF@SetupDoc{%
9901   \ifx\@pdfpagescrop\@empty
9902   \else
9903     \edef\process@me{%
9904       \pdfpagesattr={%
9905         /CropBox[\@pdfpagescrop]%
9906         \expandafter\ifx\expandafter\the\pdfpagesattr\%
9907       \else
9908         ^~J\the\pdfpagesattr
9909       \fi
9910     }%
9911   }%
9912   \process@me
9913 \fi
9914 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9915 \pdfcatalog{%
9916   /PageMode/\@pdfpagemode

```

```

9917 \ifx\@baseurl\@empty
9918 \else
9919 /URI<</Base(\Hy@pstringB)>>%
9920 \fi
9921 }%
9922 \ifx\@pdfstartpage\@empty
9923 \else
9924 \ifx\@pdfstartview\@empty
9925 \else
9926 openaction goto page\@pdfstartpage{\@pdfstartview}%
9927 \fi
9928 \fi
9929 \edef\Hy@temp{%
9930 \ifHy@pdftoolbar\else /HideToolbar true\fi
9931 \ifHy@pdfmenubar\else /HideMenubar true\fi
9932 \ifHy@pdfwindowui\else /HideWindowUI true\fi
9933 \ifHy@pdffitwindow /FitWindow true\fi
9934 \ifHy@pdfcenterwindow /CenterWindow true\fi
9935 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9936 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9937 \Hy@UseNameKey{Direction}\@pdfdirection
9938 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9939 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9940 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9941 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9942 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9943 \Hy@UseNameKey{Duplex}\@pdfduplex
9944 \ifx\@pdfpicktraybypdfsize\@empty
9945 \else
9946 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9947 \fi
9948 \ifx\@pdfprintpagerange\@empty
9949 \else
9950 /PrintPageRange[\@pdfprintpagerange]%
9951 \fi
9952 \ifx\@pdfnumcopies\@empty
9953 \else
9954 /NumCopies \@pdfnumcopies
9955 \fi
9956 }%
9957 \pdfcatalog{%
9958 \ifx\Hy@temp\@empty
9959 \else
9960 /ViewerPreferences<<\Hy@temp>>%
9961 \fi
9962 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9963 \ifx\@pdflang\relax
9964 \else
9965 /Lang(\@pdflang)%
9966 \fi

```

```
9967 }%
9968 }
```

`\PDF@FinishDoc`

```
9969 \def\PDF@FinishDoc{%
9970 \pdf@ifdraftmode{-%
9971 \Hy@UseMaketitleInfos
9972 \HyInfo@GenerateAddons
9973 \pdfinfo{%
9974 /Author(\@pdfauthor)%
9975 /Title(\@pdftitle)%
9976 /Subject(\@pdfsubject)%
9977 /Creator(\@pdfcreator)%
9978 \ifx\@pdfcreationdate\@empty
9979 \else
9980 /CreationDate(\@pdfcreationdate)%
9981 \fi
9982 \ifx\@pdfmoddate\@empty
9983 \else
9984 /ModDate(\@pdfmoddate)%
9985 \fi
9986 \ifx\@pdfproducer\relax
9987 \else
9988 /Producer(\@pdfproducer)%
9989 \fi
9990 /Keywords(\@pdfkeywords)%
9991 \ifx\@pdftrapped\@empty
9992 \else
9993 /Trapped/\@pdftrapped
9994 \fi
9995 \HyInfo@Addons
9996 }%
9997 }%
9998 \Hy@DisableOption{pdfauthor}%
9999 \Hy@DisableOption{pdftitle}%
10000 \Hy@DisableOption{pdfsubject}%
10001 \Hy@DisableOption{pdfcreator}%
10002 \Hy@DisableOption{addtopdfcreator}%
10003 \Hy@DisableOption{pdfcreationdate}%
10004 \Hy@DisableOption{pdfmoddate}%
10005 \Hy@DisableOption{pdfproducer}%
10006 \Hy@DisableOption{pdfkeywords}%
10007 \Hy@DisableOption{pdftrapped}%
10008 \Hy@DisableOption{pdfinfo}%
10009 }
```

`\hyper@pagetransition` `\@pdfpagetransition` is initialized with `\relax`. So it indicates, if option `pdfpagetransition` is used. First previous `/Trans` entries are removed. If a new `/Trans` key exists, it is appended to `\pdfpageattr`.

```

10010 \def\hyper@pagetransition{%
10011 \ifx\@pdfpagetransition\relax
10012 \else
10013 \expandafter\Hy@RemoveTransPageAttr
10014 \the\pdfpageattr^^J/Trans{}>>\END
10015 \ifx\@pdfpagetransition\@empty
10016 \else
10017 \edef\@processme{%
10018 \global\pdfpageattr{%
10019 \the\pdfpageattr
10020 ^^J/Trans << /S /\@pdfpagetransition\space >>%
10021 }%
10022 }%
10023 \@processme
10024 \fi
10025 \fi
10026 }

```

`\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.

```

10027 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
10028 \ifx\#2\%
10029 \global\pdfpageattr{#1}%
10030 \else
10031 \Hy@RemoveTransPageAttr#1#4\END
10032 \fi
10033 }

```

`\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`.

```

10034 \def\hyper@pageduration{%
10035 \ifx\@pdfpageduration\relax
10036 \else
10037 \expandafter
10038 \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
10039 \ifx\@pdfpageduration\@empty
10040 \else
10041 \edef\@processme{%
10042 \global\pdfpageattr{%
10043 \the\pdfpageattr
10044 ^^J/Dur \@pdfpageduration\space
10045 }%
10046 }%
10047 \@processme
10048 \fi

```

```
10049 \fi
10050 }
```

`\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.

```
10051 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
10052 \ifx\#2\%
10053 \global\pdfpageattr{#1}%
10054 \else
10055 \Hy@RemoveDurPageAttr#1#4\END
10056 \fi
10057 }
```

`\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).

```
10058 \def\hyper@pagehidden{%
10059 \ifHy@useHidKey
10060 \expandafter
10061 \Hy@RemoveHidPageAttr\the\pdfpageattr^^J/Hid{} \END
10062 \ifHy@pdfpagehidden
10063 \edef\@processme{%
10064 \global\pdfpageattr{%
10065 \the\pdfpageattr
10066 ^^J/Hid true % SPACE
10067 }%
10068 }%
10069 \@processme
10070 \fi
10071 \fi
10072 }
```

`\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.

```
10073 \gdef\Hy@RemoveHidPageAttr#1^^J/Hid#2#3 #4\END{%
10074 \ifx\#2\%
10075 \global\pdfpageattr{#1}%
10076 \else
10077 \Hy@RemoveHidPageAttr#1#4\END
10078 \fi
10079 }
```

```
10080 \pdf@ifdraftmode{}{%
10081 \g@addto@macro\Hy@EveryPageHook{%
10082 \hyper@pagetransition
```

```

10083 \hyper@pageduration
10084 \hyper@pagehidden
10085 }%
10086 }

```

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

```

10087 </pdftex>
10088 <*pdftex|xetex>
10089 \Hy@AtBeginDocument{%
10090 \ifHy@setpagesize
10091 \expandafter\@firstofone
10092 \else
10093 \expandafter\@gobble
10094 \fi
10095 {%
10096 \@ifclassloaded{seminar}{%
10097 <*pdftex>
10098 \setlength{\pdfhorigin}{1truein}%
10099 \setlength{\pdfvorigin}{1truein}%
10100 </pdftex>
10101 \ifportrait
10102 \ifdim\paperwidth=\z@
10103 \else
10104 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
10105 \fi
10106 \ifdim\paperheight=\z@
10107 \else
10108 \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
10109 \fi
10110 \else
10111 \ifdim\paperheight=\z@
10112 \else
10113 \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
10114 \fi
10115 \ifdim\paperwidth=\z@
10116 \else
10117 \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
10118 \fi
10119 \fi
10120 }{%
10121 \ltx@ifundefined{stockwidth}{%
10122 \ifdim\paperwidth>\z@
10123 \setlength{\pdfpagewidth}{\paperwidth}%
10124 \fi
10125 \ifdim\paperheight>\z@
10126 \setlength{\pdfpageheight}{\paperheight}%
10127 \fi
10128 }{%
10129 \ifdim\stockwidth>\z@

```

```

10130     \setlength{\pdfpagewidth}{\stockwidth}%
10131     \fi
10132     \ifdim\stockheight>\z@
10133     \setlength{\pdfpageheight}{\stockheight}%
10134     \fi
10135   }%
10136 }%
10137 }%
10138 \Hy@DisableOption{setpagesize}%
10139 }
10140 </pdftex | xetex>
10141 <*pdftex>
10142 \def\Acrobatmenu#1#2{%
10143 \Hy@Acrobatmenu{#1}{#2}{%
10144 \leavevmode
10145 \EdefEscapeName\Hy@temp@menu{#1}%
10146 \pdfstartlink
10147 attr{%
10148 \Hy@setpdfborder
10149 \Hy@setpdfhighlight
10150 \ifx\@menubordercolor\relax
10151 \else
10152 /C[\@menubordercolor]%
10153 \fi
10154 }%
10155 user{%
10156 /Subtype/Link%
10157 \ifHy@pdfa /F 4\fi
10158 /A<<%
10159 /S/Named%
10160 /N/\Hy@temp@menu
10161 \Hy@href@nextactionraw
10162 >>%
10163 }%
10164 \relax
10165 \Hy@colorlink\@menucolor#2%
10166 \close@pdflink
10167 }%
10168 }

```

### 47.2.1 Fix for problem with different nesting levels

`\AtBeginShipoutFirst` adds an additional box layer around the first output page. This disturbs pdfTeX's low level link commands `\pdfstartlink` and `\pdfendlink`, if a link is broken across the first and second output page.

The problem could be fixed by replacing `\AtBeginShipoutFirst`, because the box layer is not necessary for pdfTeX—no `\specials` need to be inserted. However it's easier to add an additional box level for the pages after the first one. Also `\AtBeginShipoutFirst` could be invoked independently from `hyperref`.

Since version 2011/10/05 v1.16 of package ‘atbegshi’ `\AtBeginShipoutFirst` does not add a additional box layer.

```
10169 \def\Hy@FixNotFirstPage{%
10170 \gdef\Hy@FixNotFirstPage{%
10171 \setbox\AtBeginShipoutBox=\hbox{%
10172 \copy\AtBeginShipoutBox
10173 }%
10174 }%
10175 }
10176 \ltx@ifpackagelater{atbegshi}{2011/10/05}{%
10177 }{%
10178 \AtBeginShipout{\Hy@FixNotFirstPage}%
10179 }
10180 </pdftex>
```

### 47.3 hypertex

The HyperTeX specification (this is borrowed from an article by Arthur Smith) says that conformant viewers/translators must recognize the following set of `\special` commands:

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

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

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

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

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

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

The *href* and *name* commands must be paired with an *end* command later in the TeX file — the TeX commands between the two ends of a pair form an *anchor* in the document. In the case of an *href* command, the *anchor* is to be highlighted in the *dvi* viewer, and when clicked on will cause the scene to shift to the destination specified by *href\_string*. The *anchor* associated with a name command represents a possible location to which other hypertext links may refer, either as local references (of the form `href="#name_string"` with the *name\_string* identical to the one in the name command) or as part of a URL (of the form `URL#name_string`). Here *href\_string* is a valid URL or local identifier, while *name\_string* could be any string at all: the only caveat is that ‘” characters

should be escaped with a backslash (\), and if it looks like a URL name it may cause problems.

```
10181 <*hypertext>
10182 \providecommand*\XR@ext}{dvi}
10183 \let\PDF@FinishDoc\ltx@empty
10184 \def\PDF@SetupDoc{%
10185   \ifx\@baseurl\@empty
10186   \else
10187     \special{html:<base href="\@baseurl">}%
10188   \fi
10189 }
10190 \Hy@WrapperDef\hyper@anchor#1{%
10191   \Hy@SaveLastskip
10192   \Hy@VerboseAnchor{#1}%
10193   \begingroup
10194     \let\protect=\string
10195     \hyper@chars
10196     \special{html:<a name=%
10197       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10198   \endgroup
10199   \Hy@activeanchortrue
10200   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10201   \special{html:</a>}%
10202   \Hy@activeanchorfalse
10203   \Hy@RestoreLastskip
10204 }
10205 \Hy@WrapperDef\hyper@anchorstart#1{%
10206   \Hy@SaveLastskip
10207   \Hy@VerboseAnchor{#1}%
10208   \begingroup
10209     \hyper@chars
10210     \special{html:<a name=%
10211       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10212   \endgroup
10213   \Hy@activeanchortrue
10214 }
10215 \def\hyper@anchorend{%
10216   \special{html:</a>}%
10217   \Hy@activeanchorfalse
10218   \Hy@RestoreLastskip
10219 }
10220 \def\@urltype{url}
10221 \def\hyper@linkstart#1#2{%
10222   \Hy@VerboseLinkStart{#1}{#2}%
10223   \expandafter\Hy@colorlink\csname @#1color\endcsname
10224   \def\Hy@tempa{#1}%
10225   \ifx\Hy@tempa\@urltype
10226     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10227   \else
```

```

10228 \begingroup
10229 \hyper@chars
10230 \special{html:<a href=%
10231 \hyper@quote\#\Hy@DestNameFilter{#2}\hyper@quote>}%
10232 \endgroup
10233 \fi
10234 }
10235 \def\hyper@linkend{%
10236 \special{html:</a>}%
10237 \Hy@endcolorlink
10238 }
10239 \def\hyper@linkfile#1#2#3{%
10240 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
10241 }
10242 \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.

```

10243 \leavevmode
10244 \ifHy@raiselinks
10245 \Hy@SaveSpaceFactor
10246 \Hy@SaveSavedSpaceFactor
10247 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
10248 \Hy@RestoreSavedSpaceFactor
10249 \@linkdim\dp\@tempboxa
10250 \lower\@linkdim\hbox{%
10251 \hyper@chars
10252 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10253 }%
10254 \Hy@colorlink\@urlcolor
10255 \Hy@RestoreSpaceFactor
10256 #1%
10257 \Hy@SaveSpaceFactor
10258 \@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).

```

10259 \advance\@linkdim by -6.5\p@
10260 \raise\@linkdim\hbox{\special{html:</a>}}%
10261 \Hy@endcolorlink
10262 \Hy@RestoreSpaceFactor
10263 \else
10264 \begingroup
10265 \hyper@chars
10266 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
10267 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
10268 \special{html:</a>}%
10269 \Hy@endcolorlink

```

```

10270 \endgroup
10271 \fi
10272 }

Very poor implementation of \hyper@link without considering #1.
10273 \def\hyper@link#1#2#3{%
10274 \Hy@VerboseLinkStart{#1}{#2}%
10275 \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%
10276 }

10277 \def\hyper@image#1#2{%
10278 \begingroup
10279 \hyper@chars
10280 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
10281 \endgroup
10282 }
10283 </hypertex>
10284 <*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, L<sup>A</sup>T<sub>E</sub>X must specify the size of the active area for links. For some hooks this information is available but for some, the start and end of the link are specified separately in which case a fixed size area of 10000000sp wide by `\baselineskip` high is used.

```

10285 \providecommand*\XR@ext}{dvi}
10286 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
10287 \Hy@WrapperDef\hyper@anchor#1{%
10288 \Hy@SaveLastskip
10289 \Hy@VerboseAnchor{#1}%
10290 \begingroup
10291 \let\protect=\string
10292 \special{mark: #1}%
10293 \endgroup
10294 \Hy@activeanchortrue
10295 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10296 \Hy@activeanchorfalse
10297 \Hy@RestoreLastskip
10298 }
10299 \Hy@WrapperDef\hyper@anchorstart#1{%
10300 \Hy@SaveLastskip
10301 \Hy@VerboseAnchor{#1}%

```

```

10302 \special{mark: #1}%
10303 \Hy@activeanchortrue
10304 }
10305 \def\hyper@anchorend{%
10306 \Hy@activeanchorfalse
10307 \Hy@RestoreLastskip
10308 }
10309 \def\hyper@linkstart#1#2{%
10310 \Hy@VerboseLinkStart{#1}{#2}%
10311 \expandafter\Hy@colorlink\csname @#1color\endcsname
10312 \special{button: %
10313 10000000 %
10314 \number\baselineskip\space
10315 #2%
10316 }%
10317 }
10318 \def\hyper@linkend{%
10319 \Hy@endcolorlink
10320 }
10321 \def\hyper@link#1#2#3{%
10322 \Hy@VerboseLinkStart{#1}{#2}%
10323 \leavevmode
10324 \ifHy@raiselinks
10325 \Hy@SaveSpaceFactor
10326 \Hy@SaveSavedSpaceFactor
10327 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
10328 \Hy@RestoreSavedSpaceFactor
10329 \@linkdim\dp\@tempboxa
10330 \lower\@linkdim\hbox{%
10331 \special{button: %
10332 \number\wd\@tempboxa\space
10333 \number\ht\@tempboxa\space
10334 #2%
10335 }%
10336 \expandafter\Hy@colorlink\csname @#1color\endcsname
10337 \Hy@RestoreSpaceFactor
10338 #3\Hy@xspace@end
10339 \Hy@SaveSpaceFactor
10340 \Hy@endcolorlink
10341 }%
10342 \@linkdim\ht\@tempboxa
10343 \advance\@linkdim by -6.5\p@
10344 \raise\@linkdim\hbox{}}%
10345 \Hy@RestoreSpaceFactor
10346 \else
10347 \special{button: %
10348 \number\wd\@tempboxa\space
10349 \number\ht\@tempboxa\space
10350 #2%
10351 }%

```

```

10352 \expandafter\Hy@colorlink\csname @#1color\endcsname
10353 #3\Hy@xspace@end
10354 \Hy@endcolorlink
10355 \fi
10356 }
10357 \def\hyper@linkurl#1#2{%
10358 \begingroup
10359 \hyper@chars
10360 \leavevmode
10361 \ifHy@raiselinks
10362 \Hy@SaveSpaceFactor
10363 \Hy@SaveSavedSpaceFactor
10364 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
10365 \Hy@RestoreSavedSpaceFactor
10366 \@linkdim\dp\@tempboxa
10367 \lower\@linkdim\hbox{%
10368 \special{button: %
10369 \number\wd\@tempboxa\space
10370 \number\ht\@tempboxa\space
10371 launch: \wwwbrowser\space
10372 #2%
10373 }%
10374 \Hy@colorlink\@urlcolor
10375 \Hy@RestoreSpaceFactor
10376 #1\Hy@xspace@end
10377 \Hy@SaveSpaceFactor
10378 \Hy@endcolorlink
10379 }%
10380 \@linkdim\ht\@tempboxa
10381 \advance\@linkdim by -6.5\p@
10382 \raise\@linkdim\hbox{}%
10383 \Hy@RestoreSpaceFactor
10384 \else
10385 \special{button: %
10386 \number\wd\@tempboxa\space
10387 \number\ht\@tempboxa\space
10388 launch: \wwwbrowser\space
10389 #2%
10390 }%
10391 \Hy@colorlink\@urlcolor
10392 #1\Hy@xspace@end
10393 \Hy@endcolorlink
10394 \fi
10395 \endgroup
10396 }
10397 \def\hyper@linkfile#1#2#3{%
10398 \begingroup
10399 \hyper@chars
10400 \leavevmode
10401 \ifHy@raiselinks

```

```

10402 \Hy@SaveSpaceFactor
10403 \Hy@SaveSavedSpaceFactor
10404 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
10405 \Hy@RestoreSavedSpaceFactor
10406 \@linkdim\dp\@tempboxa
10407 \lower\@linkdim\hbox{%
10408 \special{button: %
10409 \number\wd\@tempboxa\space
10410 \number\ht\@tempboxa\space
10411 #3,%
10412 file: #2%
10413 }%
10414 \Hy@colorlink\@filecolor
10415 \Hy@RestoreSpaceFactor
10416 #1\Hy@xspace@end
10417 \Hy@SaveSpaceFactor
10418 \Hy@endcolorlink
10419 }%
10420 \@linkdim\ht\@tempboxa
10421 \advance\@linkdim by -6.5\p@
10422 \raise\@linkdim\hbox{}%
10423 \Hy@RestoreSpaceFactor
10424 \else
10425 \special{button: %
10426 \number\wd\@tempboxa\space
10427 \number\ht\@tempboxa\space
10428 #3,%
10429 file: #2%
10430 }%
10431 \Hy@colorlink\@filecolor
10432 #1\Hy@xspace@end
10433 \Hy@endcolorlink
10434 \fi
10435 \endgroup
10436 }
10437 \HyInfo@AddonUnsupportedtrue
10438 \def\PDF@FinishDoc{%
10439 \Hy@UseMaketitleInfos
10440 \HyInfo@TrappedUnsupported
10441 \special{PDF: Keywords \@pdfkeywords}%
10442 \special{PDF: Title \@pdftitle}%
10443 \special{PDF: Creator \@pdfcreator}%
10444 \ifx\@pdfcreationdate\@empty
10445 \else
10446 \special{PDF: CreationDate \@pdfcreationdate}%
10447 \fi
10448 \ifx\@pdfmoddate\@empty
10449 \else
10450 \special{PDF: ModDate \@pdfmoddate}%
10451 \fi

```

```

10452 \special{PDF: Author \@pdfauthor}%
10453 \ifx\@pdfproducer\relax
10454 \else
10455 \special{PDF: Producer \@pdfproducer}%
10456 \fi
10457 \special{PDF: Subject \@pdfsubject}%
10458 \Hy@DisableOption{pdfauthor}%
10459 \Hy@DisableOption{pdftitle}%
10460 \Hy@DisableOption{pdfsubject}%
10461 \Hy@DisableOption{pdfcreator}%
10462 \Hy@DisableOption{addtopdfcreator}%
10463 \Hy@DisableOption{pdfcreationdate}%
10464 \Hy@DisableOption{pdfcreationdate}%
10465 \Hy@DisableOption{pdfmoddate}%
10466 \Hy@DisableOption{pdfproducer}%
10467 \Hy@DisableOption{pdfkeywords}%
10468 \Hy@DisableOption{pdftrapped}%
10469 \Hy@DisableOption{pdfinfo}%
10470 }
10471 \def\PDF@SetupDoc{%
10472 \ifx\@baseurl\@empty
10473 \else
10474 \special{PDF: Base \@baseurl}%
10475 \fi
10476 \ifx\@pdfpagescrop\@empty\else
10477 \special{PDF: BBox \@pdfpagescrop}%
10478 \fi
10479 \def\Hy@temp{%
10480 \ifx\@pdfstartpage\@empty
10481 \else
10482 \ifx\@pdfstartview\@empty
10483 \else
10484 \edef\Hy@temp{%
10485 ,Page=\@pdfstartpage
10486 ,View=\@pdfstartview
10487 }%
10488 \fi
10489 \fi
10490 \edef\Hy@temp{%
10491 \noexpand\pdfmark{%
10492 pdfmark=/DOCVIEW,%
10493 PageMode=/\@pdfpagemode
10494 \Hy@temp
10495 }%
10496 }%
10497 \Hy@temp
10498 \ifx\@pdfpagescrop\@empty
10499 \else
10500 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
10501 \fi

```

```

10502 \edef\Hy@temp{%
10503   \ifHy@pdftoolbar\else /HideToolbar true\fi
10504   \ifHy@pdfmenubar\else /HideMenubar true\fi
10505   \ifHy@pdfwindowui\else /HideWindowUI true\fi
10506   \ifHy@pdffitwindow /FitWindow true\fi
10507   \ifHy@pdfcenterwindow /CenterWindow true\fi
10508   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10509   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10510   \Hy@UseNameKey{Direction}\@pdfdirection
10511   \Hy@UseNameKey{View Area}\@pdfviewarea
10512   \Hy@UseNameKey{ViewClip}\@pdfviewclip
10513   \Hy@UseNameKey{PrintArea}\@pdfprintarea
10514   \Hy@UseNameKey{PrintClip}\@pdfprintclip
10515   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10516   \Hy@UseNameKey{Duplex}\@pdfduplex
10517   \ifx\@pdfpicktraybypdfsize\@empty
10518   \else
10519     /PickTrayByPDFSize \@pdfpicktraybypdfsize
10520   \fi
10521   \ifx\@pdfprintpagerange\@empty
10522   \else
10523     /PrintPageRange\@pdfprintpagerange\%
10524   \fi
10525   \ifx\@pdfnumcopies\@empty
10526   \else
10527     /NumCopies \@pdfnumcopies
10528   \fi
10529 }%
10530 \pdfmark{pdfmark=/PUT,%
10531   Raw={%
10532     \string{Catalog\string}<<%
10533     \ifx\Hy@temp\@empty
10534     \else
10535       /ViewerPreferences<<\Hy@temp>>%
10536     \fi
10537     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10538     \ifx\@pdflang\relax
10539     \else
10540       /Lang(\@pdflang)%
10541     \fi
10542     >>%
10543   }%
10544 }%
10545 }
10546 </dviwindo>
10547 < *dvi pdfm | xetex >

```

## 47.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

```
10548 \providecommand*\XR@ext}{pdf}
10549 \Hy@setbreaklinks{true}
10550 \def\HyPat@ObjRef{%
10551   @[\ ]+%
10552 }
10553 \newsavebox{\pdfm@box}
10554 \def\@pdfm@mark#1{\special{pdf:#1}}
10555 \Hy@WrapperDef\@pdfm@dest#1{%
10556   \Hy@SaveLastskip
10557   \Hy@VerboseAnchor{#1}%
10558   \begingroup
10559   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
10560   \def\x{XYZ}%
10561   \ifx\x\@pdfview
10562     \def\x{XYZ @xpos @ypos null}%
10563   \else
10564     \def\x{FitH}%
10565     \ifx\x\@pdfview
10566       \def\x{FitH @ypos}%
10567     \else
10568       \def\x{FitBH}%
10569       \ifx\x\@pdfview
10570         \def\x{FitBH @ypos}%
10571       \else
10572         \def\x{FitV}%
10573         \ifx\x\@pdfview
10574           \def\x{FitV @xpos}%
10575         \else
10576           \def\x{FitBV}%
10577           \ifx\x\@pdfview
10578             \def\x{FitBV @xpos}%
10579           \else
10580             \def\x{Fit}%
10581             \ifx\x\@pdfview
10582               \let\x\@pdfview
10583             \else
10584               \def\x{FitB}%
10585               \ifx\x\@pdfview
10586                 \let\x\@pdfview
10587               \else
10588                 \def\x{FitR}%
10589                 \ifx\x\@pdfview
10590                   \Hy@Warning{'pdfview=FitR' is not supported}%
10591                 \def\x{XYZ @xpos @ypos null}%
10592               \else
10593                 \@onelevel@sanitize\@pdfview
10594                 \Hy@Warning{%
```

```

10595             Unknown value ` \@pdfview' for pdfview%
10596             }%
10597             \def\x{XYZ @xpos @ypos null}%
10598             \fi
10599             \fi
10600             \fi
10601             \fi
10602             \fi
10603             \fi
10604             \fi
10605             \fi
10606             \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
10607             \endgroup
10608             \Hy@RestoreLastskip
10609         }
10610     \providecommand*\@pdfview{XYZ}
10611     \providecommand*\@pdfborder{0 0 1}
10612     \providecommand*\@pdfborderstyle{}
10613     \def\hyper@anchor#1{%
10614         \@pdfm@dest{#1}%
10615     }
10616     \def\hyper@anchorstart#1{%
10617         \Hy@activeanchortrue
10618         \@pdfm@dest{#1}%
10619     }
10620     \def\hyper@anchorend{%
10621         \Hy@activeanchorfalse
10622     }

10623     \newcounter{Hy@AnnotLevel}

10624     \ifHy@ocgcolorlinks
10625         \def\OBJ@OCG@view{@OCG@view}%
10626         \@pdfm@mark{%
10627             obj \OBJ@OCG@view <<%
10628                 /Type/OCG%
10629                 /Name(View)%
10630                 /Usage<<%
10631                 /Print<<%
10632                 /PrintState/OFF%
10633                 >>%
10634                 /View<<%
10635                 /ViewState/ON%
10636                 >>%
10637                 >>%
10638                 >>%
10639             }%
10640         \@pdfm@mark{close \OBJ@OCG@view}%
10641         \def\OBJ@OCG@print{@OCG@print}%
10642         \@pdfm@mark{%
10643             obj \OBJ@OCG@print <<%

```

```

10644 /Type/OCG%
10645 /Name(Print)%
10646 /Usage<<%
10647 /Print<<%
10648 /PrintState/ON%
10649 >>%
10650 /View<<%
10651 /ViewState/OFF%
10652 >>%
10653 >>%
10654 >>%
10655 }%
10656 \@pdfm@mark{close \OBJ@OCG@print}%
10657 \def\OBJ@OCGs{\@OCGs}%
10658 \@pdfm@mark{%
10659 obj \OBJ@OCGs [%
10660 \OBJ@OCG@view\space\OBJ@OCG@print
10661 ]%
10662 }%
10663 \@pdfm@mark{close \OBJ@OCGs}%
10664 \@pdfm@mark{%
10665 put @catalog <<%
10666 /OCProperties<<%
10667 /OCGs \OBJ@OCGs
10668 /D<<%
10669 /OFF[\OBJ@OCG@print]%
10670 /AS[%
10671 <<%
10672 /Event/View%
10673 /OCGs \OBJ@OCGs
10674 /Category[/View]%
10675 >>%
10676 <<%
10677 /Event/Print%
10678 /OCGs \OBJ@OCGs
10679 /Category[/Print]%
10680 >>%
10681 <<%
10682 /Event/Export%
10683 /OCGs \OBJ@OCGs
10684 /Category[/Print]%
10685 >>%
10686 ]%
10687 >>%
10688 >>%
10689 >>%
10690 }%
10691 \@AtBeginShipout{%
10692 \setbox\AtBeginShipoutBox=\hbox{%
10693 \copy\AtBeginShipoutBox

```

```

10694 \pdfmark{%
10695   put @resources <<%
10696     /Properties<<%
10697     /OCView \OBJ@OCG@view
10698     /OCPrint \OBJ@OCG@print
10699   >>%
10700   >>%
10701 }%
10702 }%
10703 }%
10704 \Hy@AtBeginDocument{%
10705   \def\Hy@colorlink#1{%
10706     \begingroup
10707     \ifHy@ocgcolorlinks
10708       \def\Hy@ocgcolor{#1}%
10709       \setbox0=\hbox\bgroup\color@begingroup
10710     \else
10711       \HyColor@UseColor#1%
10712     \fi
10713   }%
10714   \def\Hy@endcolorlink{%
10715     \ifHy@ocgcolorlinks
10716       \color@endgroup\egroup
10717     \mbox{%
10718       \@pdfmark{content /OC/OCPrint BDC}%
10719       \rlap{\copy0}}%
10720     \@pdfmark{content EMC/OC/OCView BDC}%
10721     \begingroup
10722     \expandafter\HyColor@UseColor\Hy@ocgcolor
10723     \box0 %
10724     \endgroup
10725     \@pdfmark{content EMC}%
10726   }%
10727   \fi
10728   \endgroup
10729 }%
10730 }%
10731 \else
10732   \Hy@DisableOption{ocgcolorlinks}%
10733 \fi

```

Use primitive counter arithmetic here to avoid amsmath redefining `\stepcounter` (github issue/13)

```

10734 \def\Hy@BeginAnnot#1{%
10735   \global\advance\c@Hy@AnnotLevel\@ne
10736   \ifnum\c@Hy@AnnotLevel=\@ne
10737     #1%
10738   \fi
10739 }
10740 \def\Hy@endAnnot{%

```

```

10741 \ifnum\value{Hy@AnnotLevel}=\@ne
10742 \Hy@endcolorlink
10743 \@pdfm@mark{eann}%
10744 \fi
10745 \global\advance\c@Hy@AnnotLevel\m@ne
10746 }

10747 \def\Hy@undefinedname{UNDEFINED}
10748 \def\hyper@linkstart#1#2{%
10749 \Hy@VerboseLinkStart{#1}{#2}%
10750 \leavevmode
10751 \Hy@BeginAnnot{%
10752 \protected@edef\Hy@testname{#2}%
10753 \ifx\Hy@testname\@empty
10754 \Hy@Warning{%
10755 Empty destination name,\MessageBreak
10756 using \Hy@undefinedname'%
10757 }%
10758 \let\Hy@testname\Hy@undefinedname
10759 \else
10760 \Hy@pstringdef\Hy@testname{%
10761 \expandafter\HyperDestNameFilter\expandafter{%
10762 \Hy@testname
10763 }%
10764 }%
10765 \fi
10766 \@pdfm@mark{%
10767 bann<<%
10768 /Type/Annot%
10769 /Subtype/Link%
10770 \ifHy@pdfa /F 4\fi
10771 \Hy@setpdfborder
10772 \Hy@setpdfhighlight
10773 \expandafter\ifx\csname @#1bordercolor\endcsname\relax
10774 \else
10775 /C[\csname @#1bordercolor\endcsname]%
10776 \fi
10777 /A<<%
10778 /S/GoTo%
10779 /D(\Hy@testname)%
10780 \Hy@href@nextactionraw
10781 >>%
10782 >>%
10783 }%
10784 \expandafter\Hy@colorlink\csname @#1color\endcsname
10785 }%
10786 }

10787 \def\hyper@linkend{\Hy@endAnnot}%
10788 \def\hyper@link#1#2#3{%
10789 \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend

```

```

10790 }
10791 \def\hyper@linkfile#1#2#3{%
10792 \leavevmode
10793 \Hy@BeginAnnot{%
10794 \def\Hy@pstringF{#2}%
10795 \Hy@CleanupFile\Hy@pstringF
10796 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
10797 \Hy@pstringdef\Hy@pstringD{#3}%
10798 \Hy@MakeRemoteAction
10799 \@pdfm@mark{%
10800 bann<<%
10801 /Type/Annot%
10802 /Subtype/Link%
10803 \ifHy@pdfa /F 4\fi
10804 \Hy@setpdfborder
10805 \Hy@setpdfhighlight
10806 \ifx\@filebordercolor\relax
10807 \else
10808 /C[\@filebordercolor]%
10809 \fi
10810 /A<<%
10811 /S/GoToR%
10812 /F(\Hy@pstringF)%
10813 /D%
10814 \ifx\#3\%
10815 [\Hy@href@page\@pdfremotestartview]%
10816 \else
10817 (\Hy@pstringD)%
10818 \fi
10819 \Hy@SetNewWindow
10820 \Hy@href@nextactionraw
10821 >>%
10822 >>%
10823 }%
10824 \Hy@colorlink\@filecolor
10825 }%
10826 #1\Hy@xspace@end
10827 \Hy@EndAnnot
10828 }
10829 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
10830 \leavevmode
10831 \Hy@BeginAnnot{%
10832 \Hy@pstringdef\Hy@pstringF{#1}%
10833 \Hy@pstringdef\Hy@pstringP{#3}%
10834 \@pdfm@mark{%
10835 bann<<%
10836 /Type/Annot%
10837 /Subtype/Link%
10838 \ifHy@pdfa /F 4\fi
10839 \Hy@setpdfborder

```

```

10840 \Hy@setpdfhighlight
10841 \ifx\@runbordercolor\relax
10842 \else
10843 /C[\@runbordercolor]%
10844 \fi
10845 /A<<%
10846 /F(\Hy@pstringF)%
10847 /S/Launch%
10848 \Hy@SetNewWindow
10849 \ifx\#3\%
10850 \else
10851 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10852 \fi
10853 \Hy@href@nextactionraw
10854 >>%
10855 >>%
10856 }%
10857 \Hy@colorlink\@runcolor
10858 }%
10859 #2\Hy@xspace@end
10860 \Hy@EndAnnot
10861 }
10862 \def\hyper@linkurl#1#2{%
10863 \leavevmode
10864 \Hy@BeginAnnot{%
10865 \Hy@pstringdef\Hy@pstringURI{#2}%
10866 \@pdfm@mark{%
10867 bann<<%
10868 /Type/Annot%
10869 /Subtype/Link%
10870 \ifHy@pdfa /F 4\fi
10871 \Hy@setpdfborder
10872 \Hy@setpdfhighlight
10873 \ifx\@urlbordercolor\relax
10874 \else
10875 /C[\@urlbordercolor]%
10876 \fi
10877 /A<<%
10878 /S/URI%
10879 /URI(\Hy@pstringURI)%
10880 \ifHy@href@ismap
10881 /IsMap true%
10882 \fi
10883 \Hy@href@nextactionraw
10884 >>%
10885 >>%
10886 }%
10887 \Hy@colorlink\@urlcolor
10888 }%
10889 #1\Hy@xspace@end

```

```

10890 \Hy@EndAnnot
10891 }
10892 \def\Acrobatmenu#1#2{%
10893 \Hy@Acrobatmenu{#1}{#2}{%
10894 \Hy@BeginAnnot{%
10895 \EdefEscapeName\Hy@temp@menu{#1}%
10896 \@pdfm@mark{%
10897 bann<<%
10898 /Type/Annot%
10899 /Subtype/Link%
10900 \ifHy@pdfa /F 4\fi
10901 \Hy@setpdfborder
10902 \Hy@setpdfhighlight
10903 \ifx\@menubordercolor\relax
10904 \else
10905 /C[\@menubordercolor]%
10906 \fi
10907 /A<<%
10908 /S/Named%
10909 /N/\Hy@temp@menu
10910 \Hy@href@nextactionraw
10911 >>%
10912 >>%
10913 }%
10914 \Hy@colorlink\@menucolor
10915 }%
10916 #2\Hy@xspace@end
10917 \Hy@EndAnnot
10918 }%
10919 }
10920
10921 \def\PDF@FinishDoc{%
10922 \Hy@UseMaketitleInfos
10923 \Hy@Info@GenerateAddons
10924 \@pdfm@mark{%
10925 docinfo<<%
10926 /Title(\@pdftitle)%
10927 /Subject(\@pdfsubject)%
10928 /Creator(\@pdfcreator)%
10929 \ifx\@pdfcreationdate\@empty
10930 \else
10931 /CreationDate(\@pdfcreationdate)%
10932 \fi
10933 \ifx\@pdfmoddate\@empty
10934 \else
10935 /ModDate(\@pdfmoddate)%
10936 \fi
10937 /Author(\@pdfauthor)%
10938 \ifx\@pdfproducer\relax
10939 \else

```

```

10940     /Producer(\@pdfproducer)%
10941     \fi
10942     /Keywords(\@pdfkeywords)%
10943     \ifx\@pdftrapped\@empty
10944     \else
10945     /Trapped/\@pdftrapped
10946     \fi
10947     \HyInfo@Addons
10948     >>%
10949 }%
10950 \Hy@DisableOption{pdfauthor}%
10951 \Hy@DisableOption{pdftitle}%
10952 \Hy@DisableOption{pdfsubject}%
10953 \Hy@DisableOption{pdfcreator}%
10954 \Hy@DisableOption{addtopdfcreator}%
10955 \Hy@DisableOption{pdfcreationdate}%
10956 \Hy@DisableOption{pdfcreationdate}%
10957 \Hy@DisableOption{pdfmoddate}%
10958 \Hy@DisableOption{pdfproducer}%
10959 \Hy@DisableOption{pdfkeywords}%
10960 \Hy@DisableOption{pdftrapped}%
10961 \Hy@DisableOption{pdfinfo}%
10962 }

10963 \def\PDF@SetupDoc{%
10964 \edef\Hy@temp{%
10965 \ifHy@pdftoolbar\else /HideToolbar true\fi
10966 \ifHy@pdfmenubar\else /HideMenubar true\fi
10967 \ifHy@pdfwindowui\else /HideWindowUI true\fi
10968 \ifHy@pdffitwindow /FitWindow true\fi
10969 \ifHy@pdfcenterwindow /CenterWindow true\fi
10970 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10971 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10972 \Hy@UseNameKey{Direction}\@pdfdirection
10973 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10974 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10975 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10976 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10977 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10978 \Hy@UseNameKey{Duplex}\@pdfduplex
10979 \ifx\@pdfpicktraybypdfsize\@empty
10980 \else
10981 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10982 \fi
10983 \ifx\@pdfprintpagerange\@empty
10984 \else
10985 /PrintPageRange[\@pdfprintpagerange]%
10986 \fi
10987 \ifx\@pdfnumcopies\@empty
10988 \else

```

```

10989 /NumCopies \@pdfnumcopies
10990 \fi
10991 }%
10992 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10993 \@pdfm@mark{%
10994 docview<<%
10995 \ifx\@pdfstartpage\@empty
10996 \else
10997 \ifx\@pdfstartview\@empty
10998 \else
10999 /OpenAction[page\@pdfstartpage\@pdfstartview]%
11000 \fi
11001 \fi
11002 \ifx\@baseurl\@empty
11003 \else
11004 /URI<</Base(\Hy@pstringB)>>%
11005 \fi
11006 /PageMode/\@pdfpagemode
11007 \ifx\Hy@temp\@empty
11008 \else
11009 /ViewerPreferences<<\Hy@temp>>%
11010 \fi
11011 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11012 \ifx\@pdflang\relax
11013 \else
11014 /Lang(\@pdflang)%
11015 \fi
11016 >>%
11017 }%
11018 \ifx\@pdfpagescrop\@empty
11019 \else
11020 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}}%
11021 \fi
11022 }
11023 </dvi/pdfm | xetex>
11024 <*dvi/pdfm | xetex>

```

\hyper@pagetransition

```

11025 \def\hyper@pagetransition{%
11026 \ifx\@pdfpagetransition\relax
11027 \else
11028 \ifx\@pdfpagetransition\@empty
11029 \else
11030 \special{pdf:put @thispage %
11031 <</Trans<</S/\@pdfpagetransition>>>>%
11032 }%
11033 \fi
11034 \fi
11035 }

```

`\hyper@pageduration`

```
11036 \def\hyper@pageduration{%
11037 \ifx\@pdfpageduration\relax
11038 \else
11039 \ifx\@pdfpageduration\@empty
11040 \else
11041 \special{pdf:put @thispage %
11042 <</Dur \@pdfpageduration>>%
11043 }%
11044 \fi
11045 \fi
11046 }
```

`\hyper@pagehidden`

```
11047 \def\hyper@pagehidden{%
11048 \ifHy@useHidKey
11049 \special{pdf:put @thispage %
11050 <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
11051 }%
11052 \fi
11053 }

11054 \g@addto@macro\Hy@EveryPageBoxHook{%
11055 \hyper@pagetransition
11056 \hyper@pageduration
11057 \hyper@pagehidden
11058 }

11059 </dvi pdfm | xetex>
```

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

```
11060 <*dvi pdfm>
11061 \AtBeginShipoutFirst{%
11062 \ifHy@setpagesize
11063 \begingroup
11064 \@ifundefined{stockwidth}{%
11065 \ifdim\paperwidth>\z@
11066 \ifdim\paperheight>\z@
11067 \special{papersize=\the\paperwidth,\the\paperheight}%
11068 \fi
11069 \fi
11070 }{%
11071 \ifdim\stockwidth>\z@
11072 \ifdim\stockheight>\z@
11073 \special{papersize=\the\stockwidth,\the\stockheight}%
11074 \fi
11075 \fi
11076 }%
11077 \endgroup
```

```

11078 \fi
11079 \Hy@DisableOption{setpagesize}%
11080 }
11081 </dvi pdfm>

```

## 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.

```

11082 <*vtexhtml>
11083 \providecommand*\XR@ext}{htm}
11084 \RequirePackage{vtexhtml}
11085 \newif\if@Localurl
11086 \let\PDF@FinishDoc\ltx@empty
11087 \def\PDF@SetupDoc{%
11088   \ifx\@baseurl\@empty
11089     \else
11090     \special{!direct <base href="\@baseurl">}%
11091   \fi
11092 }
11093 \def\@urltype{url}
11094 \def\hyper@link#1#2#3{%
11095   \Hy@VerboseLinkStart{#1}{#2}%
11096   \leavevmode
11097   \special{!direct <a href=%
11098     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
11099   #3\Hy@xspace@end
11100   \special{!direct </a>}%
11101 }
11102 \def\hyper@linkurl#1#2{%
11103   \begingroup
11104   \hyper@chars
11105   \leavevmode
11106   \MathBSuppress=1\relax
11107   \special{!direct <a href=%
11108     \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
11109   #1\Hy@xspace@end
11110   \MathBSuppress=0\relax
11111   \special{!direct </a>}%
11112   \endgroup
11113 }
11114 \def\hyper@linkfile#1#2#3{%
11115   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
11116 }
11117 \def\hyper@linkstart#1#2{%
11118   \Hy@VerboseLinkStart{#1}{#2}%
11119   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
11120     \@Localurltrue
11121     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%

```

```

11122 \else
11123 \@Localurlfalse
11124 \begingroup
11125 \hyper@chars
11126 \special{!aref \HyperDestNameFilter{#2}}%
11127 \endgroup
11128 \fi
11129 }
11130 \def\hyper@linkend{%
11131 \if@Localurl
11132 \special{!endaref}%
11133 \else
11134 \special{!direct </a>}%
11135 \fi
11136 }
11137 \Hy@WrapperDef\hyper@anchorstart#1{%
11138 \Hy@SaveLastskip
11139 \Hy@VerboseAnchor{#1}%
11140 \begingroup
11141 \hyper@chars
11142 \special{!aname #1}%
11143 \special{!direct <a name=%
11144 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11145 \endgroup
11146 \Hy@activeanchortrue
11147 }
11148 \def\hyper@anchorend{%
11149 \special{!direct </a>}%
11150 \Hy@activeanchorfalse
11151 \Hy@RestoreLastskip
11152 }
11153 \Hy@WrapperDef\hyper@anchor#1{%
11154 \Hy@SaveLastskip
11155 \Hy@VerboseAnchor{#1}%
11156 \begingroup
11157 \let\protect=\string
11158 \hyper@chars
11159 \leavevmode
11160 \special{!aname #1}%
11161 \special{!direct <a name=%
11162 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11163 \endgroup
11164 \Hy@activeanchortrue
11165 \bgroup\anchor@spot\egroup
11166 \special{!direct </a>}%
11167 \Hy@activeanchorfalse
11168 \Hy@RestoreLastskip
11169 }
11170 \def\@Form[#1]{%
11171 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%

```

```

11172 }
11173 \let\@endForm\ltx@empty
11174 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
11175 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
11176 }
11177 \def\@TextField[#1]#2{% parameters, label
11178 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
11179 }
11180 \def\@CheckBox[#1]#2{% parameters, label
11181 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
11182 }
11183 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
11184 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
11185 }
11186 \def\@PushButton[#1]#2{% parameters, label
11187 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
11188 }
11189 \def\@Reset[#1]#2{%
11190 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
11191 }
11192 \def\@Submit[#1]#2{%
11193 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
11194 }
11195 </vtexhtml>
11196 <*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.

```

11197 \ifx\mediaheight\@undefined
11198 \else
11199 \ifx\mediaheight\relax
11200 \else
11201 \ifHy@setpagesize
11202 \providecommand*\VTeXInitMediaSize{%
11203 \ltx@ifUndefined{stockwidth}{%
11204 \ifdim\paperheight>0pt %
11205 \setlength\mediaheight\paperheight
11206 \fi
11207 \ifdim\paperheight>0pt %
11208 \setlength\mediawidth\paperwidth
11209 \fi
11210 }{%
11211 \ifdim\stockheight>0pt %
11212 \setlength\mediaheight\stockheight
11213 \fi
11214 \ifdim\stockwidth>0pt %
11215 \setlength\mediawidth\stockwidth
11216 \fi
11217 }%

```

```

11218    }%
11219    \Hy@AtBeginDocument{\VTeXInitMediaSize}%
11220    \fi
11221    \Hy@DisableOption{setpagesize}%
11222    \fi
11223    \fi
Older versions of VTeX require xyz in lower case.
11224 \providecommand*\@pdfview{xyz}
11225 \providecommand*\@pdfborder{0 0 1}
11226 \providecommand*\@pdfborderstyle{}
11227 \let\CurrentBorderColor\@linkbordercolor
11228 \Hy@WrapperDef\hyper@anchor#1{%
11229   \Hy@SaveLastskip
11230   \Hy@VerboseAnchor{#1}%
11231   \begingroup
11232     \let\protect=\string
11233     \hyper@chars
11234     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
11235   \endgroup
11236   \Hy@activeanchortrue
11237   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11238   \Hy@activeanchorfalse
11239   \Hy@RestoreLastskip
11240 }
11241 \Hy@WrapperDef\hyper@anchorstart#1{%
11242   \Hy@SaveLastskip
11243   \Hy@VerboseAnchor{#1}%
11244   \begingroup
11245     \hyper@chars
11246     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
11247   \endgroup
11248   \Hy@activeanchortrue
11249 }
11250 \def\hyper@anchorend{%
11251   \Hy@activeanchorfalse
11252   \Hy@RestoreLastskip
11253 }
11254 \def\@urltype{url}
11255 \def\Hy@undefinedname{UNDEFINED}
11256 \def\hyper@linkstart#1#2{%
11257   \Hy@VerboseLinkStart{#1}{#2}%
11258   \Hy@pstringdef\Hy@pstringURI{#2}%
11259   \expandafter\Hy@colorlink\csname @#1color\endcsname
11260   \ltx@ifundefined{@#1bordercolor}{%
11261     \let\CurrentBorderColor\relax
11262   }{%
11263     \edef\CurrentBorderColor{%
11264       \csname @#1bordercolor\endcsname
11265     }%

```

```

11266 }%
11267 \def\Hy@tempa{#1}%
11268 \ifx\Hy@tempa \@urlytype
11269 \special{!%
11270   aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
11271   \ifHy@href@ismap
11272     /IsMap true%
11273   \fi
11274   \Hy@href@nextactionraw
11275   >;%
11276   a=<%
11277   \ifHy@pdfa /F 4\fi
11278   \Hy@setpdfborder
11279   \ifx\CurrentBorderColor\relax
11280     \else
11281       /C [\CurrentBorderColor]%
11282     \fi
11283   >%
11284 }%
11285 \else
11286 \protected@edef\Hy@testname{#2}%
11287 \ifx\Hy@testname \@empty
11288 \Hy@Warning{%
11289   Empty destination name,\MessageBreak
11290   using ` \Hy@undefinedname'%
11291 }%
11292 \let\Hy@testname\Hy@undefinedname
11293 \fi
11294 \special{!%
11295   aref \expandafter\HyperDestNameFilter
11296   \expandafter{\Hy@testname};%
11297   a=<%
11298   \ifHy@pdfa /F 4\fi
11299   \Hy@setpdfborder
11300   \ifx\CurrentBorderColor\relax
11301     \else
11302       /C [\CurrentBorderColor]%
11303     \fi
11304   >%
11305 }%
11306 \fi
11307 }
11308 \def\hyper@linkend{%
11309 \special{!endaref}%
11310 \Hy@endcolorlink
11311 }
11312 \def\hyper@linkfile#1#2#3{%
11313 \leavevmode
11314 \def\Hy@pstringF{#2}%
11315 \Hy@CleanupFile\Hy@pstringF

```

```

11316 \special{!%
11317   aref <%
11318     \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi\fi
11319     f=\Hy@pstringF>#3;%
11320     a=<%
11321       \ifHy@pdfa /F 4\fi
11322       \Hy@setpdfborder
11323       \ifx\@filebordercolor\relax
11324         \else
11325           /C [\@filebordercolor]%
11326         \fi
11327       >%
11328     }%
11329     \Hy@colorlink\@filecolor
11330     #1\Hy@xspace@end
11331   \Hy@endcolorlink
11332 \special{!endaref}%
11333 }
11334 \def\hyper@linkurl#1#2{%
11335   \begingroup
11336   \Hy@pstringdef\Hy@pstringURI{#2}%
11337   \hyper@chars
11338   \leavevmode
11339   \special{!%
11340     aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
11341       \ifHy@href@ismap
11342         /IsMap true%
11343       \fi
11344       \Hy@href@nextactionraw
11345     >;%
11346     a=<%
11347       \ifHy@pdfa /F 4\fi
11348       \Hy@setpdfborder
11349       \ifx\@urlbordercolor\relax
11350         \else
11351           /C [\@urlbordercolor]%
11352         \fi
11353       >%
11354     }%
11355     \Hy@colorlink\@urlcolor
11356     #1\Hy@xspace@end
11357   \Hy@endcolorlink
11358 \special{!endaref}%
11359 \endgroup
11360 }
11361 \def\hyper@link#1#2#3{%
11362   \Hy@VerboseLinkStart{#1}{#2}%
11363   \ltx@ifundefined{@#1bordercolor}{%
11364     \let\CurrentBorderColor\relax
11365   }{%

```

```

11366 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
11367 }%
11368 \leavevmode
11369 \protected@edef\Hy@testname{#2}%
11370 \ifx\Hy@testname\@empty
11371 \Hy@Warning{%
11372   Empty destination name,\MessageBreak
11373   using ` \Hy@undefinedname'%
11374 }%
11375 \let\Hy@testname\Hy@undefinedname
11376 \fi
11377 \special{!%
11378   aref \expandafter\HyperDestNameFilter
11379   \expandafter{\Hy@testname};%
11380 a=<%
11381   \ifHy@pdfa /F 4\fi
11382   \Hy@setpdfborder
11383   \ifx\CurrentBorderColor\relax
11384   \else
11385     /C [\CurrentBorderColor]%
11386   \fi
11387   >%
11388 }%
11389 \expandafter
11390 \Hy@colorlink\csname @#1color\endcsname
11391 #3\Hy@xspace@end
11392 \Hy@endcolorlink
11393 \special{!endaref}%
11394 }
11395 \def\hyper@image#1#2{%
11396 \hyper@linkurl{#2}{#1}%
11397 }
11398 \def\@hyper@launch run:#1\|#2#3{%
11399 \Hy@pstringdef\Hy@pstringF{#1}%
11400 \Hy@pstringdef\Hy@pstringP{#3}%
11401 \leavevmode
11402 \special{!aref %
11403   <u=%
11404     /Type/Action%
11405     /S/Launch%
11406     /F(\Hy@pstringF)%
11407     \Hy@SetNewWindow
11408     \ifx\#3\|%
11409     \else
11410       /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
11411     \fi
11412     \Hy@href@nextactionraw
11413   >,%
11414   a=<%
11415   \ifHy@pdfa /F 4\fi

```

```

11416 \Hy@setpdfborder
11417 \ifx\@runbordercolor\relax
11418 \else
11419 /C[\@runbordercolor]%
11420 \fi
11421 >%
11422 }%
11423 \Hy@colorlink\@runcolor
11424 #2\Hy@xspace@end
11425 \Hy@endcolorlink
11426 \special{!endaref}%
11427 }
11428 \def\Acrobatmenu#1#2{%
11429 \EdefEscapeName\Hy@temp@menu{#1}%
11430 \Hy@Acrobatmenu{#1}{#2}{%
11431 \special{!%
11432 aref <u=/S /Named /N /\Hy@temp@menu>;%
11433 a=<%
11434 \ifHy@pdfa /F 4\fi
11435 \Hy@setpdfborder
11436 \ifx\@menubordercolor\relax
11437 \else
11438 /C[\@menubordercolor]%
11439 \fi
11440 >%
11441 }%
11442 \Hy@colorlink\@menucolor
11443 #2\Hy@xspace@end
11444 \Hy@endcolorlink
11445 \special{!endaref}%
11446 }%
11447 }

```

The following code (transition effects) is made by Alex Kostin.

The code below makes sense for V<sub>T</sub>E<sub>X</sub> 7.02 or later.

Please never use `\@ifundefined{VTeXversion}{..}{..}` *globally*.

```

11448 \ifnum\Hy@VTeXversion<702 %
11449 \else
11450 \def\hyper@pagetransition{%
11451 \ifx\@pdfpagetransition\relax
11452 \else
11453 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```

11454 \else
11455 \hvtex@parse@trans\@pdfpagetransition
11456 \fi
11457 \fi
11458 }%

```

I have to write an “honest” parser to convert raw PDF code into  $\text{V}\text{T}\text{E}\text{X}$   $\backslash\text{special}$ .  
(AVK)

Syntax of  $\text{V}\text{T}\text{E}\text{X}$   $\backslash\text{special}\{!\text{trans } \langle\text{transition\_effect}\rangle\}$ :

```

<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:

```

11459 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
11460 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
11461 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
11462 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
11463 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
11464 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
11465 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

11466 \def\hvtex@par@dimension{/Dm}%
11467 \def\hvtex@par@direction{/Di}%
11468 \def\hvtex@par@duration{/D}%
11469 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

11470 \def\hvtex@gettoken{%
11471   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
11472 }%

```

Notice that tokens in the input buffer must be space delimited.

```

11473 \def\hvtex@gettoken@#1 #2\@nil{%
11474   \edef\hvtex@token{#1}%
11475   \edef\hvtex@buffer{#2}%
11476 }%
11477 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

11478 \let\hvtex@trans@code\@empty
11479 \let\hvtex@param@dimension\@empty
11480 \let\hvtex@param@direction\@empty

```

```

11481 \let\hvtex@param@duration\@empty
11482 \let\hvtex@param@motion\@empty
11483 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

11484 \hvtex@gettoken
11485 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

11486 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

11487 \else
11488 \hvtex@gettoken
11489 \fi
11490 \fi
11491 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

11492 \hvtex@trans@params
11493 }%

```

Reentrant macro to parse optional parameters.

```

11494 \def\hvtex@trans@params{%
11495 \ifx\hvtex@buffer\@empty
11496 \else
11497 \hvtex@gettoken
11498 \let\hvtex@trans@par\hvtex@token
11499 \ifx\hvtex@buffer\@empty
11500 \else
11501 \hvtex@gettoken
11502 \ifx\hvtex@trans@par\hvtex@par@duration

```

/D is the effect duration in seconds.  $\text{\TeX}$  special takes it in milliseconds.

```

11503 \let\hvtex@param@duration\hvtex@token
11504 \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

11505 \expandafter\edef\expandafter\hvtex@param@motion
11506 \expandafter{\expandafter\@gobble\hvtex@token}%
11507 \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

11508 \expandafter\edef\expandafter\hvtex@param@dimension
11509 \expandafter{\expandafter\@gobble\hvtex@token}%
11510 \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).

```

11511 \let\hvtex@param@direction\hvtex@token
11512 \fi\fi\fi\fi
11513 \fi
11514 \fi

```

```

11515 \ifx\hvtex@buffer\@empty
11516 \let\next\hvtex@produce@trans
11517 \else
11518 \let\next\hvtex@trans@params
11519 \fi
11520 \next
11521 }%

```

Merge <transition\_effect> and issue the special when possible. Too lazy to validate optional parameters.

```

11522 \def\hvtex@produce@trans{%
11523 \let\vtex@trans@special\@empty
11524 \if S\hvtex@trans@code
11525 \edef\vtex@trans@special{\hvtex@trans@code
11526 \hvtex@param@dimension\hvtex@param@motion}%
11527 \else\if B\hvtex@trans@code
11528 \edef\vtex@trans@special{%
11529 \hvtex@trans@code\hvtex@param@dimension
11530 }%
11531 \else\if X\hvtex@trans@code
11532 \edef\vtex@trans@special{%
11533 \hvtex@trans@code\hvtex@param@motion
11534 }%
11535 \else\if W\hvtex@trans@code
11536 \edef\vtex@trans@special{%
11537 \hvtex@trans@code\hvtex@param@direction
11538 }%
11539 \else\if D\hvtex@trans@code
11540 \let\vtex@trans@special\hvtex@trans@code
11541 \else\if R\hvtex@trans@code
11542 \let\vtex@trans@special\hvtex@trans@code
11543 \else\if G\hvtex@trans@code
11544 \edef\vtex@trans@special{%
11545 \hvtex@trans@code\hvtex@param@direction
11546 }%
11547 \fi\fi\fi\fi\fi\fi
11548 \ifx\vtex@trans@special\@empty
11549 \else
11550 \ifx\hvtex@param@duration\@empty
11551 \else
11552 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

11553 \multiply\dimen@\@m
11554 \edef\vtex@trans@special{%
11555 \vtex@trans@special,\strip@pt\dimen@
11556 }%
11557 \fi

```

And all the mess is just for this.

```

11558 \special{!trans \vtex@trans@special}%

```

```

11559 \fi
11560 }%

11561 \def\hyper@pageduration{%
11562 \ifx\@pdfpageduration\relax
11563 \else
11564 \ifx\@pdfpageduration\@empty
11565 \special{!duration-}%
11566 \else
11567 \special{!duration \@pdfpageduration}%
11568 \fi
11569 \fi
11570 }%

11571 \def\hyper@pagehidden{%
11572 \ifHy@useHidKey
11573 \special{!hidden\ifHy@pdfpagehidden +\else -\fi}%
11574 \fi
11575 }%

11576 \g@addto@macro\Hy@EveryPageBoxHook{%
11577 \hyper@pagetransition
11578 \hyper@pageduration
11579 \hyper@pagehidden
11580 }%
11581 \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

```

11582 \ifx\@pdfproducer\relax
11583 \def\@pdfproducer{VTeX}%
11584 \ifnum\Hy@VTeXversion>\z@
11585 \count@\VTeXversion
11586 \divide\count@ 100 %
11587 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
11588 \multiply\count@ -100 %
11589 \advance\count@\VTeXversion
11590 \edef\@pdfproducer{%
11591 \@pdfproducer
11592 .\ifnum\count@<10 0\fi\the\count@
11593 \ifx\VTeXOS\@undefined\else
11594 \ifnum\VTeXOS>0 %
11595 \ifnum\VTeXOS<6 %
11596 \space%

```

```

11597     \ifcase\VTeXOS
11598     \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
11599     \fi
11600     )%
11601     \fi
11602     \fi
11603     \fi
11604     ,\space
11605     \ifnum\OpMode=\@ne PDF\else PS\fi
11606     \space backend%
11607     \ifx\gexmode\@undefined\else
11608     \ifnum\gexmode>z@\space with GeX\fi
11609     \fi
11610     }%
11611 \fi
11612 \fi

```

Current !pdfinfo key syntax:

Key	Field	Type
a	Author	String
b	CropBox	String
c	Creator	String
k	Keywords	String
l	PageLayout	PS
p	PageMode	PS
r	Producer	String
s	Subject	String
t	Title	String
u	URI	PS
v	ViewPreferences	PS

Note: PS objects that are dicts are in <<<.>>> (yuck; no choice).

```

11613 \def\PDF@SetupDoc{%
11614 \ifx\@pdfpagescrop\@empty
11615 \else
11616 \special{!pdfinfo b=<\@pdfpagescrop>}%
11617 \fi
11618 \ifx\@pdfstartpage\@empty
11619 \else
11620 \ifx\@pdfstartview\@empty
11621 \else
11622 \special{!onopen Page\@pdfstartpage}%
11623 \fi
11624 \fi
11625 \special{!pdfinfo p=</\@pdfpagemode>}%
11626 \ifx\@baseurl\@empty
11627 \else
11628 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
11629 \fi
11630 \special{!pdfinfo v=<<<%

```

```

11631 \ifHy@pdftoolbar\else /HideToolbar true\fi
11632 \ifHy@pdfmenubar\else /HideMenubar true\fi
11633 \ifHy@pdfwindowui\else /HideWindowUI true\fi
11634 \ifHy@pdffitwindow /FitWindow true\fi
11635 \ifHy@pdfcenterwindow /CenterWindow true\fi
11636 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11637 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11638 \Hy@UseNameKey{Direction}\@pdfdirection
11639 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11640 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11641 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11642 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11643 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11644 \Hy@UseNameKey{Duplex}\@pdfduplex
11645 \ifx\@pdfpicktraybypdfsize\@empty
11646 \else
11647 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11648 \fi
11649 \ifx\@pdfprintpagerange\@empty
11650 \else
11651 /PrintPageRange\@pdfprintpagerange\%
11652 \fi
11653 \ifx\@pdfnumcopies\@empty
11654 \else
11655 /NumCopies \@pdfnumcopies
11656 \fi
11657 >>>}\%
11658 \ifx\@pdfpagelayout\@empty
11659 \else
11660 \special{!pdfinfo l=</\@pdfpagelayout\space>}\%
11661 \fi
11662 }%
11663 \HyInfo@AddonUnsupportedtrue
11664 \define@key{Hyp}{pdfcreationdate}{%
11665 \Hy@Warning{%
11666 VTeX does not support pdfcreationdate.\MessageBreak
11667 Therefore its setting is ignored%
11668 }%
11669 }
11670 \define@key{Hyp}{pdfmoddate}{%
11671 \Hy@Warning{%
11672 VTeX does not support pdfmoddate.\MessageBreak
11673 Therefore its setting is ignored%
11674 }%
11675 }
11676 \def\PDF@FinishDoc{%
11677 \Hy@UseMaketitleInfos
11678 \HyInfo@TrappedUnsupported
11679 \special{!pdfinfo a=<\@pdfauthor>}\%
11680 \special{!pdfinfo t=<\@pdftitle>}\%

```

```

11681 \special{!pdffinfo s=<\@pdfsubject>}%
11682 \special{!pdffinfo c=<\@pdfcreator>}%
11683 \ifx\@pdfproducer\relax
11684 \else
11685   \special{!pdffinfo r=<\@pdfproducer>}%
11686 \fi
11687 \special{!pdffinfo k=<\@pdfkeywords>}%
11688 \Hy@DisableOption{pdfauthor}%
11689 \Hy@DisableOption{pdftitle}%
11690 \Hy@DisableOption{pdfsubject}%
11691 \Hy@DisableOption{pdfcreator}%
11692 \Hy@DisableOption{addtopdfcreator}%
11693 \Hy@DisableOption{pdfcreationdate}%
11694 \Hy@DisableOption{pdfcreationdate}%
11695 \Hy@DisableOption{pdfmoddate}%
11696 \Hy@DisableOption{pdfproducer}%
11697 \Hy@DisableOption{pdfkeywords}%
11698 \Hy@DisableOption{pdftrapped}%
11699 \Hy@DisableOption{pdffinfo}%
11700 }
11701 </vtx>

```

## 47.7 Fix for Adobe bug number 466320

If a destination occurs at the very begin of a page, the destination is moved to the previous page by Adobe Distiller 5. As workaround Adobe suggests:

```

/showpage {
  //showpage
  clippath stroke erasepage
} bind def

```

But unfortunately this fix generates an empty page at the end of the document. Therefore another fix is used by writing some clipped text.

```

11702 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
11703 <package>\providecommand*{\Hy@DistillerDestFix}{%
11704 <*pdfmark | dviwindo>
11705 \def\Hy@DistillerDestFix{%
11706   \begingroup
11707     \let\x\literalps@out

```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```

11708   \ifnum \@ifundefined{OpMode}{0}{%
11709     \@ifundefined{gexmode}{0}{%
11710       \ifnum\gexmode>0 \OpMode\else 0\fi
11711     }}>1 %
11712   \def\x##1{%
11713     \immediate\special{!##1}%
11714   }%

```

```

11715 \fi
11716 \x{%
11717 /product where{%
11718   pop %
11719   product(Distiller)search{%
11720     pop pop pop %
11721     version(.)search{%
11722       exch pop exch pop%
11723       (3011)eq{%
11724         gsave %
11725         newpath 0 0 moveto closepath clip%
11726         /Courier findfont 10 scalefont setfont %
11727         72 72 moveto(.)show %
11728         grestore%
11729       }if%
11730     }{pop}ifelse%
11731   }{pop}ifelse%
11732   }if%
11733 }%
11734 \endgroup
11735 }
11736 </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

```

```

11737 <*pdfmark>
11738 \Hy@breaklinks@unsupported
11739 \def\HyPat@ObjRef{%
11740   \[~{}]+\}%
11741 }
11742 \Hy@WrapperDef\hyper@anchor#1{%
11743   \Hy@SaveLastskip
11744   \Hy@VerboseAnchor{#1}%
11745   \begingroup
11746   \pdfmark[\anchor@spot]{%
11747     pdfmark=/DEST,%

```

```

11748     linktype=anchor,%
11749     View=/\@pdfview \@pdfviewparams,%
11750     DestAnchor={#1}%
11751   }%
11752 \endgroup
11753 \Hy@RestoreLastskip
11754 }
11755 \ltx@ifundefined{hyper@anchorstart}{-}{\endinput}
11756 \Hy@WrapperDef\hyper@anchorstart#1{%
11757   \Hy@SaveLastskip
11758   \Hy@VerboseAnchor{#1}%
11759   \literalps@out{H.S}%
11760   \Hy@AllowHyphens
11761   \xdef\hyper@currentanchor{#1}%
11762   \Hy@activeanchortrue
11763 }
11764 \def\hyper@anchorend{%
11765   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
11766   \pdfmark{%
11767     pdfmark=/DEST,%
11768     linktype=anchor,%
11769     View=/\@pdfview \@pdfviewparams,%
11770     DestAnchor=\hyper@currentanchor,%
11771   }%
11772   \Hy@activeanchorfalse
11773   \Hy@RestoreLastskip
11774 }
11775 \def\hyper@linkstart#1#2{%
11776   \Hy@VerboseLinkStart{#1}{#2}%
11777   \ifHy@breaklinks
11778   \else
11779     \leavevmode
11780     \ifmmode
11781       \def\Hy@LinkMath{${}}%
11782     \else
11783       \let\Hy@LinkMath\ltx@empty
11784     \fi
11785     \Hy@SaveSpaceFactor
11786     \hbox\bgroup
11787     \Hy@RestoreSpaceFactor
11788     \Hy@LinkMath
11789   \fi
11790   \expandafter\Hy@colorlink\csname @#1color\endcsname
11791   \literalps@out{H.S}%
11792   \Hy@AllowHyphens
11793   \xdef\hyper@currentanchor{#2}%
11794   \gdef\hyper@currentlinktype{#1}%
11795 }
11796 \def\hyper@linkend{%
11797   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%

```

```

11798 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
11799   \let\Hy@tempcolor\relax
11800 }{%
11801   \edef\Hy@tempcolor{%
11802     \csname @\hyper@currentlinktype bordercolor\endcsname
11803   }%
11804 }%
11805 \pdfmark{%
11806   pdfmark=/ANN,%
11807   linktype=link,%
11808   Subtype=/Link,%
11809   PDFAMark=4,%
11810   Dest=\hyper@currentanchor,%
11811   AcroHighlight=\@pdfhighlight,%
11812   Border=\@pdfborder,%
11813   BorderStyle=\@pdfborderstyle,%
11814   Color=\Hy@tempcolor,%
11815   Raw=H.B%
11816 }%
11817 \Hy@endcolorlink
11818 \ifHy@breaklinks
11819 \else
11820   \Hy@LinkMath
11821   \Hy@SaveSpaceFactor
11822   \egroup
11823   \Hy@RestoreSpaceFactor
11824 \fi
11825 }

```

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.

```

11826 \begingroup
11827   \catcode`P=12 %
11828   \catcode`T=12 %
11829   \lowercase{\endgroup
11830   \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
11831 }
11832 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

11833 \def\hyper@pagetransition{%
11834   \ifx\@pdfpagetransition\relax
11835   \else
11836     \ifx\@pdfpagetransition\@empty
11837       % 1. Does an old entry have to be deleted?
11838       % 2. If 1=yes, how to delete?
11839     \else
11840       \pdfmark{%
11841         pdfmark=/PUT,%

```

```

11842     Raw={%
11843         \string{ThisPage\string}%
11844         <</Trans << /S /\@pdfpagetransition\space >> >>%
11845     }%
11846 }%
11847 \fi
11848 \fi
11849 }

```

\hyper@pageduration

```

11850 \def\hyper@pageduration{%
11851 \ifx\@pdfpageduration\relax
11852 \else
11853 \ifx\@pdfpageduration\@empty
11854 % 1. Does an old entry have to be deleted?
11855 % 2. If 1=yes, how to delete?
11856 \else
11857 \pdfmark{%
11858     pdfmark=/PUT,%
11859     Raw={%
11860         \string{ThisPage\string}%
11861         <</Dur \@pdfpageduration>>%
11862     }%
11863 }%
11864 \fi
11865 \fi
11866 }

```

\hyper@pagehidden

```

11867 \def\hyper@pagehidden{%
11868 \ifHy@useHidKey
11869 \pdfmark{%
11870     pdfmark=/PUT,%
11871     Raw={%
11872         \string{ThisPage\string}%
11873         <</Hid \ifHy@pdfpagehidden true\else false\fi>>%
11874     }%
11875 }%
11876 \fi
11877 }

11878 \g@addto@macro\Hy@EveryPageBoxHook{%
11879 \hyper@pagetransition
11880 \hyper@pageduration
11881 \hyper@pagehidden
11882 }

11883 \def\hyper@image#1#2{%
11884 \hyper@linkurl{#2}{#1}%
11885 }

```

```

11886 \def\Hy@undefinedname{UNDEFINED}
11887 \def\hyper@link#1#2#3{%
11888   \Hy@VerboseLinkStart{#1}{#2}%
11889   \ltx@ifundefined{@#1bordercolor}{%
11890     \let\Hy@tempcolor\relax
11891   }{%
11892     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11893   }%
11894   \begingroup
11895   \protected@edef\Hy@testname{#2}%
11896   \ifx\Hy@testname\@empty
11897     \Hy@Warning{%
11898       Empty destination name,\MessageBreak
11899       using `\'Hy@undefinedname'%
11900     }%
11901     \let\Hy@testname\Hy@undefinedname
11902   \fi
11903   \pdfmark[#{3}]{%
11904     Color=\Hy@tempcolor,%
11905     linktype={#1},%
11906     AcroHighlight=\@pdfhighlight,%
11907     Border=\@pdfborder,%
11908     BorderStyle=\@pdfborderstyle,%
11909     pdfmark=/ANN,%
11910     Subtype=/Link,%
11911     PDFAFlags=4,%
11912     Dest=\Hy@testname
11913   }%
11914   \endgroup
11915 }
11916 \newtoks\pdf@docset
11917 \def\PDF@FinishDoc{%
11918   \Hy@UseMaketitleInfos
11919   \Hy@Info@GenerateAddons
11920   \let\Hy@temp\@empty
11921   \ifx\@pdfcreationdate\@empty
11922   \else
11923     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11924   \fi
11925   \ifx\@pdfmoddate\@empty
11926   \else
11927     \expandafter\def\expandafter\Hy@temp\expandafter{%
11928       \Hy@temp
11929       ModDate=\@pdfmoddate,%
11930     }%
11931   \fi
11932   \ifx\@pdfproducer\relax
11933   \else
11934     \expandafter\def\expandafter\Hy@temp\expandafter{%
11935       \Hy@temp

```

```

11936     Producer=\@pdfproducer,%
11937 }%
11938 \fi
11939 \expandafter
11940 \pdfmark\expandafter{%
11941   \Hy@temp
11942   pdfmark=/DOCINFO,%
11943   Title=\@pdftitle,%
11944   Subject=\@pdfsubject,%
11945   Creator=\@pdfcreator,%
11946   Author=\@pdfauthor,%
11947   Keywords=\@pdfkeywords,%
11948   Trapped=\@pdftrapped
11949 }%
11950 \ifx\HyInfo@Addons\@empty
11951 \else
11952   \pdfmark{%
11953     pdfmark=/DOCINFO,%
11954     Raw={\HyInfo@Addons}%
11955   }%
11956 \fi
11957 \Hy@DisableOption{pdfauthor}%
11958 \Hy@DisableOption{pdftitle}%
11959 \Hy@DisableOption{pdfsubject}%
11960 \Hy@DisableOption{pdfcreator}%
11961 \Hy@DisableOption{addtopdfcreator}%
11962 \Hy@DisableOption{pdfcreationdate}%
11963 \Hy@DisableOption{pdfcreationdate}%
11964 \Hy@DisableOption{pdfmoddate}%
11965 \Hy@DisableOption{pdfproducer}%
11966 \Hy@DisableOption{pdfkeywords}%
11967 \Hy@DisableOption{pdftrapped}%
11968 \Hy@DisableOption{pdfinfo}%
11969 }
11970 \def\PDF@SetupDoc{%
11971   \def\Hy@temp{}%
11972   \ifx\@pdfstartpage\@empty
11973     \else
11974       \ifx\@pdfstartview\@empty
11975         \else
11976           \edef\Hy@temp{%
11977             ,Page=\@pdfstartpage
11978             ,View=\@pdfstartview
11979           }%
11980         \fi
11981       \fi
11982     \edef\Hy@temp{%
11983       \noexpand\pdfmark{%
11984         pdfmark=/DOCVIEW,%
11985         PageMode=/\@pdfpagemode

```

```

11986     \Hy@temp
11987   }%
11988 }%
11989 \Hy@temp
11990 \ifx\@pdfpagescrop\@empty
11991 \else
11992   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11993 \fi
11994 \edef\Hy@temp{%
11995   \ifHy@pdftoolbar\else /HideToolbar true\fi
11996   \ifHy@pdfmenubar\else /HideMenubar true\fi
11997   \ifHy@pdfwindowui\else /HideWindowUI true\fi
11998   \ifHy@pdffitwindow /FitWindow true\fi
11999   \ifHy@pdfcenterwindow /CenterWindow true\fi
12000   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12001   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12002   \Hy@UseNameKey{Direction}\@pdfdirection
12003   \Hy@UseNameKey{ViewArea}\@pdfviewarea
12004   \Hy@UseNameKey{ViewClip}\@pdfviewclip
12005   \Hy@UseNameKey{PrintArea}\@pdfprintarea
12006   \Hy@UseNameKey{PrintClip}\@pdfprintclip
12007   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12008   \Hy@UseNameKey{Duplex}\@pdfduplex
12009   \ifx\@pdfpicktraybypdfsize\@empty
12010     \else
12011       /PickTrayByPDFSize \@pdfpicktraybypdfsize
12012     \fi
12013   \ifx\@pdfprintpagerange\@empty
12014     \else
12015       /PrintPageRange[\@pdfprintpagerange]%
12016     \fi
12017   \ifx\@pdfnumcopies\@empty
12018     \else
12019       /NumCopies \@pdfnumcopies
12020     \fi
12021   }%
12022 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12023 \pdfmark{%
12024   pdfmark=/PUT,%
12025   Raw={%
12026     \string{Catalog\string}<<%
12027     \ifx\Hy@temp\@empty
12028       \else
12029         /ViewerPreferences<<\Hy@temp>>%
12030     \fi
12031     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12032     \ifx\@pdflang\relax
12033       \else
12034         /Lang(\@pdflang)%
12035     \fi

```

```

12036     \ifx\@baseurl\@empty
12037     \else
12038     /URI<</Base(\Hy@pstringB)>>%
12039     \fi
12040     >>%
12041     }%
12042 }%
12043 }
12044 \pdfmark)
12045 \*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.

```

12046 \newif\ifHy@pdfmarkerror
12047 \def\pdfmark{\@ifnextchar{\pdfmark@}{\pdfmark@[]}}
12048 \def\pdfmark@[#1]#2{%
12049   \Hy@pdfmarkerrorfalse
12050   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
12051   \@processme
12052   \let\pdf@type\relax
12053   \let\pdf@objdef\ltx@empty
12054   \kvsetkeys{PDF}{#2}%
12055   \ifHy@pdfmarkerror
12056   \else
12057     \ifx\pdf@type\relax
12058       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
12059       \ifx\#1\%
12060       \else
12061         \pdf@rect{#1}%
12062         \fi
12063       \else
12064         \ifx\#1\%
12065         \literalps@out{%
12066           [%
12067           \ifx\pdf@objdef\ltx@empty
12068           \else
12069             /_objdef\string{\pdf@objdef\string}%
12070           \fi
12071           \the\pdf@toks\space\pdf@type\space pdfmark%
12072           ]%
12073         \else
12074           \ltx@ifundefined{@\pdf@linktype color}{%
12075             \Hy@colorlink\@linkcolor
12076           }{%
12077             \expandafter\Hy@colorlink
12078             \csname @\pdf@linktype color\endcsname

```

```

12079     }%
12080     \pdf@rect{#1}%
12081     \literalps@out{%
12082     [%
12083     \ifx\pdf@objdef\ltx@empty
12084     \else
12085     /__objdef\string{\pdf@objdef\string}%
12086     \fi
12087     \the\pdf@toks\space\pdf@type\space pdfmark%
12088     }%
12089     \Hy@endcolorlink
12090   \fi
12091 \fi
12092 \fi
12093 }

```

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}

```

```

12094 \newsavebox{\pdf@box}
12095 \providecommand*\Hy@setouterhbox{\sbox}
12096 \providecommand*\Hy@breaklinksunhbox{\unhbox}
12097 \def\Hy@DEST{/DEST}
12098 \def\pdf@rect#1{%
12099   \begingroup
12100   \chardef\x=1 %
12101   \def\Hy@temp{#1}%
12102   \ifx\Hy@temp\ltx@empty
12103     \chardef\x=0 %
12104   \else
12105     \def\y{\anchor@spot}%
12106     \ifx\Hy@temp\y
12107       \def\y{\relax}%
12108     \ifx\anchor@spot\y
12109       \chardef\x=0 %
12110     \fi
12111   \fi
12112 \fi
12113 \expandafter\endgroup
12114 \ifcase\x

```

```

12115 \literalps@out{H.S}%
12116 \literalps@out{H.R}%
12117 \else
12118 \leavevmode
12119 \Hy@SaveSpaceFactor
12120 \ifmmode
12121 \def\Hy@LinkMath{$}%
12122 \else
12123 \let\Hy@LinkMath\tx@empty
12124 \fi
12125 \ifHy@breaklinks
12126 \Hy@setouterhbox\pdf@box{%
12127 \Hy@RestoreSpaceFactor
12128 \Hy@LinkMath
12129 \Hy@AllowHyphens#1\Hy@xspace@end
12130 \Hy@LinkMath
12131 \Hy@SaveSpaceFactor
12132 }%
12133 \else
12134 \sbox\pdf@box{%
12135 \Hy@RestoreSpaceFactor
12136 \Hy@LinkMath
12137 #1\Hy@xspace@end
12138 \Hy@LinkMath
12139 \Hy@SaveSpaceFactor
12140 }%
12141 \fi
12142 \dimen@ht\pdf@box
12143 \ifdim\dp\pdf@box=\z@
12144 \literalps@out{H.S}%
12145 \else
12146 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
12147 \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...).

```

12148 \ifHy@breaklinks
12149 \ifhmode
12150 \Hy@breaklinksunhbox\pdf@box
12151 \else
12152 \box\pdf@box
12153 \fi
12154 \else
12155 \expandafter\box\pdf@box
12156 \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

```

```

12157 \ifdim\dimen@=\z@
12158 \literalps@out{H.R.}%
12159 \else
12160 \raise\dimen@\hbox{\literalps@out{H.R.}}%
12161 \fi
12162 \Hy@RestoreSpaceFactor
12163 \fi
12164 \ifx\pdf@type\Hy@DEST
12165 \else
12166 \pdf@addtoksx{H.B}%
12167 \fi
12168 }

```

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.

```

12169 \newtoks\pdf@toks
12170 \newtoks\pdf@defaulttoks
12171 \pdf@defaulttoks={}%
12172 \def\pdf@addtoks#1#2{%
12173 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
12174 \@processme
12175 }
12176 \def\pdf@addtoksx#1{%
12177 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
12178 \@processme
12179 }
12180 \def\PDFdefaults#1{%
12181 \pdf@defaulttoks={#1}%
12182 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

12183 % what is the type of pdfmark?
12184 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
12185 % what is the link type?
12186 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
12187 \def\pdf@linktype{link}
12188 % named object?
12189 \define@key{PDF}{objdef}{\edef\pdf@objdef{#1}}
12190 \let\pdf@objdef\tx@empty
12191 % parameter is a stream of PDF
12192 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
12193 % parameter is a name
12194 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
12195 % parameter is a array
12196 \define@key{PDF}{Border}{%
12197 \edef\Hy@temp{#1}%
12198 \ifx\Hy@temp\@empty
12199 \else
12200 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok

```

```

12201 \fi
12202 }
12203 \let\Hy@BorderArrayPatch\@empty
12204 % parameter is a dictionary
12205 \define@key{PDF}{BorderStyle}{%
12206 \edef\Hy@temp{#1}%
12207 \ifx\Hy@temp\@empty
12208 \else
12209 \pdf@addtoks{<<#1>>}{BS}%
12210 \fi
12211 }
12212 % parameter is a array
12213 \define@key{PDF}{Color}{%
12214 \ifx\relax#1\relax
12215 \else
12216 \pdf@addtoks{[#1]}{Color}% hash-ok
12217 \fi
12218 }
12219 % parameter is a string
12220 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
12221 % parameter is a integer
12222 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
12223 % parameter is a array
12224 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
12225 % parameter is a string
12226 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
12227 % parameter is a string or file
12228 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
12229 % parameter is a destination
12230 \define@key{PDF}{Dest}{%
12231 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
12232 \ifx\Hy@pstringDest\@empty
12233 \Hy@pdfmarkerrortrue
12234 \Hy@Warning{Destination with empty name ignored}%
12235 \else
12236 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
12237 \fi
12238 }
12239 \define@key{PDF}{DestAnchor}{%
12240 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
12241 \ifx\Hy@pstringDest\@empty
12242 \Hy@pdfmarkerrortrue
12243 \Hy@Warning{Destination with empty name ignored}%
12244 \else
12245 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
12246 \fi
12247 }
12248 % parameter is a string
12249 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
12250 % parameter is a string

```

```

12251 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
12252 % parameter is a int
12253 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
12254 \define@key{PDF}{PDFAFlags}{%
12255   \ifHy@pdfa
12256     \pdf@addtoks{#1}{F}%
12257   \fi
12258 }
12259 % parameter is a name
12260 \define@key{PDF}{AcroHighlight}{%
12261   \begingroup
12262     \edef\x{#1}%
12263     \expandafter\endgroup\ifx\x\@empty
12264     \else
12265       \pdf@addtoks{#1}{H}%
12266     \fi
12267 }
12268 % parameter is a string
12269 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
12270 % parameter is a string
12271 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
12272 % parameter is a string
12273 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
12274 % parameter is a string
12275 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
12276 % parameter is a Boolean
12277 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
12278 % parameter is a integer or name
12279 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
12280 % parameter is a name
12281 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
12282 % parameter is a string
12283 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
12284 % parameter is a array
12285 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
12286 % parameter is a integer
12287 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
12288 % parameter is a name
12289 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
12290 % parameter is a string
12291 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
12292 % parameter is a string
12293 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
12294 % parameter is a string
12295 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
12296 % parameter is an array
12297 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
12298 % parameter is a string
12299 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```
12300 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
12301 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
12302 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
12303 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
12304 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
12305 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
12306 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
12307 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
12308 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
12309 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
12310 \define@key{PDF}{Trapped}{%
12311   \edef\Hy@temp{#1}%
12312   \ifx\Hy@temp\@empty
12313     \else
12314       \pdf@addtoks{/#1}{Trapped}%
12315     \fi
12316 }
12317
12318 </pdfmarkbase>
12319 <*pdfmark>
12320 \def\Acrobatmenu#1#2{%
12321   \EdefEscapeName\Hy@temp@menu{#1}%
12322   \Hy@Acrobatmenu{#1}{#2}{%
12323     \pdfmark[#{#2}]{%
12324       linktype=menu,%
12325       pdfmark=/ANN,%
12326       AcroHighlight=\@pdfhighlight,%
12327       Border=\@pdfborder,%
12328       BorderStyle=\@pdfborderstyle,%
12329       Color=\@menubordercolor,%
12330       Action={<</Subtype/Named/N/\Hy@temp@menu>>},%
12331       Subtype=/Link,%
12332       PDFAFlags=4%
12333     }%
12334   }%
12335 }
```

And now for some useful examples:

```
12336 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}}
12337 \def\PDFNextPage@[#1]#2{%
12338   \pdfmark[#{#2}]{%
12339     #1,%
12340     Border=\@pdfborder,%
12341     BorderStyle=\@pdfborderstyle,%
12342     Color=.2 .1 .5,%
12343     pdfmark=/ANN,%
12344     Subtype=/Link,%
12345     PDFAFlags=4,%
12346     Page=/Next%
```

```

12347 }%
12348 }
12349 \def\PDFPreviousPage{%
12350 \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
12351 }
12352 \def\PDFPreviousPage@[#1]#2{%
12353 \pdfmark[#2]{%
12354 #1,%
12355 Border=\@pdfborder,%
12356 BorderStyle=\@pdfborderstyle,%
12357 Color=.4 .4 .1,%
12358 pdfmark=/ANN,%
12359 Subtype=/Link,%
12360 PDFAFlags=4,%
12361 Page=/Prev%
12362 }%
12363 }
12364 \def\PDFOpen#1{%
12365 \pdfmark{#1,pdfmark=/DOCVIEW}%
12366 }

```

This will only work if you use Distiller 2.1 or higher.

```

12367 \def\hyper@linkurl#1#2{%
12368 \begingroup
12369 \Hy@pstringdef\Hy@pstringURI{#2}%
12370 \hyper@chars
12371 \leavevmode
12372 \pdfmark[#1]{%
12373 pdfmark=/ANN,%
12374 linktype=url,%
12375 AcroHighlight=\@pdfhighlight,%
12376 Border=\@pdfborder,%
12377 BorderStyle=\@pdfborderstyle,%
12378 Color=\@urlbordercolor,%
12379 Action={<<%
12380 /Subtype/URI%
12381 /URI(\Hy@pstringURI)%
12382 \ifHy@href@ismap
12383 /IsMap true%
12384 \fi
12385 >>},%
12386 Subtype=/Link,%
12387 PDFAFlags=4%
12388 }%
12389 \endgroup
12390 }
12391 \def\hyper@linkfile#1#2#3{%
12392 \begingroup
12393 \def\Hy@pstringF{#2}%
12394 \Hy@CleanupFile\Hy@pstringF

```

```

12395 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
12396 \Hy@pstringdef\Hy@pstringD{#3}%
12397 \Hy@MakeRemoteAction
12398 \leavevmode
12399 \pdfmark[#{#1}]{%
12400 pdfmark=/ANN,%
12401 Subtype=/Link,%
12402 PDFAFlags=4,%
12403 AcroHighlight=\@pdfhighlight,%
12404 Border=\@pdfborder,%
12405 BorderStyle=\@pdfborderstyle,%
12406 linktype=file,%
12407 Color=\@filebordercolor,%
12408 Action={%
12409 <<%
12410 /S/GoToR%
12411 \Hy@SetNewWindow
12412 /F(\Hy@pstringF)%
12413 /D%
12414 \ifx\#3\%
12415 [\Hy@href@page\@pdfremotestartview]%
12416 \else
12417 (\Hy@pstringD)cvn%
12418 \fi
12419 \Hy@href@nextactionraw
12420 >>%
12421 }%
12422 }%
12423 \endgroup
12424 }
12425 \def\@hyper@launch run:#{#1}\#2#3{%
12426 \begingroup
12427 \Hy@pstringdef\Hy@pstringF{#1}%
12428 \Hy@pstringdef\Hy@pstringP{#3}%
12429 \leavevmode
12430 \pdfmark[#{#2}]{%
12431 pdfmark=/ANN,%
12432 Subtype=/Link,%
12433 PDFAFlags=4,%
12434 AcroHighlight=\@pdfhighlight,%
12435 Border=\@pdfborder,%
12436 BorderStyle=\@pdfborderstyle,%
12437 linktype=run,%
12438 Color=\@runbordercolor,%
12439 Action={%
12440 <<%
12441 /S/Launch%
12442 \Hy@SetNewWindow
12443 /F(\Hy@pstringF)%
12444 \ifx\#3\%

```

```

12445     \else
12446       /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
12447     \fi
12448     \Hy@href@nextactionraw
12449     >>%
12450   }%
12451 }%
12452 \endgroup
12453 }
12454 </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.

```

12455 <*dvips>
12456 \providecommand*\XR@ext}{pdf}
12457 \let\Hy@raisedlink\ltx@empty
12458 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
12459 \def\headerps@out#1{\special{! #1}}%
12460 \input{pdfmark.def}%
12461 \ifx\@pdfproducer\relax
12462   \def\@pdfproducer{dvips + Distiller}%
12463 \fi
12464 \providecommand*\@pdfborder{0 0 1}
12465 \providecommand*\@pdfborderstyle{}
12466 \providecommand*\@pdfview{XYZ}
12467 \providecommand*\@pdfviewparams{ H.V}
12468 \def\Hy@BorderArrayPatch{BorderArrayPatch}
12469 \g@addto@macro\Hy@FirstPageHook{%
12470   \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.

```

12471 /DvipsToPDF{72.27 mul Resolution div} def%
12472 /PDFToDvips{72.27 div Resolution mul} def%
12473 /BPToDvips{72 div Resolution mul}def

```

The values inside the `/Border` array are not taken literally, but interpreted by ghostscript using the resolution of the dvi driver. I don't know how other distiller programs behaves in this manner.

Note GhostScript changed its behaviour here and later versions do not need this scaling, so test the PostScript interpreter is GhostScript and if so check its version.

If using gs and release > 9.27 no-op, otherwise patch.

```

12474 product (Ghostscript) search {pop pop pop revision 927 gt}%
12475 {pop false} ifelse%
12476 {%
12477 /BorderArrayPatch{} def%
12478 }%
12479 {%
12480 /BorderArrayPatch{%
12481 [exch{%
12482 dup dup type/integertype eq exch type/realttype eq or%
12483 {BPToDvips}if%
12484 }forall]%
12485 }def%
12486 } ifelse

```

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.

```

12487 /HyperBorder {1 PDFToDvips} def%
12488 /H.V {pdf@hoff pdf@voff null} def%
12489 /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

```

12490 /H.S {%
12491 currentpoint %
12492 HyperBorder add /pdf@lly exch def %
12493 dup DvipsToPDF 72 add /pdf@hoff exch def %
12494 HyperBorder sub /pdf@llx exch def%
12495 } def%

```

The calculation of upper left  $y$  is done without raising the point in  $\text{T}_{\text{E}}\text{X}$ , by simply adding on the current `\baselineskip` to the current  $y$ . This is usually too much, so we remove a notional 2 points.

We have to see what the current `baselineskip` is, and convert it to the dvips coordinate system.

Argument: `baselineskip` in pt. The  $x$  and  $y$  coordinates of the current point, minus the `baselineskip`

```

12496 /H.L {%
12497 2 sub dup%
12498 /HyperBasePt exch def %

```

```

12499   PDFToDvips /HyperBaseDvips exch def %
12500   currentpoint %
12501   HyperBaseDvips sub /pdf@ury exch def%
12502   /pdf@urx exch def%
12503   } def%
12504   /H.A {%
12505     H.L %
12506 % | /pdf@voff| = the distance from the top of the page to a point
12507 % |\baselineskip| above the current point in PDF coordinates
12508   currentpoint exch pop %
12509   vsize 72 sub exch DvipsToPDF %
12510   HyperBasePt sub % baseline skip
12511   sub /pdf@voff exch def%
12512   } def%
12513   /H.R {%
12514     currentpoint %
12515     HyperBorder sub /pdf@ury exch def %
12516     HyperBorder add /pdf@urx exch def %
12517 % | /pdf@voff| = the distance from the top of the page to the current point, in
12518 % PDF coordinates
12519     currentpoint exch pop vsize 72 sub %
12520     exch DvipsToPDF sub /pdf@voff exch def%
12521   } def%
12522   }%
12523 }
12524 \AtBeginShipoutFirst{%
12525   \ifHy@setpagesize
12526     \begingroup
12527     \@ifundefined{stockwidth}{%
12528       \ifdim\paperwidth>\z@
12529         \ifdim\paperheight>\z@
12530           \special{papersize=\the\paperwidth,\the\paperheight}%
12531         \fi
12532       \fi
12533     }{%
12534       \ifdim\stockwidth>\z@
12535         \ifdim\stockheight>\z@
12536           \special{papersize=\the\stockwidth,\the\stockheight}%
12537         \fi
12538       \fi
12539     }%
12540   \endgroup
12541   \fi
12542   \Hy@DisableOption{setpagesize}%
12543 }
12544 \def\setpdfinkmargin#1{%
12545   \begingroup
12546   \setlength{\dimen@}{#1}%
12547   \literalps@out{%

```

```

12548   /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
12549   }%
12550   \endgroup
12551 }
12552 </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.

```

12553 <*vtexpdfmark>
12554 \providecommand*\XR@ext}{pdf}
12555 \let\Hy@raisedlink\ltx@empty
12556 \def\literalps@out#1{\special{pS:#1}}%
12557 \def\headerps@out#1{\immediate\special{pS:#1}}%
12558 \input{pdfmark.def}%
12559 \ifx\@pdfproducer\relax
12560   \ifnum\OpMode=\@ne
12561     \def\@pdfproducer{VTeX}%
12562   \else
12563     \def\@pdfproducer{VTeX + Distiller}%
12564   \fi
12565 \fi
12566 \providecommand*\@pdfborder{0 0 1}
12567 \providecommand*\@pdfborderstyle{}
12568 \providecommand*\@pdfview{XYZ}
12569 \providecommand*\@pdfviewparams{ H.V}
12570 \g@addto@macro\Hy@FirstPageHook{%
12571   \headerps@out{%
12572     /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.

```

12573   /HyperBorder {1} def%
12574   /H.V {pdf@hoff pdf@voff null} def%
12575   /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:  $\text{pdf@lly} = Y_c - \text{HyperBorder}$ ,  $\text{pdf@hoff} = X_c + 72$ ,  $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

12576   /H.S {%
12577     currentpoint %
12578     HyperBorder sub%
12579     /pdf@lly exch def %
12580     dup 72 add /pdf@hoff exch def %
12581     HyperBorder sub%

```

```

12582 /pdf@llx exch def%
12583 } def%

```

The  $x$  and  $y$  coordinates of the current point, minus the `\baselineskip`:  $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$ ,  $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

12584 /H.L {%
12585 2 sub%
12586 /HyperBasePt exch def %
12587 currentpoint %
12588 HyperBasePt add HyperBorder add%
12589 /pdf@ury exch def %
12590 HyperBorder add%
12591 /pdf@urx exch def%
12592 } def%
12593 /H.A {%
12594 H.L %
12595 currentpoint exch pop %
12596 vsize 72 sub exch %
12597 HyperBasePt add add%
12598 /pdf@voff exch def%
12599 } def%

```

$\text{pdf@ury} = Y_c + \text{HyperBorder}$ ,  $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

12600 /H.R {%
12601 currentpoint %
12602 HyperBorder add%
12603 /pdf@ury exch def %
12604 HyperBorder add%
12605 /pdf@urx exch def %
12606 currentpoint exch pop vsize 72 sub add%
12607 /pdf@voff exch def%
12608 } def%
12609 }%
12610 }

```

```

12611 \def\setpdfinkmargin#1{%
12612 \begingroup
12613 \setlength{\dimen@}{#1}%
12614 \literalps@out{%
12615 /HyperBorder{\strip@pt\dimen@}def%
12616 }%
12617 \endgroup
12618 }

```

```

12619 </vtxpdfmark>

```

## 47.11 Textures

```

12620 <*textures>
12621 \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.

```
12622 \begingroup
12623 \obeylines %
12624 \gdef\Hy@ps@CR{\noexpand
12625 }%
12626 \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`.

```
12627 \def\literalps@out#1{%
12628 \special{postscript 0 0 transform}%
12629 \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
12630 }%
12631 %
```

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.

```
12632 \def\headerps@out#1{%
12633 \special{%
12634 prepostscript TeXdict begin\Hy@ps@CR
12635 #1\Hy@ps@CR
12636 end%
12637 }%
12638 }%
12639 %
```

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.

```
12640 \g@addto@macro\Hy@FirstPageHook{%
12641 \headerps@out{%
12642 /betterpdfmark {%
```

```

12643    systemdict begin %
12644      dup /BP eq%
12645      {cleartomark gsave nulldevice []}%
12646      {dup /EP eq%
12647        {cleartomark cleartomark grestore}%
12648        {cleartomark}%
12649        ifelse%
12650      }ifelse %
12651    end%
12652  }def\Hy@ps@CR
12653  ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
12654  }% end of \headerps@out
12655  }% end of \AtBeginShipoutFirst
12656  %
12657  \input{pdfmark.def}%
12658  %
12659  \ifx\@pdfproducer\relax
12660    \def\@pdfproducer{Textures + Distiller}%
12661  \fi
12662  \providecommand*\@pdfborder{0 0 1}
12663  \providecommand*\@pdfborderstyle{}
12664  \providecommand*\@pdfview{XYZ}
12665  \providecommand*\@pdfviewparams{ H.V}
12666  %

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called `pdf@llx` `pdf@lly` `pdf@urx` `pdf@ury`, which are the coordinates of the bounding rectangle of the link, and `pdf@hoff` `pdf@voff` which are the PDF page offsets. The Rect pair are called at the LL and UR corners of a box known to  $\TeX$ .

```

12667 \Hy@AtBeginDocument{%
12668   \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

12669   /vsize {\Hy@pageheight} def%
12670   /DvipsToPDF {} def%
12671   /PDFToDvips {} def%
12672   /BPToDvips {} def%
12673   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
12674   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
12675   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
12676   /H.S {}%
12677   currentpoint %
12678   HyperBorder add /pdf@lly exch def %
12679   dup DvipsToPDF 72 add /pdf@hoff exch def %
12680   HyperBorder sub /pdf@llx exch def%
12681 } def\Hy@ps@CR
12682 /H.L {}%
12683 2 sub %

```

```

12684 PDFToDvips /HyperBase exch def %
12685 currentpoint %
12686 HyperBase sub /pdf@ury exch def%
12687 /pdf@urx exch def%
12688 } def\Hy@ps@CR
12689 /H.A {%
12690 H.L %
12691 currentpoint exch pop %
12692 vsize 72 sub exch DvipsToPDF %
12693 HyperBase sub % baseline skip
12694 sub /pdf@voff exch def%
12695 } def\Hy@ps@CR
12696 /H.R {%
12697 currentpoint %
12698 HyperBorder sub /pdf@ury exch def %
12699 HyperBorder add /pdf@urx exch def %
12700 currentpoint exch pop vsize 72 sub %
12701 exch DvipsToPDF sub /pdf@voff exch def%
12702 } def\Hy@ps@CR
12703 }%
12704 }

12705 \def\setpdfinkmargin#1{%
12706 \begingroup
12707 \setlength{\dimen@}{#1}%
12708 \literalps@out{%
12709 /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
12710 }%
12711 \endgroup
12712 }

12713 \Hy@AtBeginDocument{%
12714 \ifHy@colorlinks
12715 \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
12716 \fi
12717 }

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.

12718 \expandafter\let\expandafter\keepPDF@SetupDoc
12719 \csname PDF@SetupDoc\endcsname
12720 \def\PDF@SetupDoc{%
12721 \ifx\@baseurl\@empty
12722 \else
12723 \special{html:<base href="\@baseurl">}%
12724 \fi
12725 \keepPDF@SetupDoc
12726 }
12727 \Hy@WrapperDef\hyper@anchor#1{%
12728 \Hy@SaveLastskip

```

```

12729 \Hy@VerboseAnchor{#1}%
12730 \begingroup
12731 \let\protect=\string
12732 \special{html:<a name=%
12733     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12734 \endgroup
12735 \Hy@activeanchortrue
12736 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12737 \special{html:</a>}%
12738 \Hy@activeanchorfalse
12739 \Hy@RestoreLastskip
12740 }
12741 \Hy@WrapperDef\hyper@anchorstart#1{%
12742 \Hy@SaveLastskip
12743 \Hy@VerboseAnchor{#1}%
12744 \begingroup
12745 \hyper@chars
12746 \special{html:<a name=%
12747     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12748 \endgroup
12749 \Hy@activeanchortrue
12750 }
12751 \def\hyper@anchorend{%
12752 \special{html:</a>}%
12753 \Hy@activeanchorfalse
12754 \Hy@RestoreLastskip
12755 }
12756 \def\@urltype{url}
12757 \def\hyper@linkstart#1#2{%
12758 \Hy@VerboseLinkStart{#1}{#2}%
12759 \expandafter\Hy@colorlink\csname @#1color\endcsname
12760 \def\Hy@tempa{#1}%
12761 \ifx\Hy@tempa\@urltype
12762 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12763 \else
12764 \begingroup
12765 \hyper@chars
12766 \special{%
12767     html:<a href=%
12768     \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>%
12769     }%
12770 \endgroup
12771 \fi
12772 }
12773 \def\hyper@linkend{%
12774 \special{html:</a>}%
12775 \Hy@endcolorlink
12776 }
12777 \def\hyper@linkfile#1#2#3{%
12778 \hyper@linkurl{#1}{%

```

```

12779 \Hy@linkfileprefix#2\ifx\|#3\\\else\##3\fi
12780 }%
12781 }
12782 \def\hyper@linkurl#1#2{%
12783 \leavevmode
12784 \ifHy@raiselinks
12785 \Hy@SaveSpaceFactor
12786 \Hy@SaveSavedSpaceFactor
12787 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12788 \Hy@RestoreSavedSpaceFactor
12789 \@linkdim\dp\@tempboxa
12790 \lower\@linkdim\hbox{%
12791 \hyper@chars
12792 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
12793 }%
12794 \Hy@colorlink\@urlcolor
12795 \Hy@RestoreSpaceFactor
12796 #1\Hy@xspace@end
12797 \Hy@SaveSpaceFactor
12798 \@linkdim\ht\@tempboxa
12799 \advance\@linkdim by -6.5\p@
12800 \raise\@linkdim\hbox{\special{html:</a>}}%
12801 \Hy@endcolorlink
12802 \Hy@RestoreSpaceFactor
12803 \else
12804 \begingroup
12805 \hyper@chars
12806 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
12807 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
12808 \special{html:</a>}}%
12809 \Hy@endcolorlink
12810 \endgroup
12811 \fi
12812 }

```

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

```

12813 \def\hyper@link#1#2#3{%
12814 \Hy@VerboseLinkStart{#1}{#2}%
12815 \hyper@linkurl{#3}{\#HyperDestNameFilter{#2}}%
12816 }
12817 \def\hyper@image#1#2{%
12818 \begingroup
12819 \hyper@chars
12820 \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
12821 \endgroup
12822 }
12823 </textures>

```

## 47.12 dvipsone

```

12824 % \subsection{dvipsone driver}
12825 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
12826 % |\special| commands.
12827 (*dvipsone)
12828 \providecommand*\XR@ext}{pdf}
12829 \let\Hy@raisedlink\ltx@empty
12830 \providecommand*\@pdfborder{0 0 1}
12831 \providecommand*\@pdfborderstyle{}
12832 \def\literalps@out#1{\special{ps:#1}}%
12833 \def\headerps@out#1{\special{headertext=#1}}%
12834 \input{pdfmark.def}%
12835 \HyInfo@AddonUnsupportedtrue
12836 \def\PDF@FinishDoc{%
12837   \Hy@UseMaketitleInfos
12838   \HyInfo@TrappedUnsupported
12839   \special{PDF: Keywords \@pdfkeywords}%
12840   \special{PDF: Title \@pdftitle}%
12841   \special{PDF: Creator \@pdfcreator}%
12842   \ifx\@pdfcreationdate\@empty
12843   \else
12844     \special{PDF: CreationDate \@pdfcreationdate}%
12845   \fi
12846   \ifx\@pdfmoddate\@empty
12847   \else
12848     \special{PDF: ModDate \@pdfmoddate}%
12849   \fi
12850   \special{PDF: Author \@pdfauthor}%
12851   \ifx\@pdfproducer\relax
12852   \else
12853     \special{PDF: Producer \@pdfproducer}%
12854   \fi
12855   \special{PDF: Subject \@pdfsubject}%
12856   \Hy@DisableOption{pdfauthor}%
12857   \Hy@DisableOption{pdftitle}%
12858   \Hy@DisableOption{pdfsubject}%
12859   \Hy@DisableOption{pdfcreator}%
12860   \Hy@DisableOption{addtopdfcreator}%
12861   \Hy@DisableOption{pdfcreationdate}%
12862   \Hy@DisableOption{pdfcreationdate}%
12863   \Hy@DisableOption{pdfmoddate}%
12864   \Hy@DisableOption{pdfproducer}%
12865   \Hy@DisableOption{pdfkeywords}%
12866   \Hy@DisableOption{pdftrapped}%
12867   \Hy@DisableOption{pdfinfo}%
12868 }
12869 \def\PDF@SetupDoc{%
12870   \def\Hy@temp{}%
12871   \ifx\@pdfstartpage\@empty
12872   \else
12873     \ifx\@pdfstartview\@empty

```

```

12874 \else
12875 \edef\Hy@temp{%
12876   ,Page=\@pdfstartpage
12877   ,View=\@pdfstartview
12878 }%
12879 \fi
12880 \fi
12881 \edef\Hy@temp{%
12882 \noexpand\pdfmark{%
12883   pdfmark=/DOCVIEW,%
12884   PageMode=/\@pdfpagemode
12885   \Hy@temp
12886 }%
12887 }%
12888 \Hy@temp
12889 \ifx\@pdfpagescrop\@empty
12890 \else
12891 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
12892 \fi
12893 \edef\Hy@temp{%
12894 \ifHy@pdftoolbar\else /HideToolbar true\fi
12895 \ifHy@pdfmenubar\else /HideMenubar true\fi
12896 \ifHy@pdfwindowui\else /HideWindowUI true\fi
12897 \ifHy@pdfwindow /FitWindow true\fi
12898 \ifHy@pdfcenterwindow /CenterWindow true\fi
12899 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12900 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12901 \Hy@UseNameKey{Direction}\@pdfdirection
12902 \Hy@UseNameKey{ViewArea}\@pdfviewarea
12903 \Hy@UseNameKey{ViewClip}\@pdfviewclip
12904 \Hy@UseNameKey{PrintArea}\@pdfprintarea
12905 \Hy@UseNameKey{PrintClip}\@pdfprintclip
12906 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12907 \Hy@UseNameKey{Duplex}\@pdfduplex
12908 \ifx\@pdfpicktraybypdfsize\@empty
12909 \else
12910 /PickTrayByPDFSize \@pdfpicktraybypdfsize
12911 \fi
12912 \ifx\@pdfprintpagerange\@empty
12913 \else
12914 /PrintPageRange[\@pdfprintpagerange]%
12915 \fi
12916 \ifx\@pdfnumcopies\@empty
12917 \else
12918 /NumCopies \@pdfnumcopies
12919 \fi
12920 }%
12921 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12922 \pdfmark{%
12923 pdfmark=/PUT,%

```

```

12924 Raw={%
12925   \string{Catalog\string}<<%
12926   \ifx\Hy@temp\@empty
12927   \else
12928     /ViewerPreferences<<\Hy@temp>>%
12929   \fi
12930   \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12931   \ifx\@pdflang\relax
12932   \else
12933     /Lang(\@pdflang)%
12934   \fi
12935   \ifx\@baseurl\@empty
12936   \else
12937     /URI<</Base(\Hy@pstringB)>>%
12938   \fi
12939   >>%
12940 }%
12941 }%
12942 }
12943 \providecommand*\@pdfview{XYZ}
12944 \providecommand*\@pdfviewparams{ %
12945   gsave revscl currentpoint grestore %
12946   72 add exch pop null exch null%
12947 }
12948 \def\Hy@BorderArrayPatch{BorderArrayPatch}

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called pdf@llx pdf@lly pdf@urx pdf@ury, which are the coordinates of the bounding rectangle of the link, and pdf@hoff pdf@voff which are the PDF page offsets. These latter are currently not used in the dvipsone setup. The Rect pair are called at the LL and UR corners of a box known to T<sub>E</sub>X.

```

12949 \g@addto@macro\Hy@FirstPageHook{%
12950   \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

12951   /DvipsToPDF { 65781 div } def%
12952   /PDFToDvips { 65781 mul } def%
12953   /BPToDvips{65781 mul}def%
12954   /HyperBorder { 1 PDFToDvips } def%
12955   /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.

```

12956   /BorderArrayPatch{%
12957     [exch{%
12958       dup dup type/integertype eq exch type/realttype eq or%
12959       {BPToDvips}if%
12960     }forall]%
12961   }def%
12962   /H.S {%

```

```

12963   currentpoint %
12964   HyperBorder add /pdf@lly exch def %
12965   dup DvipsToPDF 72 add /pdf@hoff exch def %
12966   HyperBorder sub /pdf@llx exch def%
12967 } def%
12968 /H.L {%
12969   2 sub %
12970   PDFToDvips /HyperBase exch def %
12971   currentpoint %
12972   HyperBase sub /pdf@ury exch def%
12973   /pdf@urx exch def%
12974 } def%
12975 /H.A {%
12976   H.L %
12977   currentpoint exch pop %
12978   HyperBase sub % baseline skip
12979   DvipsToPDF /pdf@voff exch def%
12980 } def%
12981 /H.R {%
12982   currentpoint %
12983   HyperBorder sub /pdf@ury exch def %
12984   HyperBorder add /pdf@urx exch def %
12985   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12986 } def%
12987 }%
12988 }

12989 \def\setpdfinkmargin#1{%
12990   \begingroup
12991   \setlength{\dimen@}{#1}%
12992   \literalps@out{%
12993     /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
12994   }%
12995   \endgroup
12996 }

12997 </dvipsone>

```

### 47.13 TeX4ht

```

12998 <*tex4ht>
12999 \providecommand*{\XR@ext}{html}
13000 \let\Hy@raisedlink\ltx@empty
13001 \@ifpackageloaded{tex4ht}{%
13002   \Hy@InfoNoLine{tex4ht is already loaded}%
13003 }{%
13004   \RequirePackage[hTex4ht]{tex4ht}%
13005 }
13006 \hyperlinkfileprefix{}
13007 \let\PDF@FinishDoc\ltx@empty
13008 \def\PDF@SetupDoc{%
13009   \ifx\@baseurl\@empty

```

```

13010 \else
13011 \special{t4ht=<base href="\@baseurl">}%
13012 \fi
13013 }
13014 \Hy@WrapperDef\hyper@anchor#1{%
13015 \Hy@SaveLastskip
13016 \Hy@VerboseAnchor{#1}%
13017 \begingroup
13018 \let\protect=\string
13019 \special{t4ht=<a name=%
13020 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
13021 \endgroup
13022 \Hy@activeanchortrue
13023 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
13024 \special{t4ht=</a>}%
13025 \Hy@activeanchorfalse
13026 \Hy@RestoreLastskip
13027 }
13028 \Hy@WrapperDef\hyper@anchorstart#1{%
13029 \Hy@SaveLastskip
13030 \Hy@VerboseAnchor{#1}%
13031 \begingroup
13032 \hyper@chars\special{t4ht=<a name=%
13033 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
13034 \endgroup
13035 \Hy@activeanchortrue
13036 }
13037 \def\hyper@anchorend{%
13038 \special{t4ht=</a>}%
13039 \Hy@activeanchorfalse
13040 \Hy@RestoreLastskip
13041 }
13042 \def\@urltype{url}
13043 \def\hyper@linkstart#1#2{%
13044 \Hy@VerboseLinkStart{#1}{#2}%
13045 \expandafter\Hy@colorlink\csname @#1color\endcsname
13046 \def\Hy@tempa{#1}%
13047 \ifx\Hy@tempa\@urltype
13048 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
13049 \else
13050 \begingroup
13051 \hyper@chars
13052 \special{t4ht=<a href=%
13053 \hyper@quote#\HyperDestNameFilter{#2}\hyper@quote>}%
13054 \endgroup
13055 \fi
13056 }
13057 \def\hyper@linkend{%
13058 \special{t4ht=</a>}%
13059 \Hy@endcolorlink

```

```

13060 }
13061 \def\hyper@linkfile#1#2#3{%
13062 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
13063 }
13064 \def\hyper@linkurl#1#2{%
13065 \leavevmode
13066 \ifHy@raiselinks
13067 \Hy@SaveSpaceFactor
13068 \Hy@SaveSavedSpaceFactor
13069 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
13070 \Hy@RestoreSavedSpaceFactor
13071 \@linkdim\dp\@tempboxa
13072 \lower\@linkdim\hbox{%
13073 \begingroup
13074 \hyper@chars
13075 \special{%
13076 t4ht=<a href=\hyper@quote#2\hyper@quote>%
13077 }%
13078 \endgroup
13079 }%
13080 \Hy@colorlink\@urlcolor
13081 \Hy@RestoreSpaceFactor
13082 #1\Hy@xspace@end
13083 \Hy@SaveSpaceFactor
13084 \Hy@endcolorlink
13085 \@linkdim\ht\@tempboxa
13086 \advance\@linkdim by -6.5\p@
13087 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
13088 \Hy@RestoreSpaceFactor
13089 \else
13090 \begingroup
13091 \hyper@chars
13092 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
13093 \Hy@colorlink\@urlcolor
13094 #1\Hy@xspace@end
13095 \Hy@endcolorlink
13096 \special{t4ht=</a>}%
13097 \endgroup
13098 \fi
13099 }

Poor implementation of \hyper@link without considering #1.
13100 \def\hyper@link#1#2#3{%
13101 \Hy@VerboseLinkStart{#1}{#2}%
13102 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
13103 }
13104 \def\hyper@image#1#2{%
13105 \begingroup
13106 \hyper@chars
13107 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%

```

```

13108 \endgroup
13109 }
13110 \let\autoref\ref
13111 \ifx \rEfLiNK \UnDef
13112 \def\rEfLiNK #1#2{#2}%
13113 \fi
13114 \let\backref\ltx@gobble
Fix for tex4ht.
13115 \AtBeginDocument{%
13116 \expandafter
13117 \let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
13118 \expandafter\def\csname Make:Label\endcsname#1#2{%
13119 \iffmode
13120 \Hy@SaveSpaceFactor
13121 \else
13122 \global\Hy@SavedSpaceFactor=1000 %
13123 \fi
13124 \Hy@OrgMakeLabel{#1}{%
13125 \Hy@RestoreSpaceFactor
13126 #2\Hy@xspace@end%
13127 \Hy@SaveSpaceFactor
13128 }%
13129 \Hy@RestoreSpaceFactor
13130 }%
13131 }
13132 </tex4ht>
13133 <*tex4htcfg>
13134 \IfFileExists{\jobname.cfg}{\endinput}{}
13135 \Preamble{html}
13136 \begin{document}%
13137 \EndPreamble
13138 \def\TeX{TeX}
13139 \def\OMEGA{Omega}
13140 \def\LaTeX{LaTeX}
13141 \def\LaTeXe{\LaTeXe}
13142 \def\eTeX{eTeX}
13143 \def\MF{Metafont}
13144 \def\MP{MetaPost}
13145 </tex4htcfg>

```

## 48 Driver-specific form support

### 48.1 pdfmarks

```

13146 <*pdfmark>
13147 \long\def\@Form[#1]{%
13148 \g@addto@macro\Hy@FirstPageHook{%
13149 \headerps@out{%
13150 [%
13151 /_objdef{pdfDocEncoding}%

```

13152 /type/dict%  
13153 /OBJ pdfmark%  
13154 [%  
13155 {pdfDocEncoding}%  
13156 <<%  
13157 /Type/Encoding%  
13158 /Differences%  
13159 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%  
13160 /tilde %  
13161 39/quotesingle %  
13162 96/grave %  
13163 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%  
13164 /fraction/guilsinglleft/guilsinglright/minus/perthousand%  
13165 /quotedblbase/quotedblleft/quotedblright/quoteleft%  
13166 /quoteright/quotesingbase/trademark/fi/fl/Lslash/OE/Scaron%  
13167 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %  
13168 164/currency %  
13169 166/brokenbar %  
13170 168/dieresis/copyright/ordfeminine %  
13171 172/logicalnot/.notdef/registered/macron/degree/plusminus%  
13172 /twosuperior/threesuperior/acute/mu %  
13173 183/periodcentered/cedilla/onesuperior/ordmasculine %  
13174 188/onequarter/onehalf/threequarters %  
13175 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%  
13176 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%  
13177 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%  
13178 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%  
13179 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%  
13180 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%  
13181 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%  
13182 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%  
13183 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%  
13184 /ucircumflex/udieresis/yacute/thorn/ydieresis%  
13185 ]%  
13186 >>%  
13187 /PUT pdfmark%  
13188 [%  
13189 /\_objdef{ZaDb}%  
13190 /type/dict%  
13191 /OBJ pdfmark%  
13192 [%  
13193 {ZaDb}%  
13194 <<%  
13195 /Type/Font%  
13196 /Subtype/Type1%  
13197 /Name/ZaDb%  
13198 /BaseFont/ZapfDingbats%  
13199 >>%  
13200 /PUT pdfmark%  
13201 [%

```

13202 /_objdef{Helv}%
13203 /type/dict%
13204 /OBJ pdfmark%
13205 [%
13206 {Helv}%
13207 <<%
13208 /Type/Font%
13209 /Subtype/Type1%
13210 /Name/Helv%
13211 /BaseFont/Helvetica%
13212 /Encoding{pdfDocEncoding}%
13213 >>%
13214 /PUT pdfmark%
13215 [%
13216 /_objdef{aform}%
13217 /type/dict%
13218 /OBJ pdfmark%
13219 [%
13220 /_objdef{afields}%
13221 /type/array%
13222 /OBJ pdfmark%
13223 [%
13224 /_objdef{corder}%
13225 /type/array%
13226 /OBJ pdfmark%
13227 {%
13228 [%
13229 /BBox[0 0 100 100]%
13230 /_objdef{Check}%
13231 /BP pdfmark %
13232 1 0 0 setrgbcolor%
13233 /ZapfDingbats 80 selectfont %
13234 20 20 moveto%
13235 (4)show%
13236 [/EP pdfmark%
13237 [%
13238 /BBox[0 0 100 100]%
13239 /_objdef{Cross}%
13240 /BP pdfmark %
13241 1 0 0 setrgbcolor%
13242 /ZapfDingbats 80 selectfont %
13243 20 20 moveto%
13244 (8)show%
13245 [/EP pdfmark%
13246 [%
13247 /BBox[0 0 250 100]%
13248 /_objdef{Submit}%
13249 /BP pdfmark %
13250 0.6 setgray %
13251 0 0 250 100 rectfill %

```

13252 1 setgray %  
13253 2 2 moveto %  
13254 2 98 lineto %  
13255 248 98 lineto %  
13256 246 96 lineto %  
13257 4 96 lineto %  
13258 4 4 lineto %  
13259 fill %  
13260 0.34 setgray %  
13261 248 98 moveto %  
13262 248 2 lineto %  
13263 2 2 lineto %  
13264 4 4 lineto %  
13265 246 4 lineto %  
13266 246 96 lineto %  
13267 fill%  
13268 /Helvetica 76 selectfont %  
13269 0 setgray %  
13270 8 22.5 moveto%  
13271 (Submit)show%  
13272 [/EP pdfmark%  
13273 [%  
13274 /BBox[0 0 250 100]%  
13275 /\_objdef{SubmitP}%  
13276 /BP pdfmark %  
13277 0.6 setgray %  
13278 0 0 250 100 rectfill %  
13279 0.34 setgray %  
13280 2 2 moveto %  
13281 2 98 lineto %  
13282 248 98 lineto %  
13283 246 96 lineto %  
13284 4 96 lineto %  
13285 4 4 lineto %  
13286 fill %  
13287 1 setgray %  
13288 248 98 moveto %  
13289 248 2 lineto %  
13290 2 2 lineto %  
13291 4 4 lineto %  
13292 246 4 lineto %  
13293 246 96 lineto %  
13294 fill%  
13295 /Helvetica 76 selectfont %  
13296 0 setgray %  
13297 10 20.5 moveto%  
13298 (Submit)show%  
13299 [/EP pdfmark%  
13300 } ?pdfmark%  
13301 [%

```

13302 {aform}%
13303 <<%
13304 /Fields{afields}%
13305 /DR<<%
13306 /Font<<%
13307 /ZaDb{ZaDb}%
13308 /Helv{Helv}%
13309 >>%
13310 >>%
13311 /DA(/Helv 10 Tf 0 g)%
13312 /CO{corder}%
13313 \ifHy@pdfa
13314 \else
13315 \ifHyField@NeedAppearances
13316 /NeedAppearances true%
13317 \fi
13318 \fi
13319 >>%
13320 /PUT pdfmark%
13321 [%
13322 {Catalog}%
13323 <<%
13324 /AcroForm{aform}%
13325 >>%
13326 /PUT pdfmark%
13327 }]%
13328 \kvsetkeys{Form}{#1}%
13329 }
13330 \let\@endForm\ltx@empty
13331 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13332 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
13333 }

13334 \newcount\HyField@AnnotCount
13335 \HyField@AnnotCount=\z@
13336 \def\HyField@AdvanceAnnotCount{%
13337 \global\advance\HyField@AnnotCount\@ne
13338 }
13339 \def\HyField@TheAnnotCount{%
13340 \the\HyField@AnnotCount
13341 }

13342 \edef\Fld@pageobjref{/P\string{ThisPage\string}}
13343 \def\HyField@AddToFields#1{%
13344 \pdfmark{%
13345 pdfmark=/APPEND,%
13346 Raw={%
13347 \string{afields\string}%
13348 \string{#1\HyField@TheAnnotCount\string}%
13349 }%
13350 }%

```

```

13351 \ifx\Fld@calculate@code\ltx@empty
13352 \else
13353 \pdfmark{%
13354 pdfmark=/APPEND,%
13355 Raw={%
13356 \string{corder\string}%
13357 \string{#1\HyField@TheAnnotCount\string}%
13358 }%
13359 }%
13360 \fi
13361 }

13362 \def\@TextField[#1]#2{% parameters, label
13363 \def\Fld@name{#2}%
13364 \let\Fld@default\ltx@empty
13365 \let\Fld@value@empty
13366 \def\Fld@width{\DefaultWidthofText}%
13367 \def\Fld@height{%
13368 \ifFld@multiline
13369 \DefaultHeightofTextMultiline
13370 \else
13371 \DefaultHeightofText
13372 \fi
13373 }%
13374 \begingroup
13375 \expandafter\HyField@SetKeys\expandafter{%
13376 \DefaultOptionsofText,#1%
13377 }%
13378 \HyField@FlagsText
13379 \ifFld@hidden\def\Fld@width{1sp}\fi
13380 \ifx\Fld@value@empty\def\Fld@value{\Fld@default}\fi
13381 \HyField@AdvanceAnnotCount
13382 \LayoutTextField{#2}{%
13383 \leavevmode
13384 \Hy@escapeform\PDFForm@Text
13385 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
13386 pdfmark=/ANN,%
13387 objdef=text\HyField@TheAnnotCount,%
13388 Raw={\PDFForm@Text}%
13389 }%
13390 }%
13391 \HyField@AddToFields{text}%
13392 \endgroup
13393 }

13394 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13395 \def\Fld@name{#2}%
13396 \let\Fld@default\relax
13397 \let\Fld@value\relax
13398 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13399 \def\Fld@height{\DefaultHeightofChoiceMenu}%

```

```

13400 \begingroup
13401 \Fld@menulength=0 %
13402 \@tempdima\z@
13403 \@for\@curropt:=#3\do{%
13404 \expandafter\Fld@checkequals\@curropt==\%
13405 \Hy@StepCount\Fld@menulength
13406 \settowidth{\@tempdimb}{\@currDisplay}%
13407 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13408 }%
13409 \advance\@tempdima by 15\p@
13410 \begingroup
13411 \HyField@SetKeys{#1}%
13412 \edef\x{\endgroup
13413 \noexpand\expandafter
13414 \noexpand\HyField@SetKeys
13415 \noexpand\expandafter{%
13416 \expandafter\noexpand\csname DefaultOptionsof%
13417 \ifFld@radio
13418 Radio%
13419 \else
13420 \ifFld@combo
13421 \ifFld@popdown
13422 PopdownBox%
13423 \else
13424 ComboBox%
13425 \fi
13426 \else
13427 ListBox%
13428 \fi
13429 \fi
13430 \endcsname
13431 }%
13432 }\x
13433 \HyField@SetKeys{#1}%
13434 \ifFld@hidden\def\Fld@width{1sp}\fi
13435 \ifx\Fld@value\relax
13436 \let\Fld@value\Fld@default
13437 \fi
13438 \LayoutChoiceField{#2}{%
13439 \ifFld@radio
13440 \HyField@FlagsRadioButton
13441 \@@Radio{#3}%
13442 \else
13443 \begingroup
13444 \HyField@FlagsChoice
13445 \ifdim\Fld@width<\@tempdima
13446 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13447 \edef\Fld@width{\the\@tempdima}%
13448 \fi
13449 \ifFld@combo

```

```

13450     \else
13451     \@tempdima=\the\Fld@menulength\Fld@charsize
13452     \advance\@tempdima by \Fld@borderwidth bp %
13453     \advance\@tempdima by \Fld@borderwidth bp %
13454     \edef\Fld@height{\the\@tempdima}%
13455     \fi
13456     \@@ListBox{#3}%
13457     \endgroup
13458   \fi
13459 }%
13460 \endgroup
13461 }
13462 \def\@@Radio#1{%
13463   \Fld@listcount=0 %
13464   \EdefEscapeName\Fld@default{\Fld@default}%
13465   \@for\@curropt:=#1\do{%
13466     \expandafter\Fld@checkequals\@curropt==\%
13467     \EdefEscapeName\@currValue{\@currValue}%
13468     \Hy@StepCount\Fld@listcount
13469     \@currDisplay\space
13470     \Hy@escapeform\PDFForm@Radio
13471     \ifnum\Fld@listcount=1 %
13472       \HyField@AdvanceAnnotCount
13473     \fi
13474     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
13475       pdfmark=/ANN,%
13476       objdef=\ifnum\Fld@listcount=1 radio\HyField@TheAnnotCount\fi,%
13477       Raw={%
13478         \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
13479       }%
13480   } % deliberate space between radio buttons
13481   \ifnum\Fld@listcount=1 %
13482     \HyField@AddToFields{radio}%
13483   \fi
13484 }%
13485 }
13486 \newcount\Fld@listcount
13487 \def\@@ListBox#1{%
13488   \HyField@PDFChoices{#1}%
13489   \Hy@escapeform\PDFForm@List
13490   \HyField@AdvanceAnnotCount
13491   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
13492     pdfmark=/ANN,%
13493     objdef=list\HyField@TheAnnotCount,%
13494     Raw={\PDFForm@List}%
13495   }%
13496   \HyField@AddToFields{list}%
13497 }
13498 \def\@PushButton[#1]#2{% parameters, label
13499   \def\Fld@name{#2}%

```

```

13500 \begingroup
13501 \expandafter\HyField@SetKeys\expandafter{%
13502   \DefaultOptionsofPushButton,#1%
13503 }%
13504 \ifHy@pdfa
13505   \Hy@Error{%
13506     PDF/A: Push button with JavaScript is prohibited%
13507   }\@ehc
13508   \LayoutPushButtonField{%
13509     \leavevmode
13510     \MakeButtonField{#2}%
13511   }%
13512 \else
13513   \HyField@FlagsPushButton
13514   \ifFld@hidden\def\Fld@width{1sp}\fi
13515   \HyField@AdvanceAnnotCount
13516   \LayoutPushButtonField{%
13517     \leavevmode
13518     \Hy@escapeform\PDFForm@Push
13519     \pdfmark[\MakeButtonField{#2}]{%
13520       pdfmark=/ANN,%
13521       objdef=push\HyField@TheAnnotCount,%
13522       Raw={\PDFForm@Push}%
13523     }%
13524   }%
13525   \HyField@AddToFields{push}%
13526 \fi
13527 \endgroup
13528 }
13529 \def\@Submit[#1]#2{%
13530   \def\Fld@width{\DefaultWidthofSubmit}%
13531   \def\Fld@height{\DefaultHeightofSubmit}%
13532 \begingroup
13533   \expandafter\HyField@SetKeys\expandafter{%
13534     \DefaultOptionsofSubmit,#1%
13535   }%
13536   \HyField@FlagsPushButton
13537   \HyField@FlagsSubmit
13538   \ifFld@hidden\def\Fld@width{1sp}\fi
13539   \Hy@escapeform\PDFForm@Submit
13540   \HyField@AdvanceAnnotCount
13541   \pdfmark[\MakeButtonField{#2}]{%
13542     pdfmark=/ANN,%
13543     objdef=submit\HyField@TheAnnotCount,%
13544     Raw={\PDFForm@Submit /AP<</N{Submit}/D{SubmitP}>>}}%
13545   }%
13546   \HyField@AddToFields{submit}%
13547 \endgroup
13548 }
13549 \def\@Reset[#1]#2{%

```

```

13550 \def\Fld@width{\DefaultWidthofReset}%
13551 \def\Fld@height{\DefaultHeightofReset}%
13552 \begingroup
13553 \expandafter\HyField@SetKeys\expandafter{%
13554   \DefaultOptionsofReset,#1%
13555 }%
13556 \leavevmode
13557 \ifHy@pdfa
13558   \Hy@Error{%
13559     PDF/A: Reset action is prohibited%
13560   }\@ehc
13561   \MakeButtonField{#2}%
13562 \else
13563   \HyField@FlagsPushButton
13564   \ifFld@hidden\def\Fld@width{1sp}\fi
13565   \Hy@escapeform\PDFForm@Reset
13566   \HyField@AdvanceAnnotCount
13567   \pdfmark[\MakeButtonField{#2}]{%
13568     pdfmark=/ANN,%
13569     objdef=reset\HyField@TheAnnotCount,%
13570     Raw={\PDFForm@Reset}%
13571   }%
13572   \HyField@AddToFields{reset}%
13573 \fi
13574 \endgroup
13575 }%
13576 \def\@CheckBox[#1]#2{% parameters, label
13577   \def\Fld@name{#2}%
13578   \def\Fld@default{0}%
13579   \begingroup
13580   \def\Fld@width{\DefaultWidthofCheckBox}%
13581   \def\Fld@height{\DefaultHeightofCheckBox}%
13582   \expandafter\HyField@SetKeys\expandafter{%
13583     \DefaultOptionsofCheckBox,#1%
13584   }%
13585   \HyField@FlagsCheckBox
13586   \ifFld@hidden\def\Fld@width{1sp}\fi
13587   \HyField@AdvanceAnnotCount
13588   \LayoutCheckField{#2}{%
13589     \leavevmode
13590     \Hy@escapeform\PDFForm@Check
13591     \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
13592       pdfmark=/ANN,%
13593       objdef=check\HyField@TheAnnotCount,%
13594       Raw={\PDFForm@Check}%
13595     }%
13596   }%
13597   \HyField@AddToFields{check}%
13598 \endgroup
13599 }

```

13600  $\langle$ /pdfmark $\rangle$

## 48.2 HyperTeX

13601  $\langle$ \*hypertext $\rangle$

13602  $\backslash$ def $\backslash$ @Form[#1]{%

13603  $\backslash$ Hy@Message{Sorry, HyperTeX does not support FORMs}%

13604 }

13605  $\backslash$ let $\backslash$ @endForm $\backslash$ ltx@empty

13606  $\backslash$ def $\backslash$ @Gauge[#1]#2#3#4{% parameters, label, minimum, maximum

13607  $\backslash$ Hy@Message{Sorry, HyperTeX does not support FORM gauges}%

13608 }

13609  $\backslash$ def $\backslash$ @TextField[#1]#2{% parameters, label

13610  $\backslash$ Hy@Message{Sorry, HyperTeX does not support FORM text fields}%

13611 }

13612  $\backslash$ def $\backslash$ @CheckBox[#1]#2{% parameters, label

13613  $\backslash$ Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%

13614 }

13615  $\backslash$ def $\backslash$ @ChoiceMenu[#1]#2#3{% parameters, label, choices

13616  $\backslash$ Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%

13617 }

13618  $\backslash$ def $\backslash$ @PushButton[#1]#2{% parameters, label

13619  $\backslash$ Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%

13620 }

13621  $\backslash$ def $\backslash$ @Reset[#1]#2{%

13622  $\backslash$ Hy@Message{Sorry, HyperTeX does not support FORMs}%

13623 }

13624  $\backslash$ def $\backslash$ @Submit[#1]#2{%

13625  $\backslash$ Hy@Message{Sorry, HyperTeX does not support FORMs}%

13626 }

13627  $\langle$ /hypertext $\rangle$

## 48.3 TeX4ht

13628  $\langle$ \*tex4ht $\rangle$

13629  $\backslash$ def $\backslash$ @Form[#1]{%

13630  $\backslash$ kvsetkeys{Form}{#1}%

13631  $\backslash$ HCode{<form action=" $\backslash$ Form@action" method=" $\backslash$ Form@method">}%

13632 }

13633  $\backslash$ def $\backslash$ @endForm{ $\backslash$ HCode{</form>}}

13634  $\backslash$ def $\backslash$ @Gauge[#1]#2#3#4{% parameters, label, minimum, maximum

13635  $\backslash$ Hy@Message{Sorry, TeX4ht does not support gauges}%

13636 }

13637  $\backslash$ def $\backslash$ @TextField[#1]#2{% parameters, label

13638  $\backslash$ let $\backslash$ Hy@reserved@a $\backslash$ @empty

13639  $\backslash$ def $\backslash$ Fld@name{#2}%

13640  $\backslash$ let $\backslash$ Fld@default $\backslash$ ltx@empty

13641  $\backslash$ bggroup

13642  $\backslash$ Field@toks={ }%

13643  $\backslash$ kvsetkeys{Field}{#1}%

13644  $\backslash$ HCode{<label for=" $\backslash$ Fld@name">#2</label>}%

```

13645 \ifFld@password
13646 \@@PasswordField
13647 \else
13648 \@@TextField
13649 \fi
13650 \egroup
13651 }
13652 \def\@@PasswordField{%
13653 \HCode{%
13654 <input type="password" %
13655 id="\Fld@name" %
13656 name="\Fld@name" %
13657 \ifFld@hidden type="hidden" \fi
13658 value="\Fld@default" %
13659 \the\Field@toks
13660 >%
13661 }%
13662 }
13663 \def\@@TextField{%
13664 \ifFld@multiline
13665 \HCode{<textarea %
13666 \ifFld@readonly readonly \fi
13667 id="\Fld@name" %
13668 name="\Fld@name" %
13669 \ifFld@hidden type="hidden" \fi
13670 \the\Field@toks>%
13671 }%
13672 \Fld@default
13673 \HCode{</textarea>}%
13674 \else
13675 \HCode{<input type="text" %
13676 \ifFld@readonly readonly \fi
13677 id="\Fld@name" %
13678 name="\Fld@name" %
13679 \ifFld@hidden type="hidden" \fi
13680 value="\Fld@default" %
13681 \the\Field@toks>%
13682 }%
13683 \fi
13684 }
13685 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13686 \def\Fld@name{#2}%
13687 \let\Fld@default\ltx@empty
13688 \let\Hy@reserved@a\relax
13689 \begingroup
13690 \expandafter\Fld@findlength#3\%
13691 \Field@toks={ }%
13692 \kvsetkeys{Field}{#1}%
13693 #2%
13694 \ifFld@radio

```

```

13695     \expandafter\@@Radio#3\}%
13696     \else
13697     \expandafter\@@Menu#3\}%
13698     \fi
13699 \endgroup
13700 }
13701 \def\Fld@findlength#1\}%
13702 \Fld@menulength=0 %
13703 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
13704 }
13705 \def\@@Menu#1\}%
13706 \HCode{<select size="\the\Fld@menulength" %
13707     name="\Fld@name" %
13708     \the\Field@toks>%
13709 }%
13710 \@for\@curropt:=#1\do{%
13711     \expandafter\Fld@checkequals\@curropt==\}%
13712     \HCode{<option %
13713         \ifx\@curropt\Fld@default selected \fi
13714         value="\@currValue">\@currDisplay</option>%
13715     }%
13716 }%
13717 \HCode{</select>}%
13718 }
13719 \def\@@Radio#1\}%
13720 \@for\@curropt:=#1\do{%
13721     \expandafter\Fld@checkequals\@curropt==\}%
13722     \HCode{<input type="radio" %
13723         \ifx\@curropt\Fld@default checked \fi
13724         name="\Fld@name" %
13725         value="\@currValue" %
13726         \the\Field@toks>%
13727     }%
13728     \@currDisplay
13729 }%
13730 }
13731 \def\@PushButton[#1]#2{% parameters, label
13732 \def\Fld@name{#2}%
13733 \bgroup
13734 \Field@toks={ }%
13735 \kvsetkeys{Field}{#1}%
13736 \HCode{<input type="button" %
13737     name="\Fld@name" %
13738     value="#2" %
13739     \the\Field@toks>%
13740 }%
13741 \HCode{</button>}%
13742 \egroup
13743 }
13744 \def\@Submit[#1]#2{%

```

```

13745 \HCode{<button type="submit">#2</button>}%
13746 }
13747 \def\@Reset[#1]#2{%
13748 \HCode{<button type="reset">#2</button>}%
13749 }
13750 \def\@CheckBox[#1]#2{% parameters, label
13751 \let\Hy@reserved@a\@empty
13752 \def\Fld@name{#2}%
13753 \def\Fld@default{0}%
13754 \bgroup
13755 \Field@toks={ }%
13756 \kvsetkeys{Field}{#1}%
13757 \HCode{<input type="checkbox" %
13758 \ifFld@checked checked \fi
13759 \ifFld@disabled disabled \fi
13760 \ifFld@readonly readonly \fi
13761 name="\Fld@name" %
13762 \ifFld@hidden type="hidden" \fi
13763 value="\Fld@default" %
13764 \the\Field@toks>%
13765 #2%
13766 }%
13767 \egroup
13768 }
13769 </tex4ht>

```

## 48.4 pdfTeX

```

13770 <*pdftex>
13771 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13772 \Hy@Message{Sorry, pdftex does not support FORM gauges}%
13773 }
13774 \def\MakeFieldObject#1#2{\sbox0{#1}%
13775 \immediate\pdfxform0 %
13776 \expandafter\edef\csname #2Object\endcsname{%
13777 \the\pdflastxform\space 0 R%
13778 }%
13779 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}%
13780 }%
13781 \let\HyField@afields\ltx@empty
13782 \let\HyField@cofields\ltx@empty
13783 \begingroup\expandafter\expandafter\expandafter\endgroup
13784 \expandafter\ifx\csname pdflastlink\endcsname\relax
13785 \let\HyField@AddToFields\relax
13786 \PackageInfo{hyperref}{%
13787 You need pdfTeX 1.40.0 for setting the /Fields entry.%
13788 \MessageBreak
13789 Adobe Reader/Acrobat accepts an empty /Field array,%
13790 \MessageBreak
13791 but other PDF viewers might complain%

```

```

13792 }%
13793 \else
13794 \let\HyField@AuxAddToFields\ltx@gobble
13795 \let\HyField@AuxAddToCoFields\ltx@gobbletwo
13796 \def\HyField@AfterAuxOpen{\Hy@AtBeginDocument}%

Insertion sort for calculation field list. In case of equal sort keys (for example, if
‘calculatesortkey‘ is not used at all) the keys keep document calling order.
13797 \def\HyField@ABD@AuxAddToCoFields#1#2{%
13798 \begingroup
13799 \Hy@safe@activestrue
13800 \let\ltx@secondoftwo\relax
13801 \ifx\HyField@cofields\ltx@empty
13802 \xdef\HyField@cofields{%
13803 \ltx@secondoftwo{#1}{ #2 0 R}%
13804 }%
13805 \else
13806 \let\ltx@secondoftwo\relax
13807 \def\HyField@AddCoField##1##2##3{%
13808 \ifx##1\ltx@empty
13809 \ltx@secondoftwo{#1}{ #2 0 R}%
13810 \expandafter\ltx@gobble
13811 \else
13812 \ifnum\pdfstrcmp{##2}{#1}>\ltx@zero
13813 \ltx@secondoftwo{#1}{ #2 0 R}%
13814 \ltx@secondoftwo{##2}{##3}%
13815 \expandafter\expandafter\expandafter\ltx@gobble
13816 \else
13817 \ltx@secondoftwo{##2}{##3}%
13818 \fi
13819 \fi
13820 \HyField@AddCoField
13821 }%
13822 \xdef\HyField@cofields{%
13823 \expandafter\HyField@AddCoField
13824 \HyField@cofields\ltx@empty\ltx@empty\ltx@empty
13825 }%
13826 \fi
13827 \endgroup
13828 }%
13829 \Hy@AtBeginDocument{%
13830 \if@filesw
13831 \immediate\write\@mainaux{%
13832 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
13833 }%
13834 \immediate\write\@mainaux{%
13835 \string\providecommand\string\HyField@AuxAddToCoFields[2]{}%
13836 }%
13837 \fi
13838 \let\HyField@AfterAuxOpen\@firstofone

```

```

13839 \def\HyField@AuxAddToFields#1{%
13840 \xdef\HyField@afields{%
13841 \ifx\HyField@afields\@empty
13842 \else
13843 \HyField@afields
13844 \space
13845 \fi
13846 #1 0 R%
13847 }%
13848 }%
13849 \let\HyField@AuxAddToCoFields\HyField@ABD@AuxAddToCoFields
13850 }%
13851 \def\HyField@AddToFields{%
13852 \expandafter\HyField@@AddToFields\expandafter{%
13853 \the\pdfastlink
13854 }%
13855 \ifx\Fld@calculate@code\ltx@empty
13856 \else
13857 \begingroup
13858 \Hy@safe@activestrue
13859 \edef\Hy@temp{%
13860 \endgroup
13861 \if@filesw
13862 \write\@mainaux{%
13863 \string\HyField@AuxAddToCoFields{%
13864 \Fld@calculate@sortkey
13865 }{%
13866 \the\pdfastlink
13867 }%
13868 }%
13869 \fi
13870 }%
13871 \Hy@temp
13872 \fi
13873 }%
13874 \def\HyField@@AddToFields#1{%
13875 \HyField@AfterAuxOpen{%
13876 \if@filesw
13877 \write\@mainaux{%
13878 \string\HyField@AuxAddToFields{#1}%
13879 }%
13880 \fi
13881 }%
13882 }%
13883 \fi
13884 \def\@Form[#1]{%
13885 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13886 \kvsetkeys{Form}{#1}%
13887 \pdf@ifdraftmode{}{%
13888 \Hy@FormObjects

```

```

13889 \ifnum\pdfTeXversion>13 %
13890 \pdfrefobj\OBJ@pdfdocencoding
13891 \pdfrefobj\OBJ@ZaDb
13892 \pdfrefobj\OBJ@Helv
13893 \fi
13894 \AtVeryEndDocument{%
13895 \immediate\pdfobj{%
13896 <<%
13897 /Fields[\HyField@afields]%
13898 \ifx\HyField@cofields\ltx@empty
13899 \else
13900 /CO[\romannumeral-`Q\HyField@cofields]%
13901 \fi
13902 /DR<<%
13903 /Font<<%
13904 /ZaDb \OBJ@ZaDb\space 0 R%
13905 /Helv \OBJ@Helv\space 0 R%
13906 >>%
13907 >>%
13908 /DA(/Helv 10 Tf 0 g)%
13909 \ifHy@pdfa
13910 \else
13911 \ifHyField@NeedAppearances
13912 /NeedAppearances true%
13913 \fi
13914 \fi
13915 >>%
13916 }%
13917 \edef\OBJ@acroform{\the\pdfastobj}%
13918 \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
13919 }%
13920 }%
13921 \MakeFieldObject{%
Same as \ding{123} of package pifont.
13922 \begingroup
13923 \fontfamily{pzd}%
13924 \fontencoding{U}%
13925 \fontseries{m}%
13926 \fontshape{n}%
13927 \selectfont
13928 \char123 %
13929 \endgroup
13930 }{Ding}%
13931 \MakeFieldObject{%
13932 \fbox{\textcolor{yellow}{\textsf{Submit}}}%
13933 }{Submit}%
13934 \MakeFieldObject{%
13935 \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
13936 }{SubmitP}%

```

```

13937 }
13938 \let\@endForm\ltx@empty
13939 \let\HyAnn@AbsPageLabel\ltx@empty
13940 \let\Fld@pageobjref\ltx@empty
13941 \ltx@ifundefined{pdfpageref}{%
13942 }{%
13943 \ltx@ifpackageloaded{zref-abspage}{%
13944   \newcount\HyAnn@Count
13945   \HyAnn@Count=\ltx@zero
13946   \def\HyAnn@AbsPageLabel{%
13947     \global\advance\HyAnn@Count by\ltx@one
13948     \zref@labelbyprops{HyAnn@\the\HyAnn@Count}{abspage}%
13949     \zref@refused{HyAnn@\the\HyAnn@Count}%
13950   }%
13951   \def\Fld@pageobjref{%
13952     \zref@ifrefundefined{HyAnn@\the\HyAnn@Count}{%
13953       }{%
13954         \zref@ifrefcontainsprop{HyAnn@\the\HyAnn@Count}{abspage}{%
13955           /P \pdfpageref
13956           \zref@extractdefault{HyAnn@\the\HyAnn@Count}{abspage}{1} %
13957           \space 0 R%
13958         }{%
13959         }%
13960       }%
13961     }%
13962   }{%
13963   }%
13964 }

13965 \def\@TextField[#1]#2{% parameters, label
13966   \def\Fld@name{#2}%
13967   \let\Fld@default\ltx@empty
13968   \let\Fld@value\@empty
13969   \def\Fld@width{\DefaultWidthofText}%
13970   \def\Fld@height{%
13971     \ifFld@multiline
13972       \DefaultHeightofTextMultiline
13973     \else
13974       \DefaultHeightofText
13975     \fi
13976   }%
13977   \begingroup
13978     \expandafter\HyField@SetKeys\expandafter{%
13979       \DefaultOptionsofText,#1%
13980     }%
13981     \PDFForm@Name
13982     \HyField@FlagsText
13983     \ifFld@hidden\def\Fld@width{1sp}\fi
13984     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13985     \LayoutTextField{#2}{%

```

```

13986 \leavevmode
13987 \HyAnn@AbsPageLabel
13988 \Hy@escapeform\PDFForm@Text
13989 \pdfstartlink user {\PDFForm@Text}\relax
13990 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
13991 \HyField@AddToFields
13992 }%
13993 \endgroup
13994 }
13995 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13996 \def\Fld@name{#2}%
13997 \let\Fld@default\relax
13998 \let\Fld@value\relax
13999 \def\Fld@width{\DefaultWidthofChoiceMenu}%
14000 \def\Fld@height{\DefaultHeightofChoiceMenu}%
14001 \begingroup
14002 \Fld@menulength=0 %
14003 \@tempdima\z@
14004 \@for\@curropt:=#3\do{%
14005 \expandafter\Fld@checkequals\@curropt==\%
14006 \Hy@StepCount\Fld@menulength
14007 \settowidth{\@tempdimb}{\@currDisplay}%
14008 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
14009 }%
14010 \advance\@tempdima by 15\p@
14011 \begingroup
14012 \HyField@SetKeys{#1}%
14013 \edef\x{\endgroup
14014 \noexpand\expandafter
14015 \noexpand\HyField@SetKeys
14016 \noexpand\expandafter{%
14017 \expandafter\noexpand\cname DefaultOptionsof%
14018 \ifFld@radio
14019 Radio%
14020 \else
14021 \ifFld@combo
14022 \ifFld@popdown
14023 PopdownBox%
14024 \else
14025 ComboBox%
14026 \fi
14027 \else
14028 ListBox%
14029 \fi
14030 \fi
14031 \endcsname
14032 }%
14033 }x
14034 \HyField@SetKeys{#1}%
14035 \PDFForm@Name

```

```

14036 \ifFld@hidden\def\Fld@width{1sp}\fi
14037 \ifx\Fld@value\relax
14038   \let\Fld@value\Fld@default
14039 \fi
14040 \LayoutChoiceField{#2}{%
14041   \ifFld@radio
14042     \HyField@FlagsRadioButton
14043     \@@Radio{#3}%
14044   \else
14045     \begingroup
14046       \HyField@FlagsChoice
14047       \ifdim\Fld@width<\@tempdima
14048         \ifdim\@tempdima<1cm\@tempdima1cm\fi
14049         \edef\Fld@width{\the\@tempdima}%
14050       \fi
14051       \ifFld@combo
14052       \else
14053         \@tempdima=\the\Fld@menulength\Fld@charsize
14054         \advance\@tempdima by \Fld@borderwidth bp %
14055         \advance\@tempdima by \Fld@borderwidth bp %
14056         \edef\Fld@height{\the\@tempdima}%
14057       \fi
14058       \@@ListBox{#3}%
14059     \endgroup
14060   \fi
14061 }%
14062 \endgroup
14063 }
14064 \def\@@Radio#1{%
14065   \Fld@listcount=0 %
14066   \EdefEscapeName\Fld@default{\Fld@default}%
14067   \@for\@curropt:=#1\do{%
14068     \expandafter\Fld@checkequals\@curropt==\%
14069     \EdefEscapeName\@currValue{\@currValue}%
14070     \Hy@StepCount\Fld@listcount
14071     \@currDisplay\space
14072     \leavevmode
14073     \HyAnn@AbsPageLabel
14074     \Hy@escapeform\PDFForm@Radio
14075     \pdfstartlink user {%
14076       \PDFForm@Radio
14077       /AP<<%
14078       /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.

```

14079     /\@currValue\space \DingObject
14080     >>%
14081     >>%

```

```

14082 }%
14083 \relax
14084 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
14085 \ifnum\Fld@listcount=1 %
14086   \HyField@AddToFields
14087 \fi
14088 \space % deliberate space between radio buttons
14089 }%
14090 }
14091 \newcount\Fld@listcount
14092 \def\@@ListBox#1{%
14093   \HyField@PDFChoices{#1}%
14094   \leavevmode
14095   \HyAnn@AbsPageLabel
14096   \Hy@escapeform\PDFForm@List
14097   \pdfstartlink user {\PDFForm@List}\relax
14098   \MakeChoiceField{\Fld@width}{\Fld@height}%
14099   \pdfendlink
14100   \HyField@AddToFields
14101 }
14102 \def\@PushButton[#1]#2{% parameters, label
14103   \def\Fld@name{#2}%
14104   \begingroup
14105     \expandafter\HyField@SetKeys\expandafter{%
14106       \DefaultOptionsofPushButton,#1%
14107     }%
14108     \PDFForm@Name
14109     \ifHy@pdfa
14110       \Hy@Error{%
14111         PDF/A: Push button with JavaScript is prohibited%
14112       }\@ehc
14113       \LayoutPushButtonField{%
14114         \leavevmode
14115         \MakeButtonField{#2}%
14116       }%
14117     \else
14118       \HyField@FlagsPushButton
14119       \ifFld@hidden\def\Fld@width{1sp}\fi
14120       \LayoutPushButtonField{%
14121         \leavevmode
14122         \HyAnn@AbsPageLabel
14123         \Hy@escapeform\PDFForm@Push
14124         \pdfstartlink user {\PDFForm@Push}\relax
14125         \MakeButtonField{#2}%
14126         \pdfendlink
14127         \HyField@AddToFields
14128       }%
14129     \fi
14130   \endgroup
14131 }

```

```

14132 \def\@Submit[#1]#2{%
14133   \def\Fld@width{\DefaultWidthofSubmit}%
14134   \def\Fld@height{\DefaultHeightofSubmit}%
14135   \begingroup
14136     \expandafter\HyField@SetKeys\expandafter{%
14137       \DefaultOptionsofSubmit,#1%
14138     }%
14139     \HyField@FlagsPushButton
14140     \HyField@FlagsSubmit
14141     \ifFld@hidden\def\Fld@width{1sp}\fi
14142     \leavevmode
14143     \HyAnn@AbsPageLabel
14144     \Hy@escapeform\PDFForm@Submit
14145     \pdfstartlink user {%
14146       \PDFForm@Submit
14147       /AP<</N \SubmitObject/D \SubmitPObject>>%
14148     }%
14149     \relax
14150     \MakeButtonField{#2}%
14151     \pdfendlink
14152     \HyField@AddToFields
14153   \endgroup
14154 }
14155 \def\@Reset[#1]#2{%
14156   \def\Fld@width{\DefaultWidthofReset}%
14157   \def\Fld@height{\DefaultHeightofReset}%
14158   \begingroup
14159     \expandafter\HyField@SetKeys\expandafter{%
14160       \DefaultOptionsofReset,#1%
14161     }%
14162     \leavevmode
14163     \ifHy@pdfa
14164       \Hy@Error{%
14165         PDF/A: Reset action is prohibited%
14166       }\@ehc
14167       \MakeButtonField{#2}%
14168     \else
14169       \HyField@FlagsPushButton
14170       \ifFld@hidden\def\Fld@width{1sp}\fi
14171       \HyAnn@AbsPageLabel
14172       \Hy@escapeform\PDFForm@Reset
14173       \pdfstartlink user {\PDFForm@Reset}\relax
14174       \MakeButtonField{#2}%
14175       \pdfendlink
14176       \HyField@AddToFields
14177     \fi
14178   \endgroup
14179 }
14180 \def\@CheckBox[#1]#2{% parameters, label
14181   \def\Fld@name{#2}%

```

```

14182 \def\Fld@default{0}%
14183 \begingroup
14184 \def\Fld@width{\DefaultWidthofCheckBox}%
14185 \def\Fld@height{\DefaultHeightofCheckBox}%
14186 \expandafter\HyField@SetKeys\expandafter{%
14187   \DefaultOptionsofCheckBox,#1%
14188 }%
14189 \PDFForm@Name
14190 \HyField@FlagsCheckBox
14191 \ifFld@hidden\def\Fld@width{1sp}\fi
14192 \LayoutCheckField{#2}{%
14193   \leavevmode
14194   \HyAnn@AbsPageLabel
14195   \Hy@escapeform\PDFForm@Check
14196   \pdfstartlink user {\PDFForm@Check}\relax
14197   \MakeCheckField{\Fld@width}{\Fld@height}%
14198   \pdfendlink
14199   \HyField@AddToFields
14200 }%
14201 \endgroup
14202 }
14203 \def\Hy@FormObjects{%
14204 \pdfobj {%
14205   <<%
14206     /Type/Encoding%
14207     /Differences%
14208     24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
14209     /ring/tilde %
14210     39/quotesingle %
14211     96/grave %
14212     128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
14213     /fraction/guilsingleft/guilsingright/minus/perthousand%
14214     /quotedblbase/quotedblleft/quotedblright/quoteleft%
14215     /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
14216     /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
14217     164/currency %
14218     166/brokenbar %
14219     168/dieresis/copyright/ordfeminine %
14220     172/logicalnot/.notdef/registered/macron/degree/plusminus%
14221     /twosuperior/threesuperior/acute/mu %
14222     183/periodcentered/cedilla/onesuperior/ordmasculine %
14223     188/onequarter/onehalf/threequarters %
14224     192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
14225     /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
14226     /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
14227     /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
14228     /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
14229     /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
14230     /cedilla/egrave/eacute/ecircumflex/edieresis/igrave%
14231     /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%

```

```

14232      /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
14233      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
14234    ]%
14235    >>%
14236  }%
14237  \xdef\OBJ@pdfdocencoding{\the\pdfflastobj}%
14238  \pdfobj{%
14239    <<%
14240    /Type/Font%
14241    /Subtype/Type1%
14242    /Name/ZaDb%
14243    /BaseFont/ZapfDingbats%
14244    >>%
14245  }%
14246  \xdef\OBJ@ZaDb{\the\pdfflastobj}%
14247  \pdfobj{%
14248    <<%
14249    /Type/Font%
14250    /Subtype/Type1%
14251    /Name/Helv%
14252    /BaseFont/Helvetica%
14253    /Encoding \OBJ@pdfdocencoding\space 0 R%
14254    >>%
14255  }%
14256  \xdef\OBJ@Helv{\the\pdfflastobj}%
14257  \global\let\Hy@FormObjects\relax
14258 }
14259 </pdftex>

```

## 48.5 dvipdfm, xetex

D. P. Story adapted the pdf $\TeX$  forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```
14260 <*dvipdfm | xetex>
```

\@Gauge

```

14261 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
14262   \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
14263 }

```

\@Form

```

14264 \def\@Form[#1]{%
14265   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
14266   \kvsetkeys{Form}{#1}%
14267   \Hy@FormObjects
14268   \@pdfm@mark{obj @afields []}%
14269   \@pdfm@mark{obj @corder []}%
14270   \@pdfm@mark{%
14271     obj @aform <<%
14272     /Fields @afields%

```

```

14273 /DR<<%
14274 /Font<<%
14275 /ZaDb @OBJZaDb%
14276 /Helv @OBJHelv%
14277 >>%
14278 >>%
14279 /DA(/Helv 10 Tf 0 g)%
14280 /CO @corder%
14281 \ifHy@pdfa
14282 \else
14283 \ifHyField@NeedAppearances
14284 /NeedAppearances true%
14285 \fi
14286 \fi
14287 >>%
14288 }%
14289 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
14290 }

```

\@endForm

```
14291 \let\@endForm\ltx@empty
```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

14292 \def\dvipdfm@setdim{%
14293 height \the\ht\pdfm@box\space
14294 width \the\wd\pdfm@box\space
14295 depth \the\dp\pdfm@box\space
14296 }

```

\HyField@AnnotCount

```

14297 \newcount\HyField@AnnotCount
14298 \HyField@AnnotCount=\z@

```

\HyField@AdvanceAnnotCount

```

14299 \def\HyField@AdvanceAnnotCount{%
14300 \global\advance\HyField@AnnotCount\@ne
14301 }

```

\HyField@TheAnnotCount

```

14302 \def\HyField@TheAnnotCount{%
14303 \the\HyField@AnnotCount
14304 }

```

\Fld@pageobjref

```
14305 \def\Fld@pageobjref{/P @thispage}%
```

\HyField@AddToFields

```

14306 \def\HyField@AddToFields#1{%
14307 \@pdfm@mark{put @afields @#1\HyField@TheAnnotCount}%

```

```

14308 \ifx\Fld@calculate@code\ltx@empty
14309 \else
14310 \@pdfm@mark{put @corder @#1\HyField@TheAnnotCount}%
14311 \fi
14312 }

```

#### \@TextField

```

14313 \def\@TextField[#1]#2{% parameters, label
14314 \def\Fld@name{#2}%
14315 \let\Fld@default\ltx@empty
14316 \let\Fld@value\@empty
14317 \def\Fld@width{\DefaultWidthofText}%
14318 \def\Fld@height{%
14319 \ifFld@multiline
14320 \DefaultHeightofTextMultiline
14321 \else
14322 \DefaultHeightofText
14323 \fi
14324 }%
14325 \begingroup
14326 \expandafter\HyField@SetKeys\expandafter{%
14327 \DefaultOptionsofText,#1%
14328 }%
14329 \PDFForm@Name
14330 \HyField@FlagsText
14331 \ifFld@hidden\def\Fld@width{1sp}\fi
14332 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
14333 \setbox\pdfm@box=\hbox{%
14334 \MakeTextField{\Fld@width}{\Fld@height}%
14335 }%
14336 \HyField@AdvanceAnnotCount
14337 \LayoutTextField{#2}{%
14338 \leavevmode
14339 \Hy@escapeform\PDFForm@Text
14340 \@pdfm@mark{%
14341 ann @text\HyField@TheAnnotCount\space
14342 \dvi pdfm@setdim << \PDFForm@Text >>%
14343 }%
14344 }%
14345 \unhbox\pdfm@box
14346 \HyField@AddToFields{text}%
14347 % record in @afields array
14348 \endgroup
14349 }

```

#### \@ChoiceMenu

```

14350 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
14351 \def\Fld@name{#2}%
14352 \let\Fld@default\relax
14353 \let\Fld@value\relax

```

```

14354 \def\Fld@width{\DefaultWidthofChoiceMenu}%
14355 \def\Fld@height{\DefaultHeightofChoiceMenu}%
14356 \begingroup
14357 \Fld@menulength=0 %
14358 \@tempdima\z@
14359 \@for\@curropt:=#3\do{%
14360 \expandafter\Fld@checkequals\@curropt==\%
14361 \Hy@StepCount\Fld@menulength
14362 \settowidth{\@tempdimb}{\@currDisplay}%
14363 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
14364 }%
14365 \advance\@tempdima by 15\p@
14366 \begingroup
14367 \HyField@SetKeys{#1}%
14368 \edef\x{\endgroup
14369 \noexpand\expandafter
14370 \noexpand\HyField@SetKeys
14371 \noexpand\expandafter{%
14372 \expandafter\noexpand\cname DefaultOptionsof%
14373 \ifFld@radio
14374 Radio%
14375 \else
14376 \ifFld@combo
14377 \ifFld@popdown
14378 PopdownBox%
14379 \else
14380 ComboBox%
14381 \fi
14382 \else
14383 ListBox%
14384 \fi
14385 \fi
14386 \endcname
14387 }%
14388 }x
14389 \HyField@SetKeys{#1}%
14390 \PDFForm@Name
14391 \ifFld@hidden\def\Fld@width{1sp}\fi
14392 \ifx\Fld@value\relax
14393 \let\Fld@value\Fld@default
14394 \fi
14395 \LayoutChoiceField{#2}{%
14396 \ifFld@radio
14397 \HyField@FlagsRadioButton
14398 \@@Radio{#3}%
14399 \else
14400 \begingroup
14401 \HyField@FlagsChoice
14402 \ifdim\Fld@width<\@tempdima
14403 \ifdim\@tempdima<1cm\@tempdima1cm\fi

```

```

14404         \edef\Fld@width{\the\@tempdima}%
14405         \fi
14406         \ifFld@combo
14407         \else
14408             \@tempdima=\the\Fld@menulength\Fld@charsize
14409             \advance\@tempdima by \Fld@borderwidth bp %
14410             \advance\@tempdima by \Fld@borderwidth bp %
14411             \edef\Fld@height{\the\@tempdima}%
14412         \fi
14413         \@@ListBox{#3}%
14414     \endgroup
14415 \fi
14416 }%
14417 \endgroup
14418 }

```

#### \@@Radio

```

14419 \def\@@Radio#1{%
14420   \Fld@listcount=0 %
14421   \EdefEscapeName\Fld@default{\Fld@default}%
14422   \setbox\pdfm@box=\hbox{%
14423     \MakeRadioField{\Fld@width}{\Fld@height}%
14424   }%
14425   \@for\@curropt:=#1\do{%
14426     \expandafter\Fld@checkequals\@curropt==\%
14427     \EdefEscapeName\@currValue{\@currValue}%
14428     \Hy@StepCount\Fld@listcount
14429     \@currDisplay\space
14430     \leavevmode
14431     \Hy@escapeform\PDFForm@Radio
14432     \ifnum\Fld@listcount=1 %
14433       \HyField@AdvanceAnnotCount
14434     \fi
14435     \@pdfm@mark{%
14436       ann %
14437       \ifnum\Fld@listcount=1 %
14438         @radio\HyField@TheAnnotCount%
14439       \space
14440     \fi
14441     \dviPDFm@setdim
14442     <<%
14443     \PDFForm@Radio
14444     /AP<</N<</\@currValue /null>>>>%
14445     >>%
14446   }%
14447   \unhcopy\pdfm@box\space% deliberate space between radio buttons
14448   \ifnum\Fld@listcount=1 %
14449     \HyField@AddToFields{radio}%
14450   \fi
14451 }%

```

```

14452 }

\Fld@listcount
14453 \newcount\Fld@listcount

\@@Listbox
14454 \def\@@Listbox#1{%
14455   \HyField@PDFChoices{#1}%
14456   \setbox\pdfm@box=\hbox{%
14457     \MakeChoiceField{\Fld@width}{\Fld@height}%
14458   }%
14459   \leavevmode
14460   \Hy@escapeform\PDFForm@List
14461   \HyField@AdvanceAnnotCount
14462   \@pdfm@mark{%
14463     ann @list\HyField@TheAnnotCount\space
14464     \dvi pdfm@setdim
14465     <<\PDFForm@List>>%
14466   }%
14467   \unhbox\pdfm@box
14468   \HyField@AddToFields{list}%
14469 }

\@PushButton
14470 \def\@PushButton[#1]#2{% parameters, label
14471   \def\Fld@name{#2}%
14472   \begingroup
14473     \expandafter\HyField@SetKeys\expandafter{%
14474       \DefaultOptionsofPushButton,#1%
14475     }%
14476     \PDFForm@Name
14477     \ifHy@pdfa
14478       \Hy@Error{%
14479         PDF/A: Push button with JavaScript is prohibited%
14480       }\@ehc
14481       \LayoutPushButtonField{%
14482         \leavevmode
14483         \MakeButtonField{#2}%
14484       }%
14485     \else
14486       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14487       \HyField@FlagsPushButton
14488       \ifFld@hidden\def\Fld@width{1sp}\fi
14489       \HyField@AdvanceAnnotCount
14490       \LayoutPushButtonField{%
14491         \leavevmode
14492         \Hy@escapeform\PDFForm@Push
14493         \@pdfm@mark{%
14494           ann @push\HyField@TheAnnotCount\space

```

```

14495     \dviPDFm@setdim
14496     <<\PDFForm@Push>>%
14497     }%
14498     }%
14499     \unhbox\pdfm@box
14500     \HyField@AddToFields{push}%
14501     \fi
14502 \endgroup
14503 }

```

#### \@Submit

```

14504 \def\@Submit[#1]#2{%
14505   \def\Fld@width{\DefaultWidthofSubmit}%
14506   \def\Fld@height{\DefaultHeightofSubmit}%
14507   \begingroup
14508     \expandafter\HyField@SetKeys\expandafter{%
14509       \DefaultOptionsofSubmit,#1%
14510     }%
14511     \HyField@FlagsPushButton
14512     \HyField@FlagsSubmit
14513     \ifFld@hidden\def\Fld@width{1sp}\fi
14514     \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14515     \leavevmode
14516     \Hy@escapeform\PDFForm@Submit
14517     \HyField@AdvanceAnnotCount
14518     \@pdfm@mark{%
14519       ann @submit\HyField@TheAnnotCount\space
14520     \dviPDFm@setdim
14521     <<\PDFForm@Submit>>%
14522     }%
14523     \unhbox\pdfm@box%
14524     \HyField@AddToFields{submit}%
14525 \endgroup
14526 }

```

#### \@Reset

```

14527 \def\@Reset[#1]#2{%
14528   \def\Fld@width{\DefaultWidthofReset}%
14529   \def\Fld@height{\DefaultHeightofReset}%
14530   \begingroup
14531     \expandafter\HyField@SetKeys\expandafter{%
14532       \DefaultOptionsofReset,#1%
14533     }%
14534     \leavevmode
14535     \ifHy@pdfa
14536       \Hy@Error{%
14537         PDF/A: Reset action is prohibited%
14538       }\@ehc
14539     \MakeButtonField{#2}%
14540   \else

```

```

14541 \HyField@FlagsPushButton
14542 \ifFld@hidden\def\Fld@width{1sp}\fi
14543 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
14544 \Hy@escapeform\PDFForm@Reset
14545 \HyField@AdvanceAnnotCount
14546 \@pdfm@mark{%
14547   ann @reset\HyField@TheAnnotCount\space
14548   \dvi pdfm@setdim
14549   <<\PDFForm@Reset>>%
14550 }%
14551 \unhbox\pdfm@box
14552 \HyField@AddToFields{reset}%
14553 \fi
14554 \endgroup
14555 }

```

#### \@CheckBox

```

14556 \def\@CheckBox[#1]#2{% parameters, label
14557 \def\Fld@name{#2}%
14558 \def\Fld@default{0}%
14559 \begingroup
14560 \def\Fld@width{\DefaultWidthofCheckBox}%
14561 \def\Fld@height{\DefaultHeightofCheckBox}%
14562 \expandafter\HyField@SetKeys\expandafter{%
14563   \DefaultOptionsofCheckBox,#1%
14564 }%
14565 \PDFForm@Name
14566 \HyField@FlagsCheckBox
14567 \ifFld@hidden\def\Fld@width{1sp}\fi
14568 \setbox\pdfm@box=\hbox{%
14569   \MakeCheckField{\Fld@width}{\Fld@height}%
14570 }%
14571 \HyField@AdvanceAnnotCount
14572 \LayoutCheckField{#2}{%
14573   \leavevmode
14574   \Hy@escapeform\PDFForm@Check
14575   \@pdfm@mark{%
14576     ann @check\HyField@TheAnnotCount\space
14577     \dvi pdfm@setdim
14578     <<\PDFForm@Check>>%
14579   }%
14580   \unhbox\pdfm@box
14581   \HyField@AddToFields{check}%
14582 }%
14583 \endgroup
14584 }

14585 \def\Hy@FormObjects{%
14586 \@pdfm@mark{obj @OBJpdfdocencoding%
14587 <<%

```

14588 /Type/Encoding%  
14589 /Differences%  
14590 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %  
14591 39/quotesingle %  
14592 96/grave %  
14593 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%  
14594 /fraction/guilsingleft/guilsingright/minus/perthousand%  
14595 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%  
14596 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%  
14597 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %  
14598 164/currency %  
14599 166/brokenbar %  
14600 168/dieresis/copyright/ordfeminine %  
14601 172/logicalnot/.notdef/registered/macron/degree/plusminus%  
14602 /twosuperior/threesuperior/acute/mu %  
14603 183/periodcentered/cedilla/onesuperior/ordmasculine %  
14604 188/onequarter/onehalf/threequarters %  
14605 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%  
14606 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%  
14607 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%  
14608 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%  
14609 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%  
14610 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%  
14611 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%  
14612 /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%  
14613 /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%  
14614 /thorn/ydieresis%  
14615 }%  
14616 >>%  
14617 }%  
14618 \@pdfmark{obj @OBJZaDb%  
14619 <<%  
14620 /Type/Font%  
14621 /Subtype/Type1%  
14622 /Name/ZaDb%  
14623 /BaseFont/ZapfDingbats%  
14624 >>%  
14625 }%  
14626 \@pdfmark{obj @OBJHelv%  
14627 <<%  
14628 /Type/Font%  
14629 /Subtype/Type1%  
14630 /Name/Helv%  
14631 /BaseFont/Helvetica%  
14632 /Encoding @OBJpdfdocencoding%  
14633 >>%  
14634 }%  
14635 \global\let\Hy@FormObjects\relax  
14636 }  
14637 </dvipdfm | xetex>

## 48.6 Common forms part

```
14638 ⟨*pdfform⟩

\Fld@pageobjref
14639 \providecommand*{\Fld@pageobjref}{-}

\Hy@escapestring
14640 \begingroup\expandafter\expandafter\expandafter\endgroup
14641 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
14642 \let\Hy@escapestring\@firstofone
14643 \def\Hy@escapeform#1{%
14644 \ifHy@pdfescapeform
14645 \def\Hy@escapestring##1{%
14646 \noexpand\Hy@escapestring{\noexpand##1}%
14647 }%
14648 \edef\Hy@temp{#1}%
14649 \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring}\@nil
14650 \def\Hy@escapestring##1{%
14651 \@ifundefined{Hy@esc@\string##1}{%
14652 ##1%
14653 \ThisShouldNotHappen
14654 }{%
14655 \csname Hy@esc@\string##1\endcsname
14656 }%
14657 }%
14658 \else
14659 \let\Hy@escapestring\@firstofone
14660 \fi
14661 }%
14662 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
14663 \ifx\#3\%
14664 \else
14665 \expandafter
14666 \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
14667 \ltx@ReturnAfterFi{%
14668 \Hy@@escapeform#3\@nil
14669 }%
14670 \fi
14671 }%
14672 \else
14673 \def\Hy@escapeform#1{%
14674 \ifHy@pdfescapeform
14675 \let\Hy@escapestring\pdfescapestring
14676 \else
14677 \let\Hy@escapestring\@firstofone
14678 \fi
14679 }%
14680 \Hy@escapeform}%
14681 \fi
```

\PDFForm@Name

```
14682 \def\PDFForm@Name{%
14683 \PDFForm@@Name\Fld@name
14684 \ifx\Fld@altname\relax
14685 \else
14686 \PDFForm@@Name\Fld@altname
14687 \fi
14688 \ifx\Fld@mappingname\relax
14689 \else
14690 \PDFForm@@Name\Fld@mappingname
14691 \fi
14692 }
```

\PDFForm@@Name

```
14693 \def\PDFForm@@Name#1{%
14694 \begingroup
14695 \ifnum\Hy@pdf@major@minor@version<105 % implementation note 117, PDF spec 1.7
14696 \ifHy@unicode
14697 \Hy@unicodedefalse
14698 \fi
14699 \fi
14700 \pdfstringdef\Hy@gtemp#1%
14701 \endgroup
14702 \let#1\Hy@gtemp
14703 }
```

\Fld@additionalactions

```
14704 \def\Fld@@additionalactions{%
K input (keystroke) format
14705 \ifx\Fld@keystroke@code\@empty
14706 \else
14707 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
14708 \fi
F display format
14709 \ifx\Fld@format@code\@empty
14710 \else
14711 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
14712 \fi
V validation
14713 \ifx\Fld@validate@code\@empty
14714 \else
14715 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
14716 \fi
C calculation
14717 \ifx\Fld@calculate@code\@empty
14718 \else
14719 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
14720 \fi
```

Fo receiving the input focus

```
14721 \ifx\Fld@onfocus@code\@empty
14722 \else
14723 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
14724 \fi
```

Bl loosing the input focus (blurred)

```
14725 \ifx\Fld@onblur@code\@empty
14726 \else
14727 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
14728 \fi
```

D pressing the mouse button (down)

```
14729 \ifx\Fld@onmousedown@code\@empty
14730 \else
14731 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
14732 \fi
```

U releasing the mouse button (up)

```
14733 \ifx\Fld@onmouseup@code\@empty
14734 \else
14735 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
14736 \fi
```

E cursor enters the annotation's active area.

```
14737 \ifx\Fld@onenter@code\@empty
14738 \else
14739 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
14740 \fi
```

X cursor exits the annotation's active area.

```
14741 \ifx\Fld@onexit@code\@empty
14742 \else
14743 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
14744 \fi
14745 }
```

```
14746 \def\Fld@additionalactions{%
14747 \if\Fld@@additionalactions-%
14748 \else
14749 \ifHy@pdfa
14750 \else
14751 /AA<<\Fld@@additionalactions>>%
14752 \fi
14753 \fi
14754 }
```

\Fld@annotnames

```
14755 \def\Fld@annotnames{%
14756 /T(\Fld@name)%
14757 \ifx\Fld@altname\relax
14758 \else
```

```

14759 /TU(\Fld@altname)%
14760 \fi
14761 \ifx\Fld@mappingname\relax
14762 \else
14763 /TM(\Fld@mappingname)%
14764 \fi
14765 }

```

\PDFForm@Check

```

14766 \def\PDFForm@Check{%
14767 /Subtype/Widget%
14768 \Fld@annotflags
14769 \Fld@pageobjref
14770 \Fld@annotnames
14771 /FT/Btn%
14772 \Fld@flags
14773 /Q \Fld@align
14774 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
14775 /AP<< /N <</Yes<<>>>> >> %new string /Yes is from below
14776 /MK<<%
14777 \ifnum\Fld@rotation=\z@
14778 \else
14779 /R \Fld@rotation
14780 \fi
14781 \ifx\Fld@bordercolor\relax
14782 \else
14783 /BC[\Fld@bordercolor]%
14784 \fi
14785 \ifx\Fld@bcolor\relax
14786 \else
14787 /BG[\Fld@bcolor]%
14788 \fi
14789 /CA(\Hy@escapestring{\Fld@cbsymbol})%
14790 >>%
14791 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14792 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14793 /H/P%
14794 \ifFld@checked /V/Yes/AS/Yes\else /V/Off/AS/Off\fi
14795 \Fld@additionalactions
14796 }

```

\PDFForm@Push

```

14797 \ifHy@pdfa
14798 \else
14799 \def\PDFForm@Push{%
14800 /Subtype/Widget%
14801 \Fld@annotflags
14802 \Fld@pageobjref
14803 \Fld@annotnames
14804 /FT/Btn%

```

```

14805 \Fld@flags
14806 /H/P%
14807 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14808 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14809     \ifx\Fld@bordercolor\relax\else 1\fi
14810     \space
14811 \else
14812 /MK<<%
14813     \ifnum\Fld@rotation=\z@
14814     \else
14815     /R \Fld@rotation
14816     \fi
14817     \ifx\Fld@bordercolor\relax
14818     \else
14819     /BC[\Fld@bordercolor]%
14820     \fi
14821 >>%
14822 \fi
14823 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
14824 \Fld@additionalactions
14825 }%
14826 \fi

```

\PDFForm@List

```

14827 \def\PDFForm@List{%
14828 /Subtype/Widget%
14829 \Fld@annotflags
14830 \Fld@pageobjref
14831 \Fld@annotnames
14832 /FT/Ch%
14833 \Fld@flags
14834 /Q \Fld@align
14835 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14836 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14837     \ifx\Fld@bordercolor\relax\else 1\fi
14838     \ifx\Fld@bcolor\relax \else 1\fi
14839     \space
14840 \else
14841 /MK<<%
14842     \ifnum\Fld@rotation=\z@
14843     \else
14844     /R \Fld@rotation
14845     \fi
14846     \ifx\Fld@bordercolor\relax
14847     \else
14848     /BC[\Fld@bordercolor]%
14849     \fi
14850     \ifx\Fld@bcolor\relax
14851     \else
14852     /BG[\Fld@bcolor]%

```

```

14853   \fi
14854   >>%
14855   \fi
14856   /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14857     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14858   \Fld@choices
14859   \Fld@additionalactions
14860 }

```

#### \PDFForm@Radio

```

14861 \def\PDFForm@Radio{%
14862   /Subtype/Widget%
14863   \Fld@annotflags
14864   \Fld@pageobjref
14865   \Fld@annotnames
14866   /FT/Btn%
14867   \Fld@flags
14868   /H/P%
14869   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14870   /MK<<%
14871     \ifnum\Fld@rotation=\z@
14872     \else
14873       /R \Fld@rotation
14874     \fi
14875     \ifx\Fld@bordercolor\relax
14876     \else
14877       /BC[\Fld@bordercolor]%
14878     \fi
14879     \ifx\Fld@bcolor\relax
14880     \else
14881       /BG[\Fld@bcolor]%
14882     \fi
14883     /CA(\Hy@escapestring{\Fld@radiosymbol})%
14884   >>%
14885   /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14886     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%

```

New code, the default value is used for all buttons

```

14887   \ifx\Fld@default\@empty
14888     /V/Off%
14889     /DV/Off%
14890   \else
14891     /V/\Fld@default
14892     /DV/\Fld@default
14893   \fi
14894   \Fld@additionalactions
14895 }

```

#### \PDFForm@Text

```

14896 \def\PDFForm@Text{%

```

```

14897 /Subtype/Widget%
14898 \Fld@annotflags
14899 \Fld@pageobjref
14900 \Fld@annotnames
14901 /FT/Tx%
14902 \Fld@flags
14903 /Q \Fld@align
14904 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
14905 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14906     \ifx\Fld@bordercolor\relax\else 1\fi
14907     \ifx\Fld@bcolor\relax \else 1\fi
14908     \space
14909 \else
14910 /MK<<%
14911     \ifnum\Fld@rotation=\z@
14912     \else
14913     /R \Fld@rotation
14914     \fi
14915     \ifx\Fld@bordercolor\relax
14916     \else
14917     /BC[\Fld@bordercolor]%
14918     \fi
14919     \ifx\Fld@bcolor\relax
14920     \else
14921     /BG[\Fld@bcolor]%
14922     \fi
14923 >>%
14924 \fi
14925 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14926     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14927 /DV(\Hy@escapestring{\Fld@default})%
14928 /V(\Hy@escapestring{\Fld@value})%
14929 \Fld@additionalactions
14930 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
14931 }

```

\PDFForm@Submit

```

14932 \def\PDFForm@Submit{%
14933 /Subtype/Widget%
14934 \Fld@annotflags
14935 \Fld@pageobjref
14936 \Fld@annotnames
14937 /FT/Btn%
14938 \Fld@flags
14939 /H/P%
14940 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14941 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14942     \ifx\Fld@bordercolor\relax\else 1\fi
14943     \space
14944 \else

```

```

14945 /MK<<%
14946   \ifnum\Fld@rotation=\z@
14947   \else
14948     /R \Fld@rotation
14949   \fi
14950   \ifx\Fld@bordercolor\relax
14951   \else
14952     /BC\Fld@bordercolor}%
14953   \fi
14954 >>%
14955 \fi
14956 /A<<%
14957 /S/SubmitForm%
14958 /F<<%
14959 /FS/URL%
14960 /F(\Hy@escapestring{\Form@action})%
14961 >>%
14962 \Fld@submitflags
14963 >>%
14964 \Fld@additionalactions
14965 }

```

\PDFForm@Reset

```

14966 \ifHy@pdfa
14967 \else
14968   \def\PDFForm@Reset{%
14969     /Subtype/Widget%
14970     \Fld@annotflags
14971     \Fld@pageobjref
14972     \Fld@annotnames
14973     /FT/Btn%
14974     \Fld@flags
14975     /H/P%
14976     /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
14977     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14978       \ifx\Fld@bordercolor\relax\else 1\fi
14979       \space
14980   \else
14981     /MK<<%
14982     \ifnum\Fld@rotation=\z@
14983     \else
14984       /R \Fld@rotation
14985     \fi
14986     \ifx\Fld@bordercolor\relax
14987     \else
14988       /BC\Fld@bordercolor}%
14989     \fi
14990 % /CA (Clear)
14991 % /AC (Done)
14992 >>%

```

```

14993 \fi
14994 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14995 /A<</S/ResetForm>>%
14996 \Fld@additionalactions
14997 }%
14998 \fi

14999 </pdfform>
15000 <*package>

```

## 49 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `reper.sty`); it needed the `reper` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in L<sup>A</sup>T<sub>E</sub>X 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`

```

15001 \def\phantomsection{%
15002 \Hy@MakeCurrentHrefAuto{section*}%
15003 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
15004 }
15005 </package>

```

### 49.1 Bookmarks

```
15006 <*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  $\varepsilon$ -T<sub>E</sub>X, the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of  $\varepsilon$ -T<sub>E</sub>X'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.

```
15007 \def\Hy@writebookmark#1#2#3#4#5{%
```

```

15008 % section number, text, label, level, file
15009 \ifx\WriteBookmarks\relax%
15010 \else
15011 \ifnum#4>\Hy@bookmarksdepth\relax
15012 \else
15013 \@@writetorep{#1}{#2}{#3}{#4}{#5}%
15014 \fi
15015 \fi
15016 }
15017 \def\Hy@currentbookmarklevel{0}
15018 \def\Hy@numberline#1{#1 }
15019 \def\@@writetorep#1#2#3#4#5{%
15020 \begingroup
15021 \edef\Hy@tempa{#5}%
15022 \ifx\Hy@tempa\Hy@bookmarkstype
15023 \edef\Hy@level{#4}%
15024 \ifx\Hy@levelcheck Y%
15025 \@tempcnta\Hy@level\relax
15026 \advance\@tempcnta by -1 %
15027 \ifnum\Hy@currentbookmarklevel<\@tempcnta
15028 \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
15029 \advance\@tempcnta by 1 %
15030 \Hy@Warning{%
15031 Difference (\the\@tempcnta) between bookmark levels is %
15032 greater \MessageBreak than one, level fixed%
15033 }%
15034 \@tempcnta\Hy@currentbookmarklevel
15035 \advance\@tempcnta by 1 %
15036 \edef\Hy@level{\the\@tempcnta}%
15037 \fi
15038 \else
15039 \global\let\Hy@levelcheck Y%
15040 \fi
15041 \global\let\Hy@currentbookmarklevel\Hy@level
15042 \@tempcnta\Hy@level\relax
15043 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
15044 \advance\@tempcnta by -1 %
15045 \edef\Hy@tempa{#3}%
15046 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
15047 \ifx\Hy@tempa\Hy@tempb
15048 \Hy@Warning{%
15049 The anchor of a bookmark and its parent's must not%
15050 \MessageBreak be the same. Added a new anchor%
15051 }%
15052 \phantomsection
15053 \fi
15054 \ifHy@bookmarksnumbered
15055 \let\numberline\Hy@numberline
15056 \let\booknumberline\Hy@numberline
15057 \let\partnumberline\Hy@numberline

```

```

15058     \let\chapternumberline\Hy@numberline
15059     \else
15060     \let\numberline@gobble
15061     \let\booknumberline@gobble
15062     \let\partnumberline@gobble
15063     \let\chapternumberline@gobble
15064     \fi
15065     \pdfstringdef\Hy@tempa{#2}%
15066     \HyPsd@SanitizeForOutFile\Hy@tempa
15067     \if@filesw
15068     \stepcounter{bookmark@seq@number}%
15069     \@ifundefined{@outlinefile}{%
15070     }{%
15071     \protected@write{@outlinefile}{%
15072     \protect\BOOKMARK
15073     [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
15074     {\Hy@tempa}{\Hy@tempb}%
15075     \@percentchar\space\thebookmark@seq@number
15076     }%
15077     }%
15078     \fi
15079     \fi
15080 \endgroup
15081 }
15082 \newcounter{bookmark@seq@number}

15083 \begingroup
15084 \lccode` (= ` {%
15085 \lccode`= `}%
15086 \lccode`1=\z@
15087 \lccode`2=\z@
15088 \lccode`3=\z@
15089 \lccode`5=\z@
15090 \lccode`7=\z@
15091 \lccode`\#=\z@
15092 \lccode`\`=\z@
15093 \lccode`\{=\z@
15094 \lccode`\}= \z@
15095 \lowercase{%
15096 \endgroup
15097 \def\HyPsd@SanitizeForOutFile#1{%
15098 \@onelevel@sanitize\Hy@tempa
15099 \escapechar` \ %
15100 \edef\Hy@tempa{%
15101 \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
15102 }%
15103 \edef\Hy@tempa{%
15104 \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
15105 }%
15106 }%

```

```

15107 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
15108   #1%
15109   \ifx\#2\%
15110     \expandafter\ltx@gobble
15111   \else
15112     \expandafter\ltx@firstofone
15113   \fi
15114   {%
15115     \string\173%
15116     \HyPsd@SanitizeOut@BraceLeft#2\@nil
15117   }%
15118 }%
15119 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
15120   #1%
15121   \ifx\#2\%
15122     \expandafter\ltx@gobble
15123   \else
15124     \expandafter\ltx@firstofone
15125   \fi
15126   {%
15127     \string\175%
15128     \HyPsd@SanitizeOut@BraceRight#2\@nil
15129   }%
15130 }%
15131 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains ].

```

15132 \newcommand{\currentpdfbookmark}{%
15133   \pdfbookmark[\Hy@currentbookmarklevel]%
15134 }
15135 \newcommand{\subpdfbookmark}{%
15136   \@tempcnta\Hy@currentbookmarklevel
15137   \Hy@StepCount\@tempcnta
15138   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
15139 }
15140 \newcommand{\belowpdfbookmark}[2]{%
15141   \@tempcnta\Hy@currentbookmarklevel
15142   \Hy@StepCount\@tempcnta
15143   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
15144   \advance\@tempcnta by -1 %
15145   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
15146 }

```

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.

```

15147 \renewcommand\pdfbookmark[3][0]{%
15148   \Hy@writebookmark}{#2}{#3.#1}{#1}{toc}%
15149   \hyper@anchorstart{#3.#1}\hyper@anchorend

```

```

15150 }
15151 \def\BOOKMARK{%
15152 \@ifnextchar{\@BOOKMARK}\@@BOOKMARK[1][-]%
15153 }
15154 \def\@BOOKMARK[#1]{%
15155 \@ifnextchar{\@@BOOKMARK[#1]}\@@@BOOKMARK[#1][-]%
15156 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the texinfo.pdf macros.

#### 49.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

15157 \RequirePackage{rerunfilecheck}[2009/12/10]
15158 \def\Hy@OutlineRerunCheck{%
15159 \RerunFileCheck{\jobname.out}{%
15160 \immediate\closeout\@outlinefile
15161 }{%
15162 Rerun to get outlines right\MessageBreak
15163 or use package `bookmark'%
15164 }%
15165 }

```

#### 49.1.2 Driver stuff

The VTEX section was written originally by VTEX, but then amended by Denis Girou ([denis.girou@idris.fr](mailto:denis.girou@idris.fr)), then by by Taco Hoekwater ([taco.hoekwater@wkap.nl](mailto:taco.hoekwater@wkap.nl)). The problem is that VTEX, with its close integration of the PDF backend, does look at the contents of bookmarks, escaping `\` and the like.

```

15166 <*vtx>
15167 \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.

```

15168 \begingroup
15169 \catcode\`=12 %
15170 \ifnum\Hy@VTeXversion<650 %
15171 \catcode\`=12 %
15172 \gdef\hv@pdf@char#1#2#3{%
15173 \char
15174 \ifcase'#1#2#3 %
15175 "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
15176 \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
15177 \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
15178 \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
15179 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
15180 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
15181 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%

```

```

15182 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
15183 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
15184 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
15185 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
15186 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
15187 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
15188 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
15189 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
15190 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
15191 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
15192 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
15193 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
15194 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
15195 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
15196 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
15197 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
15198 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
15199 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
15200 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
15201 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
15202 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
15203 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
15204 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
15205 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
15206 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
15207 \fi
15208 }%
15209 \else
15210 \gdef\hv@pdf@char{\char'}%
15211 \fi
15212 \endgroup

```

\@@BOOKMARK

```

15213 \def\@@BOOKMARK[#1][#2]#3#4#5{%
15214 \expandafter\edef\csname @count@#3\endcsname{%
15215 \the\@serial@counter
15216 }%
15217 \edef\@mycount{\the\@serial@counter}%
15218 \Hy@StepCount\@serial@counter
15219 \edef\@parcount{%
15220 \expandafter\ifx\csname @count@#5\endcsname\relax
15221 0%
15222 \else
15223 \csname @count@#5\endcsname
15224 \fi
15225 }%
15226 \immediate\special{%
15227 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
15228 s=\ifx#2-c\else o\fi,t=#4%
15229 }%

```

15230 }%

\ReadBookmarks

```
15231 \def\ReadBookmarks{%
15232   \begingroup
15233   \def\0{\hv@pdf@char 0}%
15234   \def\1{\hv@pdf@char 1}%
15235   \def\2{\hv@pdf@char 2}%
15236   \def\3{\hv@pdf@char 3}%
15237   \def\({}%
15238   \def\)}%
15239   \def\do##1{%
15240     \ifnum\catcode`##1=\active
15241       \@makeother##1%
15242     \else
15243       \ifnum\catcode`##1=6 %
15244         \@makeother##1%
15245       \fi
15246     \fi
15247   }%
15248   \dospecials
15249   \Hy@safe@activetrue
15250   \InputIfFileExists{\jobname.out}{\}{}%
15251 \endgroup
15252 \ifx\WriteBookmarks\relax
15253 \else
15254   \if@filesw
15255     \newwrite\@outlinefile
15256     \Hy@OutlineRerunCheck
15257     \immediate\openout\@outlinefile=\jobname.out\relax
15258     \ifHy@typexml
15259       \immediate\write\@outlinefile{<relaxxml>\relax}%
15260     \fi
15261   \fi
15262 \fi
15263 }

15264 </vtex>
15265 <!*vtex>
15266 \def\ReadBookmarks{%
15267   \pdf@ifdraftmode{\}{}%
15268   \begingroup
15269   \def\do##1{%
15270     \ifnum\catcode`##1=\active
15271       \@makeother##1%
15272     \else
15273       \ifnum\catcode`##1=6 %
15274         \@makeother##1%
15275       \fi
15276     \fi
```

```

15277 }%
15278 \dospecials
15279 \Hy@safe@activestrue
15280 \escapechar=`\%
15281 \def\@@BOOKMARK[##1][##2]##3##4##5{%
15282   \calc@bm@number{##5}%
15283 }%
15284 \InputIfFileExists{jobname.out}{}{}%
15285 \ifx\WriteBookmarks\relax
15286   \global\let\WriteBookmarks\relax
15287 \fi
15288 \def\@@BOOKMARK[##1][##2]##3##4##5{%
15289   \def\Hy@temp{##4}%
15290 }%
15291 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
15292 \Hy@OutlineName{\Hy@pstringName{
15293   ##2}\check@bm@number{##3}}%
15294 }{%
15295   \expandafter\strip@prefix\meaning\Hy@temp
15296 }%
15297 </pdfetex>
15298 <*pdfmark>
15299   \pdfmark{%
15300     pdfmark=/OUT,%
15301     Count={##2}\check@bm@number{##3},%
15302     Dest={##3},%
15303     Title=\expandafter\strip@prefix\meaning\Hy@temp
15304   }%
15305 </pdfmark>
15306 <*dviPDFM | xetex>
15307   \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
15308   \@pdfm@mark{%
15309     outline \ifHy@DvipdfmxOutlineOpen
15310       [%
15311         \ifnum##21>\z@
15312         \else
15313         -%
15314         \fi
15315       ] %
15316       \fi
15317       ##1<<%
15318       /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
15319       /A<<%
15320       /S/GoTo%
15321       /D(\Hy@pstringName)%
15322       >>%
15323     >>%
15324   }%
15325 </dviPDFM | xetex>
15326 }%

```

```

15327 \begingroup
15328 \def\WriteBookmarks{0}%
15329 \InputIfFileExists{\jobname.out}{-}{-}%
15330 \endgroup
15331 %{\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
15332 \endgroup
15333 }%
15334 \ifx\WriteBookmarks\relax
15335 \else
15336 \if@filesw
15337 \newwrite\@outlinefile
15338 \Hy@OutlineRerunCheck
15339 \immediate\openout\@outlinefile=\jobname.out\relax
15340 \ifHy@typexml
15341 \immediate\write\@outlinefile{<relaxxml>\relax}%
15342 \fi
15343 \fi
15344 \fi
15345 }
15346 <*pdfTeX>
15347 \def\Hy@OutlineName#1#2#3#4{%
15348 \pdfoutline goto name{#2}count#3{#4}%
15349 }
15350 </pdfTeX>
15351 \def\check@bm@number#1{%
15352 \expandafter\ifx\csname B_#1\endcsname\relax
15353 0%
15354 \else
15355 \csname B_#1\endcsname
15356 \fi
15357 }
15358 \def\calc@bm@number#1{%
15359 \@tempcnta=\check@bm@number{#1}\relax
15360 \advance\@tempcnta by 1 %
15361 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
15362 }
15363 </!vTeX>
15364 \ifHy@implicit
15365 \else
15366 \expandafter\endinput
15367 \fi
15368 </outlines>
15369 <*outlines | hypertex>
15370 \newlength\Hy@SectionHShift
15371 \def\Hy@SectionAnchorHref#1{%
15372 \ifx\protect\@typeset@protect
15373 \Hy@@@SectionAnchor{#1}%
15374 \fi
15375 }

```

```

15376 \DeclareRobustCommand*\Hy@@SectionAnchor}[1]{%
15377 \leavevmode
15378 \hbox to 0pt{%
15379 \kern-\Hy@SectionHShift
15380 \Hy@raisedlink{%
15381 \hyper@anchorstart{#1}\hyper@anchorend
15382 }%
15383 \hss
15384 }%
15385 }
15386 \let\H@old@ssect\@ssect
15387 \def\@ssect#1#2#3#4#5{%
15388 \Hy@MakeCurrentHrefAuto{section*}%
15389 \setlength{\Hy@SectionHShift}{#1}%
15390 \begingroup
15391 \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
15392 \toks\tw@\expandafter{%
15393 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
15394 #5%
15395 }%
15396 \edef\x{\endgroup
15397 \the\toks@\the\toks\tw@}%
15398 }\x
15399 }
15400 \let\H@old@schapter\@schapter
15401 \def\@schapter#1{%
15402 \begingroup
15403 \let\@mkboth\@gobbletwo
15404 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
15405 \Hy@raisedlink{%
15406 \hyper@anchorstart{\@currentHref}\hyper@anchorend
15407 }%
15408 \endgroup
15409 \H@old@schapter{#1}%
15410 }

```

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:

```

15411 \ltx@ifundefined{@chapter}{}{}%
15412 \let\Hy@org@chapter\@chapter
15413 \def\@chapter{%
15414 \def\Hy@next{%
15415 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
15416 \Hy@raisedlink{%
15417 \hyper@anchorstart{\@currentHref}\hyper@anchorend
15418 }%
15419 }%
15420 \ifnum\c@secnumdepth>\m@ne
15421 \ltx@ifundefined{if@mainmatter}%

```

```

15422 \iftrue{\csname if@mainmatter\endcsname}%
15423 \let\Hy@next\relax
15424 \fi
15425 \fi
15426 \Hy@next
15427 \Hy@org@chapter
15428 }%
15429 }

15430 \let\H@old@part\@part
15431 \begingroup\expandafter\expandafter\expandafter\endgroup
15432 \expandafter\ifx\csname chapter\endcsname\relax
15433 \let\Hy@secnum@part\z@
15434 \else
15435 \let\Hy@secnum@part\m@ne
15436 \fi
15437 \def\@part{%
15438 \ifnum\Hy@secnum@part>\c@secnumdepth
15439 \phantomsection
15440 \fi
15441 \H@old@part
15442 }

15443 \let\H@old@spart\@spart
15444 \def\@spart#1{%
15445 \Hy@MakeCurrentHrefAuto{part*}%
15446 \Hy@raisedlink{%
15447 \hyper@anchorstart{\@currentHref}\hyper@anchorend
15448 }%
15449 \H@old@spart{#1}%
15450 }

15451 \let\H@old@sect\@sect
15452 \def\@sect#1#2#3#4#5#6[#7]#8{%
15453 \ifnum #2>\c@secnumdepth
15454 \expandafter\@firstoftwo
15455 \else
15456 \expandafter\@secondoftwo
15457 \fi
15458 {%
15459 \Hy@MakeCurrentHrefAuto{section*}%
15460 \setlength{\Hy@SectionHShift}{#3}%
15461 \begingroup
15462 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]}%
15463 \toks\tw@\expandafter{%
15464 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
15465 #8%
15466 }%
15467 \edef\x{\endgroup
15468 \the\toks@\the\toks\tw@}%
15469 }x
15470 }{%

```

```

15471 \H@old@ssect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
15472 }%
15473 }

15474 </outlines | hypertex>
15475 <*outlines>

15476 \expandafter\def\csname Parent-4\endcsname{}
15477 \expandafter\def\csname Parent-3\endcsname{}
15478 \expandafter\def\csname Parent-2\endcsname{}
15479 \expandafter\def\csname Parent-1\endcsname{}
15480 \expandafter\def\csname Parent0\endcsname{}
15481 \expandafter\def\csname Parent1\endcsname{}
15482 \expandafter\def\csname Parent2\endcsname{}
15483 \expandafter\def\csname Parent3\endcsname{}
15484 \expandafter\def\csname Parent4\endcsname{}

15485 </outlines>

```

## 50 Compatibility with koma-script classes

```
15486 <*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.

```

15487 \def\Hy@tempa{%
15488 \def\@addchap{##1}##2{%
15489 \typeout{##2}%
15490 \if@twoside
15491 \@mkboth{##1}{}%
15492 \else
15493 \@mkboth{}{##1}%
15494 \fi
15495 \addtocontents{lof}{\protect\addvspace{10\p@}}%
15496 \addtocontents{lot}{\protect\addvspace{10\p@}}%
15497 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
15498 \Hy@raisedlink{%
15499 \hyper@anchorstart{\@currentHref}\hyper@anchorend
15500 }%
15501 \if@twocolumn
15502 \@topnewpage[\@makeschapterhead{##2}]%
15503 \else
15504 \@makeschapterhead{##2}%
15505 \@afterheading
15506 \fi
15507 \addcontentsline{toc}{chapter}{##1}%
15508 }%
15509 }
15510 \@ifclassloaded{scrbook}{%

```

```

15511 \@ifclasslater{scrbook}{2001/01/01}{%
15512   \let\Hy@tempa\@empty
15513 }{}%
15514 }{%
15515 \@ifclassloaded{scrreprt}{%
15516   \@ifclasslater{scrreprt}{2001/01/01}{%
15517     \let\Hy@tempa\@empty
15518   }{}%
15519 }{}%
15520   \let\Hy@tempa\@empty
15521 }%
15522 }%
15523 \Hy@tempa
15524 </outlines | hypertex>

```

## 51 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

### 51.1 PD1 encoding

```

15525 <*pd1enc>
15526 \DeclareFontEncoding{PD1}{}{}

Accents
15527 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
15528 \DeclareTextAccent{\'}{PD1}{\textacute}
15529 \DeclareTextAccent{\~}{PD1}{\textasciicircum}
15530 \DeclareTextAccent{\~}{PD1}{\texttilde}
15531 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
15532 \DeclareTextAccent{\r}{PD1}{\textring}
15533 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
15534 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
15535 \DeclareTextAccent{\c}{PD1}{\textcedilla}
15536 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
15537 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
15538 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
15539 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
15540 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
15541 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\textasciicircum}
15542 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
15543 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
15544 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
15545 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
15546 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
15547 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
15548 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
15549 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}

```

```

15550 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
15551 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
15552 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
15553 \DeclareTextCompositeCommand{\^}{PD1}{\ }{\textasciicircum}
15554 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
15555 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
15556 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
15557 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
15558 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
15559 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
15560 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
15561 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
15562 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
15563 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
15564 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
15565 \DeclareTextCommand{\newtie}{PD1}[1]{%
15566 \TextSymbolUnavailable{\newtie{#1}}#1%
15567 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

15568 % U+0009 (CHARACTER TABULATION)
15569 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
15570 % U+000A (LINE FEED)
15571 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
15572 % U+000D (CARRIAGE RETURN)
15573 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

15574 % U+02D8 BREVE; breve
15575 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
15576 % U+02C7 CARON; caron
15577 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
15578 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
15579 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
15580 % U+02D9 DOT ABOVE; dotaccent
15581 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
15582 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
15583 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
15584 % U+02DB OGONEK; ogonek
15585 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
15586 % U+02DA RING ABOVE; ring
15587 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
15588 % U+02DC SMALL TILDE; ilde, *tilde
15589 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC
\040: U+0020 SPACE; *space, spacehackarabic
\041: U+0021 EXCLAMATION MARK; exclam
15590 % U+0022 QUOTATION MARK; quotedbl
15591 \DeclareTextCommand{\textquotedbl}{PD1}{"}% \042 U+0022
15592 % U+0023 NUMBER SIGN; numbersign
15593 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023

```

15594 % U+0024 DOLLAR SIGN; dollar  
15595 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024  
15596 % U+0025 PERCENT SIGN; percent  
15597 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025  
15598 % U+0026 AMPERSAND; ampersand  
15599 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026  
\047: U+0027 APOSTROPHE; quotesingle  
  
15600 % U+0028 LEFT PARENTHESIS; parenleft  
15601 \DeclareTextCommand{\textparenleft}{PD1}{\string\{ }% \050 U+0028  
15602 % U+0029 RIGHT PARENTHESIS; parenright  
15603 \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  
15604 % U+002E FULL STOP; period  
15605 \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  
15606 % U+003C LESS-THAN SIGN; less  
15607 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C  
\075: U+003D EQUALS SIGN; equal  
15608 % U+003E GREATER-THAN SIGN; greater  
15609 \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  
15610 % U+005C REVERSE SOLIDUS; backslash  
15611 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C  
15612 % "U+2216 SET MINUS" simulated by "U+005C REVERSE SOLIDUS"  
15613 \DeclareTextCommand{\textsetminus}{PD1}{\textbackslash}  
\135: U+005D RIGHT SQUARE BRACKET; bracketright  
15614 % U+005E CIRCUMFLEX ACCENT; asciicircum  
15615 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E  
15616 % U+005F LOW LINE; underscore  
15617 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F  
15618 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F

15619 % U+0060 GRAVE ACCENT; grave  
15620 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060  
\141: U+0061 LATIN SMALL LETTER A; a  
...  
\150: U+0068 LATIN SMALL LETTER H; h  
15621 % U+0069 LATIN SMALL LETTER I; i  
15622 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069  
\152: U+006A LATIN SMALL LETTER J; j  
...  
\172: U+007A LATIN SMALL LETTER Z; z  
15623 % U+007B LEFT CURLY BRACKET; braceleft  
15624 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B  
15625 % U+007C VERTICAL LINE; \*bar, verticalbar  
15626 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C  
15627 % U+007D RIGHT CURLY BRACKET; braceright  
15628 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D  
15629 % U+007E TILDE; asciitilde  
15630 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E  
Slot \177 (0x7F) is undefined in PDFDocEncoding.  
15631 % U+2022 BULLET; bullet  
15632 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022  
15633 % U+2020 DAGGER; dagger  
15634 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020  
15635 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
15636 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021  
15637 \DeclareTextCommand{\textddagger}{PD1}{\textddagger}  
15638 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
15639 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026  
15640 % U+2014 EM DASH; emdash  
15641 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014  
15642 % U+2013 EN DASH; endash  
15643 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013  
15644 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
15645 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192  
15646 % U+2044 FRACTION SLASH; fraction  
15647 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044  
15648 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
ingleft  
15649 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039  
15650 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
ingright  
15651 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A  
15652 % U+2212 MINUS SIGN; minus  
15653 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212  
15654 % U+2030 PER MILLE SIGN; perthousand  
15655 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030  
15656 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
15657 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E

15658 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
15659 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C  
15660 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
15661 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D  
15662 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
15663 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018  
15664 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
15665 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019  
15666 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
15667 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A  
15668 % U+2122 TRADE MARK SIGN; trademark  
15669 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122  
15670 % U+FB01 LATIN SMALL LIGATURE FI; fi  
15671 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01  
15672 % U+FB02 LATIN SMALL LIGATURE FL; fl  
15673 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02  
15674 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
15675 \DeclareTextCommand{\L}{PD1}{\225}% U+0141  
15676 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
15677 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152  
15678 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
15679 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160  
15680 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
15681 \DeclareTextCompositeCommand{\"}{PD1}{Y}{\230}% U+0178  
15682 \DeclareTextCommand{\IJ}{PD1}{IJ}% ligature U+0049 U+004A  
15683 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
15684 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D  
15685 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi  
15686 \DeclareTextCommand{\i}{PD1}{\232}% U+0131  
15687 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
15688 \DeclareTextCommand{\l}{PD1}{\233}% U+0142  
15689 % U+0153 LATIN SMALL LIGATURE OE; oe  
15690 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153  
15691 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
15692 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161  
15693 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
15694 \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.

15695 % U+20AC EURO SIGN; \*Euro, euro  
15696 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC  
15697 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown  
15698 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1  
15699 % U+00A2 CENT SIGN; cent  
15700 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2  
15701 % U+00A3 POUND SIGN; sterling  
15702 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3  
15703 % U+00A4 CURRENCY SIGN; currency  
15704 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4

15705 % U+00A5 YEN SIGN; yen  
15706 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5  
15707 % U+00A6 BROKEN BAR; brokenbar  
15708 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6  
15709 % U+00A7 SECTION SIGN; section  
15710 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7  
15711 % U+00A8 DIAERESIS; dieresis  
15712 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8  
15713 % U+00A9 COPYRIGHT SIGN; copyright  
15714 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9  
15715 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
15716 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA  
15717 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
15718 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB  
15719 % U+00AC NOT SIGN; logicalnot  
15720 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC  
15721 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not  
No glyph \255 in PDFDocEncoding.  
15722 % U+00AE REGISTERED SIGN; registered  
15723 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE  
15724 % U+00AF MACRON; \*macron, overscore  
15725 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF  
15726 % U+00B0 DEGREE SIGN; degree  
15727 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0  
15728 % U+00B1 PLUS-MINUS SIGN; plusminus  
15729 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1  
15730 % U+00B2 SUPERSCRIPT TWO; twosuperior  
15731 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}%\* U+00B2  
15732 % U+00B3 SUPERSCRIPT THREE; threesuperior  
15733 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}%\* U+00B3  
15734 % U+00B4 ACUTE ACCENT; acute  
15735 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4  
15736 % U+00B5 MICRO SIGN; mu, mul  
15737 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5  
15738 % U+00B6 PILCROW SIGN; paragraph  
15739 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6  
15740 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
15741 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7  
15742 % U+00B8 CEDILLA; cedilla  
15743 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8  
15744 % U+00B9 SUPERSCRIPT ONE; onesuperior  
15745 \DeclareTextCommand{\textonesuperior}{PD1}{\271}%\* U+00B9  
15746 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
15747 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA  
15748 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
15749 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB  
15750 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter

15751 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC  
15752 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
15753 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD  
15754 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
15755 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE  
15756 % U+00BF INVERTED QUESTION MARK; questiondown  
15757 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF  
15758 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
15759 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0  
15760 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
15761 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1  
15762 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
15763 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2  
15764 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
15765 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3  
15766 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
15767 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4  
15768 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
15769 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5  
15770 % U+00C6 LATIN CAPITAL LETTER AE; AE  
15771 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6  
15772 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
15773 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7  
15774 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
15775 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8  
15776 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
15777 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9  
15778 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
15779 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA  
15780 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
15781 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB  
15782 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
15783 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC  
15784 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
15785 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD  
15786 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
15787 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE  
15788 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
15789 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF  
15790 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
15791 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0  
15792 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0  
15793 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
15794 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1  
15795 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
15796 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2  
15797 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute  
15798 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3  
15799 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
15800 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4

15801 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
15802 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5  
15803 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
15804 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6  
15805 % U+00D7 MULTIPLICATION SIGN; multiply  
15806 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7  
15807 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
15808 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8  
15809 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
15810 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9  
15811 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
15812 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA  
15813 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
15814 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB  
15815 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
15816 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC  
15817 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
15818 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD  
15819 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
15820 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE  
15821 \DeclareTextCommand{\textThorn}{PD1}{\336}%\* U+00DE  
15822 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
15823 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF  
15824 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
15825 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0  
15826 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
15827 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1  
15828 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
15829 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2  
15830 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
15831 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3  
15832 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
15833 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4  
15834 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
15835 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5  
15836 % U+00E6 LATIN SMALL LETTER AE; ae  
15837 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6  
15838 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
15839 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7  
15840 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
15841 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8  
15842 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
15843 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9  
15844 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
15845 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA  
15846 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
15847 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB  
15848 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
15849 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC  
15850 \DeclareTextCompositeCommand{\^}{PD1}{i}{\354}% U+00EC

15851 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
15852 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
15853 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED  
15854 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
15855 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
15856 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE  
15857 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
15858 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
15859 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF  
15860 % U+00F0 LATIN SMALL LETTER ETH; eth  
15861 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0  
15862 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
15863 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1  
15864 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
15865 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2  
15866 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
15867 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3  
15868 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
15869 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4  
15870 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
15871 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5  
15872 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
15873 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6  
15874 % U+00F7 DIVISION SIGN; divide  
15875 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7  
15876 % U+00F8 LATIN SMALL LETTER O WITH STROKE; slash  
15877 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8  
15878 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
15879 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9  
15880 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
15881 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA  
15882 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
15883 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB  
15884 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
15885 \DeclareTextCompositeCommand{\"}{PD1}{u}{\374}% U+00FC  
15886 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
15887 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD  
15888 % U+00FE LATIN SMALL LETTER THORN; thorn; \th, \thorn (wasysym)  
15889 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE  
15890 \DeclareTextCommand{\textthorn}{PD1}{\376}%\* U+00FE  
15891 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
15892 \DeclareTextCompositeCommand{\"}{PD1}{y}{\377}% U+00FF  
15893 \DeclareTextCommand{\ij}{PD1}{ij}% ligature U+0069 U+006A  
  
Glyphs that consist of several characters.  
15894 \DeclareTextCommand{\SS}{PD1}{SS}%  
15895 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}%  
  
Aliases (german.sty)  
15896 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}%  
15897 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}%

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15898 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}%
15899 \DeclareTextCommand{\textgrq}{PD1}{\textquoteright}%
15900 \DeclareTextCommand{\textflqq}{PD1}{\guillemotleft}%
15901 \DeclareTextCommand{\textfrqq}{PD1}{\guillemotright}%
15902 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}%
15903 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}%
Aliases (math names)
15904 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}%
15905 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}%
15906 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}%
15907 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}%
15908 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}%
15909 \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).

```

15910 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
15911 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
15912 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
15913 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
15914 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
15915 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
15916 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
15917 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
15918 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
15919 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
15920 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
15921 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
15922 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
15923 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
15924 </pd1enc>

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## 51.2 PU encoding

```

15925 <*puenc>
15926 \DeclareFontEncoding{PU}{-}{}

```

### 51.2.1 NFSS2 accents

```

15927 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
15928 \DeclareTextCommand{\`}{PU}[1]{#1\83\000}% U+0300
15929 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
15930 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
15931 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
15932 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
15933 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
15934 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
15935 % U+0304 COMBINING MACRON; macroncmb
15936 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
15937 % U+0306 COMBINING BREVE; brevecmb

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15938 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306  
15939 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306  
15940 % U+0307 COMBINING DOT ABOVE; dotaccentcmb  
15941 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307  
15942 % U+0308 COMBINING DIAERESIS; dieresiscmb  
15943 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308  
15944 % U+030A COMBINING RING ABOVE; ringcmb  
15945 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A  
15946 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb  
15947 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B  
15948 % U+030C COMBINING CARON; caroncmb  
15949 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C  
15950 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
15951 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F  
15952 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F  
15953 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
15954 \DeclareTextCommand{\textinvbreve}{PU}[1]{#1\83\021}% U+0311  
15955 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311  
15956 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcmb  
15957 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323  
15958 % U+0324 COMBINING DIAERESIS BELOW; dieresisbelowcmb; \textsubm-  
laut (tipa)  
15959 \DeclareTextCommand{\textsubmlaut}{PU}[1]{#1\83\044}% U+0324  
15960 % U+0325 COMBINING RING BELOW; ringbelowcmb; \textsubring (tipa)  
15961 \DeclareTextCommand{\textsubring}{PU}[1]{#1\83\045}% U+0325  
15962 % U+0327 COMBINING CEDILLA; cedillacmb  
15963 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327  
15964 % U+0328 COMBINING OGONEK; ogonekcmb  
15965 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328  
15966 % U+032D COMBINING CIRCUMFLEX ACCENT BELOW;  
15967 % \textsubcircum (tipa)  
15968 \DeclareTextCommand{\textsubcircum}{PU}[1]{#1\83\055}% U+032D  
15969 % U+032E COMBINING BREVE BELOW; brevebelowcmb  
15970 \DeclareTextCommand{\textsubbreve}{PU}[1]{#1\83\056}% U+032E  
15971 % U+0330 COMBINING TILDE BELOW; tildebelowcmb; \textsubtilde (tipa)  
15972 \DeclareTextCommand{\textsubtilde}{PU}[1]{#1\83\060}% U+0330  
15973 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
15974 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331  
15975 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-  
blecmb  
15976 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361  
15977 % U+20DD COMBINING ENCLOSING CIRCLE  
15978 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

#### Double accents.

15979 \DeclareTextCommand{\textacutemacron}{PU}[1]{#1\83\001\83\004}% U+0301 U+0304  
15980 \DeclareTextCommand{\textgravemacron}{PU}[1]{#1\83\000\83\004}% U+0300 U+0304

\@empty is an artefact of the NFSS2 machinery, it gets inserted for empty arguments and spaces.

15981 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}%

15982 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}%  
15983 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textasciicircum}%  
15984 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}%  
15985 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}%  
15986 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}%  
15987 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}%  
15988 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}%  
15989 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}%  
15990 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}%  
15991 \DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}%  
15992 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}%  
15993 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}%  
15994 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}%  
15995 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\@empty}{\{\ \83\021\}}% U+0311  
15996 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\@empty}{\{\ \83\044\}}% U+0324  
15997 \DeclareTextCompositeCommand{\textsubring}{PU}{\@empty}{\textringlow}%  
15998 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\@empty}{\textcircum-  
low}%  
15999 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\@empty}{\{\ \83\056\}}% U+032E  
16000 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\@empty}{\texttildelow}%  
16001 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}%  
16002 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}%  
16003 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}%  
16004 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}%  
16005 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}%  
16006 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\@empty}{\{\ \83\001\83\004\}}% U+0301 U+  
16007 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\@empty}{\{\ \83\000\83\004\}}% U+0300 U+  
16008 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciigrave}%  
16009 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}%  
16010 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}%  
16011 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}%  
16012 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}%  
16013 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}%  
16014 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}%  
16015 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}%  
16016 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}%  
16017 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}%  
16018 \DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}%  
16019 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}%  
16020 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}%  
16021 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}%  
16022 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\ }{\{\ \83\021\}}% U+0311  
16023 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\ }{\{\ \83\044\}}% U+0324  
16024 \DeclareTextCompositeCommand{\textsubring}{PU}{\ }{\textringlow}%  
16025 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\ }{\textcircumlow}%  
16026 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\ }{\{\ \83\056\}}% U+032E  
16027 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\ }{\texttildelow}%  
16028 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}%  
16029 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}%

```

16030 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}%
16031 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}%
16032 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}%
16033 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\ }{\ \83\001\83\004}}% U+0301 U+0304
16034 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\ }{\ \83\000\83\004}}% U+0300 U+0304

```

Accents for capitals (see encoding TS1)

```

16035 \DeclareTextCommand{\capitalcedilla}{PU}[1]{c{#1}}%
16036 \DeclareTextCommand{\capitalogonek}{PU}[1]{k{#1}}%
16037 \DeclareTextCommand{\capitalgrave}{PU}[1]{`{#1}}%
16038 \DeclareTextCommand{\capitalacute}{PU}[1]{' {#1}}%
16039 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{^{#1}}%
16040 \DeclareTextCommand{\capitaltilde}{PU}[1]{~{#1}}%
16041 \DeclareTextCommand{\capitaldieresis}{PU}[1]{" {#1}}%
16042 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}%
16043 \DeclareTextCommand{\capitalring}{PU}[1]{r{#1}}%
16044 \DeclareTextCommand{\capitalcaron}{PU}[1]{v{#1}}%
16045 \DeclareTextCommand{\capitalbreve}{PU}[1]{u{#1}}%
16046 \DeclareTextCommand{\capitalmacron}{PU}[1]{={#1}}%
16047 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}%
16048 \DeclareTextCommand{\capitaltie}{PU}[1]{t{#1}}%
16049 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}%

```

### 51.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

16050 % U+0009 (CHARACTER TABULATION)
16051 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
16052 % U+000A (LINE FEED)
16053 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
16054 % U+000D (CARRIAGE RETURN)
16055 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

16056 % U+0022 QUOTATION MARK; quotedbl
16057 \DeclareTextCommand{\textquotedbl}{PU}{"}% \80\042 U+0022
16058 % U+0023 NUMBER SIGN; numbersign
16059 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
16060 % U+0024 DOLLAR SIGN; dollar
16061 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
16062 %* \textdollar -> \mathdollar
16063 %* \textdollar -> \EyesDollar (marvosym)
16064 % U+0025 PERCENT SIGN; percent
16065 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
16066 % U+0026 AMPERSAND; ampersand
16067 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
16068 %* \textampersand -> \binampersand (stmaryrd)
16069 %* \textampersand -> \with (cml)
16070 % U+0027 APOSTROPHE; quotesingle
16071 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027

```

16072 % U+0028 LEFT PARENTHESIS; parenleft  
16073 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028  
16074 % U+0029 RIGHT PARENTHESIS; parenright  
16075 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029  
16076 % U+002A ASTERISK; asterisk; (?)  
16077 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A  
16078 % U+002B PLUS SIGN; plus; \MVPlus (marvosym)  
16079 \DeclareTextCommand{\textMVPlus}{PU}{\80\053}%\* U+002B  
16080 % U+002C COMMA; comma; \MVComma (marvosym)  
16081 \DeclareTextCommand{\textMVComma}{PU}{\80\054}%\* U+002C  
16082 % U+002D HYPHEN-MINUS; hyphen; \MVMinus (marvosym)  
16083 \DeclareTextCommand{\textMVMinus}{PU}{\80\055}%\* U+002D  
16084 % U+002E FULL STOP; period; \MVPeriod (marvosym)  
16085 \DeclareTextCommand{\textMVPeriod}{PU}{\80\056}%\* U+002E  
16086 % U+002F SOLIDUS; slash; \MVDivision (marvosym)  
16087 \DeclareTextCommand{\textMVDivision}{PU}{\80\057}%\* U+002F  
16088 % U+0030 DIGIT ZERO; zero; \MVZero (marvosym)  
16089 \DeclareTextCommand{\textMVZero}{PU}{\80\060}%\* U+0030  
16090 % U+0031 DIGIT ONE; one; \MVOne (marvosym)  
16091 \DeclareTextCommand{\textMVOne}{PU}{\80\061}%\* U+0031  
16092 % U+0032 DIGIT TWO; two; \MVTwo (marvosym)  
16093 \DeclareTextCommand{\textMVTwo}{PU}{\80\062}%\* U+0032  
16094 % U+0033 DIGIT THREE; three; \MVThree (marvosym)  
16095 \DeclareTextCommand{\textMVThree}{PU}{\80\063}%\* U+0033  
16096 % U+0034 DIGIT FOUR; four; \MVFour (marvosym)  
16097 \DeclareTextCommand{\textMVFour}{PU}{\80\064}%\* U+0034  
16098 % U+0035 DIGIT FIVE; five; \MVFive (marvosym)  
16099 \DeclareTextCommand{\textMVFive}{PU}{\80\065}%\* U+0035  
16100 % U+0036 DIGIT SIX; six; \MVSix (marvosym)  
16101 \DeclareTextCommand{\textMVSix}{PU}{\80\066}%\* U+0036  
16102 % U+0037 DIGIT SEVEN; seven; \MVSeven (marvosym)  
16103 \DeclareTextCommand{\textMVSeven}{PU}{\80\067}%\* U+0037  
16104 % U+0038 DIGIT EIGHT; eight; \MVEight (marvosym)  
16105 \DeclareTextCommand{\textMVEight}{PU}{\80\070}%\* U+0038  
16106 % U+0039 DIGIT NINE; nine; \MVNine (marvosym)  
16107 \DeclareTextCommand{\textMVNine}{PU}{\80\071}%\* U+0039  
\80\072: U+003A COLON; colon  
\80\073: U+003B SEMICOLON; semicolon  
16108 % U+003C LESS-THAN SIGN; less  
16109 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C  
\80\075: U+003D EQUALS SIGN; equal  
16110 % U+003E GREATER-THAN SIGN; greater  
16111 \DeclareTextCommand{\textgreater}{PU}{>}% \80\076 U+003E  
\80\077: U+003F QUESTION MARK; question  
16112 % U+0040 COMMERCIAL AT; at; \MVAt (marvosym)  
16113 \DeclareTextCommand{\textMVAt}{PU}{\80\100}%\* U+0040  
\80\101: U+0041 LATIN CAPITAL LETTER A; A  
...

$\backslash 80\backslash 132$ : U+005A LATIN CAPITAL LETTER Z; Z  
 $\backslash 80\backslash 133$ : U+005B LEFT SQUARE BRACKET; `bracketleft`  
16114 % U+005C REVERSE SOLIDUS; `backslash`  
16115 `\DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C`  
 $\backslash 80\backslash 135$ : U+005D RIGHT SQUARE BRACKET; `bracketright`  
16116 % U+005E CIRCUMFLEX ACCENT; `asciicircum`  
16117 `\DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E`  
16118 % U+005F LOW LINE; `underscore`  
16119 `\DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F`  
16120 %\* `\textunderscore` -> `\mathunderscore` (LaTeX)  
16121 % U+0060 GRAVE ACCENT; `grave`  
16122 `\DeclareTextCommand{\textasciigrave}{PU}{\80\140}% U+0060`  
 $\backslash 80\backslash 141$ : U+0061 LATIN SMALL LETTER A; a  
...  
 $\backslash 80\backslash 150$ : U+0068 LATIN SMALL LETTER H; h  
16123 % U+0069 LATIN SMALL LETTER I; i  
16124 `\DeclareTextCompositeCommand{\.}{PU}{i}{i}% \80\151 U+0069`  
16125 `\DeclareTextCompositeCommand{\.}{PU}{i}{i}% \80\151 U+0069`  
 $\backslash 80\backslash 152$ : U+006A LATIN SMALL LETTER J; j  
...  
 $\backslash 80\backslash 172$ : U+007A LATIN SMALL LETTER Z; z  
16126 % U+007B LEFT CURLY BRACKET; `braceleft`  
16127 `\DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B`  
16128 % U+007C VERTICAL LINE; `*bar`, `verticalbar`  
16129 `\DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C`  
16130 %\* `\textbar` -> `\textvline` (tipa)  
16131 % U+007D RIGHT CURLY BRACKET; `braceright`  
16132 `\DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D`  
16133 % U+007E TILDE; `asciitilde`  
16134 `\DeclareTextCommand{\textasciitilde}{PU}{\80\176}% U+007E`

### 51.2.3 Latin-1 Supplement: U+0080 to U+00FF

$\backslash 80\backslash 240$ : U+00A0 NO-BREAK SPACE; `nbspace`, `nonbreakingspace`  
16135 % U+00A1 INVERTED EXCLAMATION MARK; `exclamdown`  
16136 `\DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1`  
16137 % U+00A2 CENT SIGN; `cent`  
16138 `\DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2`  
16139 % U+00A3 POUND SIGN; `sterling`  
16140 `\DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3`  
16141 %\* `\textsterling` -> `\mathsterling` (LaTeX)  
16142 %\* `\textsterling` -> `\pounds` (LaTeX)  
16143 % U+00A4 CURRENCY SIGN; `currency`  
16144 `\DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4`  
16145 % U+00A5 YEN SIGN; `yen`  
16146 `\DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5`  
16147 % U+00A6 BROKEN BAR; `brokenbar`

16148 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6  
16149 %\* \textbrokenbar -> \brokenvert (wasysym)  
16150 % U+00A7 SECTION SIGN; section  
16151 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7  
16152 %\* \textsection -> \mathsection (LaTeX)  
16153 %\* \textsection -> \S (LaTeX)  
16154 % U+00A8 DIAERESIS; dieresis  
16155 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8  
16156 % U+00A9 COPYRIGHT SIGN; copyright  
16157 \DeclareTextCommand{\textcopyright}{PU}{\80\251}%\* U+00A9  
16158 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine  
16159 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA  
16160 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotleft  
16161 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB  
16162 % U+00AC NOT SIGN; logicalnot  
16163 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC  
16164 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC  
\80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen  
16165 % U+00AE REGISTERED SIGN; registered  
16166 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE  
16167 % U+00AF MACRON; \*macron, overscore  
16168 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF  
16169 % U+00B0 DEGREE SIGN; degree  
16170 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0  
16171 % U+00B1 PLUS-MINUS SIGN; plusminus  
16172 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1  
16173 % U+00B2 SUPERSCRIPT TWO; twosuperior  
16174 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}%\* U+00B2  
16175 % U+00B3 SUPERSCRIPT THREE; threesuperior  
16176 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}%\* U+00B3  
16177 % U+00B4 ACUTE ACCENT; acute  
16178 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4  
16179 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4  
16180 % U+00B5 MICRO SIGN; mu, mu1  
16181 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5  
16182 % U+00B6 PILCROW SIGN; paragraph  
16183 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6  
16184 %\* \textparagraph -> \mathparagraph (LaTeX)  
16185 % U+00B7 MIDDLE DOT; middot, \*periodcentered  
16186 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7  
16187 %\* \textperiodcentered -> \MultiplicationDot (marvosym)  
16188 %\* \textperiodcentered -> \Squaredot (marvosym)  
16189 % U+00B8 CEDILLA; cedilla  
16190 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8  
16191 % U+00B9 SUPERSCRIPT ONE; onesuperior  
16192 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}%\* U+00B9  
16193 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine  
16194 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA

16195 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemotright  
16196 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB  
16197 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter  
16198 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC  
16199 % U+00BD VULGAR FRACTION ONE HALF; onehalf  
16200 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD  
16201 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters  
16202 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE  
16203 % U+00BF INVERTED QUESTION MARK; questiondown  
16204 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF  
16205 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave  
16206 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
16207 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute  
16208 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
16209 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex  
16210 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2  
16211 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde  
16212 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
16213 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis  
16214 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4  
16215 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring  
16216 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5  
16217 % U+00C6 LATIN CAPITAL LETTER AE; AE  
16218 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6  
16219 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla  
16220 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7  
16221 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave  
16222 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
16223 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute  
16224 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
16225 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex  
16226 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA  
16227 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis  
16228 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB  
16229 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave  
16230 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
16231 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute  
16232 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
16233 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex  
16234 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE  
16235 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis  
16236 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF  
16237 % U+00D0 LATIN CAPITAL LETTER ETH; Eth  
16238 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0  
16239 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde  
16240 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1  
16241 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve  
16242 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2  
16243 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute

16244 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3  
16245 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex  
16246 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4  
16247 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde  
16248 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5  
16249 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis  
16250 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6  
16251 % U+00D7 MULTIPLICATION SIGN; multiply  
16252 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7  
16253 %\* \textmultiply -> \vartimes (stmaryrd)  
16254 %\* \textmultiply -> \MVMultiplication (marvosym)  
16255 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash  
16256 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8  
16257 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave  
16258 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9  
16259 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute  
16260 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA  
16261 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex  
16262 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB  
16263 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis  
16264 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC  
16265 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute  
16266 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD  
16267 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)  
16268 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE  
16269 \DeclareTextCommand{\textThorn}{PU}{\80\336}%\* U+00DE  
16270 % U+00DF LATIN SMALL LETTER SHARP S; germandbls  
16271 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF  
16272 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave  
16273 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0  
16274 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute  
16275 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
16276 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex  
16277 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2  
16278 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde  
16279 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
16280 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis  
16281 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4  
16282 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring  
16283 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5  
16284 % U+00E6 LATIN SMALL LETTER AE; ae  
16285 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6  
16286 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla  
16287 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7  
16288 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave  
16289 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8  
16290 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute  
16291 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
16292 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex  
16293 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA

16294 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis  
16295 \DeclareTextCompositeCommand{"}{PU}{e}{\80\353}% U+00EB  
16296 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave  
16297 \DeclareTextCompositeCommand{"}{PU}{i}{\80\354}% U+00EC  
16298 \DeclareTextCompositeCommand{"}{PU}{i}{\80\354}% U+00EC  
16299 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute  
16300 \DeclareTextCompositeCommand{"}{PU}{i}{\80\355}% U+00ED  
16301 \DeclareTextCompositeCommand{"}{PU}{i}{\80\355}% U+00ED  
16302 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex  
16303 \DeclareTextCompositeCommand{"}{PU}{i}{\80\356}% U+00EE  
16304 \DeclareTextCompositeCommand{"}{PU}{i}{\80\356}% U+00EE  
16305 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis  
16306 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF  
16307 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF  
16308 % U+00F0 LATIN SMALL LETTER ETH; eth  
16309 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0  
16310 %\* \dh -> \eth (wsuipa, phonetic)  
16311 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde  
16312 \DeclareTextCompositeCommand{"}{PU}{n}{\80\361}% U+00F1  
16313 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve  
16314 \DeclareTextCompositeCommand{"}{PU}{o}{\80\362}% U+00F2  
16315 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute  
16316 \DeclareTextCompositeCommand{"}{PU}{o}{\80\363}% U+00F3  
16317 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex  
16318 \DeclareTextCompositeCommand{"}{PU}{o}{\80\364}% U+00F4  
16319 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde  
16320 \DeclareTextCompositeCommand{"}{PU}{o}{\80\365}% U+00F5  
16321 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis  
16322 \DeclareTextCompositeCommand{"}{PU}{o}{\80\366}% U+00F6  
16323 % U+00F7 DIVISION SIGN; divide  
16324 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7  
16325 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash  
16326 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8  
16327 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave  
16328 \DeclareTextCompositeCommand{"}{PU}{u}{\80\371}% U+00F9  
16329 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute  
16330 \DeclareTextCompositeCommand{"}{PU}{u}{\80\372}% U+00FA  
16331 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex  
16332 \DeclareTextCompositeCommand{"}{PU}{u}{\80\373}% U+00FB  
16333 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis  
16334 \DeclareTextCompositeCommand{"}{PU}{u}{\80\374}% U+00FC  
16335 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute  
16336 \DeclareTextCompositeCommand{"}{PU}{y}{\80\375}% U+00FD  
16337 % U+00FE LATIN SMALL LETTER THORN; thorn;  
16338 % \th, \thorn (wasysym), \textthorn (tipa)  
16339 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE  
16340 \DeclareTextCommand{\textthorn}{PU}{\80\376}%\* U+00FE  
16341 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis  
16342 \DeclareTextCompositeCommand{"}{PU}{y}{\80\377}% U+00FF

#### 51.2.4 Latin Extended-A: U+0080 to U+017F

16343 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron  
16344 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100  
16345 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron  
16346 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101  
16347 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve  
16348 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102  
16349 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve  
16350 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103  
16351 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek  
16352 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104  
16353 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek  
16354 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105  
16355 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute  
16356 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106  
16357 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute  
16358 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107  
16359 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex  
16360 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108  
16361 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex  
16362 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109  
16363 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotac-  
cent  
16364 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A  
16365 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent  
16366 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B  
16367 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron  
16368 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C  
16369 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron  
16370 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D  
16371 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron  
16372 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E  
16373 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron  
16374 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F  
16375 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash  
16376 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110  
16377 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron;  
16378 % \textcrd (tipa)  
16379 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111  
16380 \DeclareTextCommand{\textcrd}{PU}{\81\021}% U+0111  
16381 %\* \textcrd -> \crossd (wsuipa)  
16382 % An alternate glyph with the stroke through the bowl:  
16383 %\* \textcrd -> \textbard (tipa)  
16384 %\* \textcrd -> \bard (wsuipa)  
16385 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron  
16386 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112  
16387 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron  
16388 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113  
16389 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve

16390 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114  
16391 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve  
16392 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115  
16393 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent  
16394 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116  
16395 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent  
16396 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117  
16397 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek  
16398 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118  
16399 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek  
16400 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119  
16401 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron  
16402 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A  
16403 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron  
16404 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B  
16405 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex  
16406 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C  
16407 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex  
16408 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D  
16409 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve  
16410 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E  
16411 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve  
16412 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F  
16413 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotac-  
cent  
16414 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120  
16415 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent  
16416 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121  
16417 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcom-  
mmaaccent  
16418 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122  
16419 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent  
16420 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123  
16421 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex  
16422 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124  
16423 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex  
16424 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125  
16425 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar  
16426 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126  
16427 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar; \hbar (AmS)  
16428 \DeclareTextCommand{\texthbar}{PU}{\81\047}%\* U+0127  
16429 %\* \texthbar -> \textcrh (tipa)  
16430 %\* \texthbar -> \crossh (wsuipa)  
16431 %\* \texthbar -> \planck (phonetic)  
16432 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde  
16433 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128  
16434 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde  
16435 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
16436 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
16437 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron

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16438 \DeclareTextCompositeCommand{\=} {PU}{I}{\81\052}% U+012A
16439 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
16440 \DeclareTextCompositeCommand{\=} {PU}{i}{\81\053}% U+012B
16441 \DeclareTextCompositeCommand{\=} {PU}{i}{\81\053}% U+012B
16442 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
16443 \DeclareTextCompositeCommand{\u} {PU}{I}{\81\054}% U+012C
16444 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
16445 \DeclareTextCompositeCommand{\u} {PU}{i}{\81\055}% U+012D
16446 \DeclareTextCompositeCommand{\u} {PU}{i}{\81\055}% U+012D
16447 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
16448 \DeclareTextCompositeCommand{\k} {PU}{I}{\81\056}% U+012E
16449 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
16450 \DeclareTextCompositeCommand{\k} {PU}{i}{\81\057}% U+012F
16451 \DeclareTextCompositeCommand{\k} {PU}{i}{\81\057}% U+012F
16452 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
16453 \DeclareTextCompositeCommand{\.} {PU}{I}{\81\060}% U+0130
16454 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
16455 \DeclareTextCommand{\i} {PU}{\81\061}% U+0131
16456 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
16457 \DeclareTextCommand{\IJ} {PU}{\81\062}% U+0132
16458 % U+0133 LATIN SMALL LIGATURE IJ; ij
16459 \DeclareTextCommand{\ij} {PU}{\81\063}% U+0133
16460 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
16461 \DeclareTextCompositeCommand{\^} {PU}{J}{\81\064}% U+0134
16462 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
16463 \DeclareTextCompositeCommand{\^} {PU}{j}{\81\065}% U+0135
16464 \DeclareTextCompositeCommand{\^} {PU}{j}{\81\065}% U+0135
16465 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaac-
cent
16466 \DeclareTextCompositeCommand{\c} {PU}{K}{\81\066}% U+0136
16467 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
16468 \DeclareTextCompositeCommand{\c} {PU}{k}{\81\067}% U+0137

The canonical name of U+0138, small letter kra, would be \textkgreenlandic,
following the glyph naming convention. However latex/base/inputenc.dtx has
choosen \textkra.

16469 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
16470 \DeclareTextCommand{\textkra} {PU}{\81\070}% U+0138
16471 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
16472 \DeclareTextCompositeCommand{\'} {PU}{L}{\81\071}% U+0139
16473 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
16474 \DeclareTextCompositeCommand{\'} {PU}{l}{\81\072}% U+013A
16475 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-
cent
16476 \DeclareTextCompositeCommand{\c} {PU}{L}{\81\073}% U+013B
16477 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
16478 \DeclareTextCompositeCommand{\c} {PU}{l}{\81\074}% U+013C
16479 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
16480 \DeclareTextCompositeCommand{\v} {PU}{L}{\81\075}% U+013D
16481 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron

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16482 \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.  
16483 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotac-  
cent  
16484 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F  
16485 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent  
16486 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140  
16487 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash  
16488 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141  
16489 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash  
16490 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142  
16491 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute  
16492 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143  
16493 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute  
16494 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144  
16495 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaac-  
cent  
16496 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145  
16497 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent  
16498 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146  
16499 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron  
16500 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147  
16501 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron  
16502 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148  
16503 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napos-  
trophe, quoterightn  
16504 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149  
16505 % U+014A LATIN CAPITAL LETTER ENG; Eng  
16506 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A  
16507 % U+014B LATIN SMALL LETTER ENG; eng  
16508 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B  
16509 %\* \ng -> \eng (wsuipa)  
16510 %\* \ng -> \engma (phonetic)  
16511 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron  
16512 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C  
16513 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron  
16514 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D  
16515 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve  
16516 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E  
16517 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve  
16518 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F  
16519 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblac-  
cute, Ohungarumlaut  
16520 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150  
16521 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odbla-  
cute, ohungarumlaut  
16522 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151

16523 % U+0152 LATIN CAPITAL LIGATURE OE; OE  
16524 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152  
16525 % U+0153 LATIN SMALL LIGATURE OE; oe  
16526 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153  
16527 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute  
16528 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154  
16529 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute  
16530 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155  
16531 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent  
cent  
16532 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156  
16533 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent  
16534 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157  
16535 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron  
16536 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158  
16537 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron  
16538 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159  
16539 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute  
16540 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A  
16541 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute  
16542 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B  
16543 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex  
16544 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C  
16545 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex  
16546 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D  
16547 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla  
16548 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E  
16549 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla  
16550 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F  
16551 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron  
16552 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160  
16553 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron  
16554 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161  
16555 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent  
cent  
16556 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162  
16557 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent  
16558 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163  
16559 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron  
16560 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164  
16561 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron  
16562 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165  
16563 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar  
16564 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166  
16565 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar  
16566 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167  
16567 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde  
16568 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168  
16569 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde  
16570 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169

16571 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron  
16572 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A  
16573 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron  
16574 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B  
16575 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve  
16576 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C  
16577 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve  
16578 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D  
16579 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring  
16580 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E  
16581 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring  
16582 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F  
16583 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut  
16584 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170  
16585 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut  
16586 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171  
16587 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek  
16588 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172  
16589 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek  
16590 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173  
16591 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex  
16592 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174  
16593 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex  
16594 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175  
16595 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex  
16596 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176  
16597 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex  
16598 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177  
16599 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis  
16600 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178  
16601 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute  
16602 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179  
16603 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute  
16604 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A  
16605 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent  
16606 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B  
16607 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent  
16608 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C  
16609 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron  
16610 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D  
16611 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron  
16612 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E  
16613 % U+017F LATIN SMALL LETTER LONG S; longs, slong  
16614 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

### 51.2.5 Latin Extended-B: U+0180 to U+024F

16615 % U+0180 LATIN SMALL LETTER B WITH STROKE; bstroke; \textcrb (tipa)  
16616 \DeclareTextCommand{\textcrb}{PU}{\81\200}% U+0180

16617 %\* \textcrb -> \crossb (wsuipa)  
16618 % An alternate glyph with the stroke through the bowl:  
16619 %\* \textcrb -> \textbarb (tipa)  
16620 %\* \textcrb -> \barb (wsuipa)  
16621 % U+0181 LATIN CAPITAL LETTER B WITH HOOK; Bhook; \hausab (pho-  
netic)  
16622 \DeclareTextCommand{\texthausaB}{PU}{\81\201}%\* U+0181  
16623 % U+0188 LATIN SMALL LETTER C WITH HOOK; chook; \texthtc (tipa)  
16624 \DeclareTextCommand{\texthtc}{PU}{\81\210}% U+0188  
16625 % U+018A LATIN CAPITAL LETTER D WITH HOOK; Dhook; \hausad (pho-  
netic)  
16626 \DeclareTextCommand{\texthausad}{PU}{\81\212}%\* U+018A  
16627 % U+018E LATIN CAPITAL LETTER REVERSED E; Eversed  
16628 \DeclareTextCommand{\textEversed}{PU}{\81\216}% U+018E  
16629 \DeclareTextCommand{\textrevE}{PU}{\81\216}% U+018E  
16630 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin  
16631 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192  
16632 %\* \textflorin -> \Florin (marvosym)  
16633 % U+0195 LATIN SMALL LETTER HV; hv; \texthvlig (tipa)  
16634 \DeclareTextCommand{\texthvlig}{PU}{\81\225}% U+0195  
16635 %\* \texthvlig -> \hv (wsuipa)  
16636 % U+0198 LATIN CAPITAL LETTER K WITH HOOK; Khook; \hausak (pho-  
netic)  
16637 \DeclareTextCommand{\texthausak}{PU}{\81\230}%\* U+0198  
16638 % U+0199 LATIN SMALL LETTER K WITH HOOK; khook; \texthtk (tipa)  
16639 \DeclareTextCommand{\texthtk}{PU}{\81\231}% U+0199  
16640 %\* \texthtk -> \hausak (phonetic)  
16641 % U+019A LATIN SMALL LETTER L WITH BAR; lbar;  
16642 % \textbarl (tipa), \barl (wsuipa)  
16643 \DeclareTextCommand{\textbarl}{PU}{\81\232}%\* U+019A  
16644 % U+019B LATIN SMALL LETTER LAMBDA WITH STROKE/  
16645 % LATIN SMALL LETTER BARRED LAMBDA; lambdastroke;  
16646 % \textclambda (tipa)  
16647 \DeclareTextCommand{\textclambda}{PU}{\81\233}% U+019B  
16648 %\* \textclambda -> \crossnilambda (wsuipa)  
16649 %\* \textclambda -> \barlambd (phonetic)  
16650 %\* \textclambda -> \lambdabar (txfonts/pxfonts)  
16651 %\* \textclambda -> \lambdaslash (txfonts/pxfonts)  
16652 % U+019E LATIN SMALL LETTER N WITH LONG RIGHT LEG; nlegright-  
long;  
16653 % \textnrleg (tipx)  
16654 \DeclareTextCommand{\textPUnrleg}{PU}{\81\236}% U+019E  
16655 %\* \textPUnrleg -> \textnrleg (tipx)  
16656 % U+01A5 LATIN SMALL LETTER P WITH HOOK; phook; \texthtp (tipa)  
16657 \DeclareTextCommand{\texthtp}{PU}{\81\245}% U+01A5  
16658 % U+01AB LATIN SMALL LETTER T WITH PALATAL HOOK; tpalatalhook;  
16659 % \textlhookt (tipa)  
16660 \DeclareTextCommand{\textlhookt}{PU}{\81\253}% U+01AB  
16661 % U+01AD LATIN SMALL LETTER T WITH HOOK; thook; \texthtt (tipa)  
16662 \DeclareTextCommand{\texthtt}{PU}{\81\255}% U+01AD

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16663 % U+01B9 LATIN SMALL LETTER EZH REVERSED/
16664 % LATIN SMALL LETTER REVERSED YOGH; \textrevyogh (tipa)
16665 \DeclareTextCommand{\textrevyogh}{PU}{\81\271}% U+01B9
16666 % U+01BB LATIN LETTER TWO WITH STROKE; twostroke; \textcrtwo (tipa)
16667 \DeclareTextCommand{\textcrtwo}{PU}{\81\273}% U+01BB
16668 % U+01BE LATIN LETTER INVERTED GLOTTAL STOP WITH STROKE;
16669 % glottalinvertedstroke; \textcrinvglotstop (tipa)
16670 \DeclareTextCommand{\textcrinvglotstop}{PU}{\81\276}% U+01BE
16671 % U+01BF LATIN LETTER WYNN; wynn; \textwynn (tipa)
16672 \DeclareTextCommand{\textwynn}{PU}{\81\277}% U+01BF
16673 % U+01C0 LATIN LETTER DENTAL CLICK/LATIN LETTER PIPE; clickden-
tal;
16674 % \textpipe (tipa)
16675 \DeclareTextCommand{\textpipe}{PU}{\81\300}% U+01C0
16676 %* \textpipe -> \textpipevar (tipx)
16677 % U+01C1 LATIN LETTER LATERAL CLICK/LATIN LETTER
16678 % DOUBLE PIPE; clicklateral; \textdoublepipe (tipa)
16679 \DeclareTextCommand{\textdoublepipe}{PU}{\81\301}% U+01C1
16680 %* \textdoublepipe -> \textdoublepipevar (tipx)
16681 % U+01C2 LATIN LETTER ALVEOLAR CLICK/LATIN LETTER PIPE DOU-
BLE BAR;
16682 % clickalveolar; \textdoublebarpipe (tipa)
16683 \DeclareTextCommand{\textdoublebarpipe}{PU}{\81\302}% U+01C2
16684 %* \textdoublebarpipe -> \textdoublebarpipevar (tipx)
16685 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
16686 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
16687 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
16688 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
16689 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
16690 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
16691 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
16692 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
16693 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
16694 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
16695 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
16696 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
16697 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
16698 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
16699 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
16700 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
16701 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
16702 % U+01DD LATIN SMALL LETTER TURNED E; eturned; \inve (wasysym)
16703 \DeclareTextCommand{\textinve}{PU}{\81\335}%* U+01DD
16704 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
16705 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
16706 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
16707 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
16708 %* \textgslash -> \textcrg (tipa)
16709 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
16710 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6

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16711 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron  
16712 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7  
16713 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron  
16714 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8  
16715 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron  
16716 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9  
16717 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek  
16718 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA  
16719 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek  
16720 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB  
16721 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron  
16722 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
16723 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0  
16724 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute  
16725 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4  
16726 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute  
16727 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5  
16728 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE  
16729 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8  
16730 % U+01F9 LATIN SMALL LETTER N WITH GRAVE  
16731 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9  
16732 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute  
16733 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC  
16734 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute  
16735 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD  
16736 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE;  
16737 % \*Oslashacute, Ostrokeacut  
16738 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE  
16739 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE;  
16740 % \*oslashacute, ostrokeacute  
16741 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF  
16742 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave  
16743 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200  
16744 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave  
16745 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201  
16746 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave  
16747 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204  
16748 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave  
16749 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205  
16750 % U+0206 LATIN CAPITAL LETTER E WITH INVERTED BREVE; Einvert-  
edbreve  
16751 \DeclareTextCompositeCommand{\textinvbreve}{PU}{E}{\82\006}% U+0206  
16752 % U+0207 LATIN SMALL LETTER E WITH INVERTED BREVE; einvert-  
breve  
16753 \DeclareTextCompositeCommand{\textinvbreve}{PU}{e}{\82\007}% U+0207  
16754 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave  
16755 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208  
16756 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave  
16757 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209  
16758 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209

16759 % U+020A LATIN CAPITAL LETTER I WITH INVERTED BREVE; inverted-breve  
16760 \DeclareTextCompositeCommand{\textinvertedbreve}{PU}{I}{\82\012}% U+020A  
16761 % U+020B LATIN SMALL LETTER I WITH INVERTED BREVE; iinverted-breve  
16762 \DeclareTextCompositeCommand{\textinvertedbreve}{PU}{i}{\82\013}% U+020B  
16763 \DeclareTextCompositeCommand{\textinvertedbreve}{PU}{\i}{\82\013}% U+020B  
16764 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave  
16765 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C  
16766 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave  
16767 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D  
16768 % U+020E LATIN CAPITAL LETTER O WITH INVERTED BREVE; Oinvertedbreve  
16769 \DeclareTextCompositeCommand{\textinvertedbreve}{PU}{O}{\82\016}% U+020E  
16770 % U+020F LATIN SMALL LETTER O WITH INVERTED BREVE; oinverted-breve  
16771 \DeclareTextCompositeCommand{\textinvertedbreve}{PU}{o}{\82\017}% U+020F  
16772 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave  
16773 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210  
16774 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave  
16775 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211  
16776 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave  
16777 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214  
16778 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave  
16779 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215  
16780 % U+0216 LATIN CAPITAL LETTER U WITH INVERTED BREVE; Uinvertedbreve  
16781 \DeclareTextCompositeCommand{\textinvertedbreve}{PU}{U}{\82\026}% U+0216  
16782 % U+0217 LATIN SMALL LETTER U WITH INVERTED BREVE; uinverted-breve  
16783 \DeclareTextCompositeCommand{\textinvertedbreve}{PU}{u}{\82\027}% U+0217  
16784 % U+021E LATIN CAPITAL LETTER H WITH CARON  
16785 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E  
16786 % U+021F LATIN SMALL LETTER H WITH CARON  
16787 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F  
16788 % U+0221 LATIN SMALL LETTER D WITH CURL; \textctd (tipa)  
16789 \DeclareTextCommand{\textctd}{PU}{\82\041}% U+0221  
16790 % U+0225 LATIN SMALL LETTER Z WITH HOOK; \textcommatailz (tipa)  
16791 \DeclareTextCommand{\textcommatailz}{PU}{\82\045}% U+0225  
16792 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE  
16793 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226  
16794 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE  
16795 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227  
16796 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA  
16797 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228  
16798 % U+0229 LATIN SMALL LETTER E WITH CEDILLA  
16799 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229  
16800 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE  
16801 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E  
16802 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE

16803 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F  
 16804 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON  
 16805 \DeclareTextCompositeCommand{\=} {PU}{Y}{\82\062}% U+0232  
 16806 % U+0233 LATIN SMALL LETTER Y WITH MACRON  
 16807 \DeclareTextCompositeCommand{\=} {PU}{y}{\82\063}% U+0233  
 16808 % U+0235 LATIN SMALL LETTER N WITH CURL; \textctn (tipa)  
 16809 \DeclareTextCommand{\textctn}{PU}{\82\065}% U+0235  
 16810 % U+0236 LATIN SMALL LETTER T WITH CURL; \textctt (tipa)  
 16811 \DeclareTextCommand{\textctt}{PU}{\82\066}% U+0236  
 16812 % U+0237 LATIN SMALL LETTER DOTLESS J  
 16813 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237  
 16814 % U+0238 LATIN SMALL LETTER DB DIGRAPH; \textdblig (tipx)  
 16815 \DeclareTextCommand{\textPUdblig}{PU}{\82\070}% U+0238  
 16816 %\* \textPUdblig -> \textdblig (tipx)  
 16817 % U+0239 LATIN SMALL LETTER QP DIGRAPH; \textqplig (tipx)  
 16818 \DeclareTextCommand{\textPUqplig}{PU}{\82\071}% U+0239  
 16819 %\* \textPUqplig -> \textqplig (tipx)  
 16820 % U+023C LATIN SMALL LETTER C WITH STROKE; \slashc (wsuipa)  
 16821 \DeclareTextCommand{\textslashc}{PU}{\82\074}%\* U+023C  
 16822 %\* \textslashc -> \textcentoldstyle (textcomp)  
 16823 % With bar instead of stroke:  
 16824 %\* \textslashc -> \textbarc (tipa)

### 51.2.6 IPA Extensions: U+0250 to U+02AF

16825 % U+0250 LATIN SMALL LETTER TURNED A; aturned; \textturna (tipa)  
 16826 \DeclareTextCommand{\textturna}{PU}{\82\120}% U+0250  
 16827 %\* \textturna -> \inva (wasysym)  
 16828 % U+0251 LATIN SMALL LETTER ALPHA/LATIN SMALL LETTER  
 16829 % SCRIPT A; ascript; \textscripta (tipa), \scripta (wsuipa)  
 16830 \DeclareTextCommand{\textscripta}{PU}{\82\121}%\* U+0251  
 16831 %\* \textscripta -> \vara (phonetic)  
 16832 % U+0252 LATIN SMALL LETTER TURNED ALPHA; ascriptturned;  
 16833 % \textturnscripta (tipa)  
 16834 \DeclareTextCommand{\textturnscripta}{PU}{\82\122}% U+0252  
 16835 %\* \textturnscripta -> \invscripta (wsuipa)  
 16836 %\* \textturnscripta -> \rotvara (phonetic)  
 16837 % U+0253 LATIN CAPITAL LETTER B WITH HOOK; bhook; \texthtb (tipa)  
 16838 \DeclareTextCommand{\texthtb}{PU}{\82\123}% U+0253  
 16839 %\* \texthtb -> \hookb (wsuipa)  
 16840 %\* \texthtb -> \hausab (phonetic)  
 16841 % U+0254 LATIN SMALL LETTER OPEN O; oopen;  
 16842 % \textopeno (tipa), \openo (wasysym)  
 16843 \DeclareTextCommand{\textopeno}{PU}{\82\124}%\* U+0254  
 16844 %\* \textopeno -> \varopeno (phonetic)  
 16845 % U+0255 LATIN SMALL LETTER C WITH CURL; ccurl; \textctc (tipa)  
 16846 \DeclareTextCommand{\textctc}{PU}{\82\125}% U+0255  
 16847 %\* \textctc -> \curlyc (wsuipa)  
 16848 % U+0256 LATIN SMALL LETTER D WITH TAIL; dtail; \textrtaild (tipa)  
 16849 \DeclareTextCommand{\textrtaild}{PU}{\82\126}%\* U+0256  
 16850 %\* \textrtaild -> \taild (wsuipa)

16851 % U+0257 LATIN SMALL LETTER D WITH HOOK; dhook; \texthtd (tipa)  
16852 \DeclareTextCommand{\texthtd}{PU}{\82\127}% U+0257  
16853 %\* \texthtd -> \hookd (wsuipa)  
16854 %\* \texthtd -> \hausad (phonetic)  
16855 % U+0258 LATIN SMALL LETTER REVERSED E; ereversed;  
16856 % \textreve (tipa), \reve (wsuipa)  
16857 \DeclareTextCommand{\textreve}{PU}{\82\130}%\* U+0258  
16858 % U+0259 LATIN SMALL LETTER SCHWA; schwa;  
16859 % \textschwa (tipa), \schwa (wsuipa, phonetic)  
16860 \DeclareTextCommand{\textschwa}{PU}{\82\131}%\* U+0259  
16861 % U+025A LATIN SMALL LETTER SCHWA WITH HOOK; schwahook;  
16862 % \textrhookschwa (tipa)  
16863 \DeclareTextCommand{\textrhookschwa}{PU}{\82\132}% U+025A  
16864 %\* \textrhookschwa -> \er (wsuipa)  
16865 % U+025B LATIN SMALL LETTER OPEN E/LATIN SMALL LETTER EP-  
SILON; eopen;  
16866 % \niepsilon (wsuipa)  
16867 \DeclareTextCommand{\textniepsilon}{PU}{\82\133}%\* U+025B  
16868 %\* \textniepsilon -> \epsi (phonetic)  
16869 % U+025C LATIN SMALL LETTER REVERSED OPEN E; eopenreversed;  
16870 % \textrevepsilon (tipa), \revepsilon (wsuipa)  
16871 \DeclareTextCommand{\textrevepsilon}{PU}{\82\134}%\* U+025C  
16872 % U+025D LATIN SMALL LETTER REVERSED OPEN E WITH HOOK; eopen-  
reversedhook;  
16873 % \textrhookrevepsilon (tipa)  
16874 \DeclareTextCommand{\textrhookrevepsilon}{PU}{\82\135}%\* U+025D  
16875 %\* \textrhookrevepsilon -> \hookrevepsilon (wsuipa)  
16876 % U+025E LATIN SMALL LETTER CLOSED REVERSED OPEN E; eopenre-  
versedclosed;  
16877 % \textcloserevepsilon (tipa)  
16878 \DeclareTextCommand{\textcloserevepsilon}{PU}{\82\136}% U+025E  
16879 %\* \textcloserevepsilon -> \closedrevepsilon (wsuipa)  
16880 % U+025F LATIN SMALL LETTER DOTLESS J WITH STROKE; jdot-  
lessstroke;  
16881 % \textbardotlessj (tipa)  
16882 \DeclareTextCommand{\textbardotlessj}{PU}{\82\137}% U+025F  
16883 %\* \textbardotlessj -> \barj (phonetic)  
16884 % U+0260 LATIN SMALL LETTER G WITH HOOK; ghook; \texthtg (tipa)  
16885 \DeclareTextCommand{\texthtg}{PU}{\82\140}% U+0260  
16886 %\* \texthtg -> \hookg (wsuipa)  
16887 % U+0261 LATIN SMALL LETTER SCRIPT G; gscript;  
16888 % \textscriptg (tipa), \scriptg (wsuipa)  
16889 \DeclareTextCommand{\textscriptg}{PU}{\82\141}%\* U+0261  
16890 %\* \textscriptg -> \varg (phonetic)  
16891 % U+0262 LATIN LETTER SMALL CAPITAL G; \textscg (tipa), \scg (wsuipa)  
16892 \DeclareTextCommand{\textscg}{PU}{\82\142}%\* U+0262  
16893 % U+0263 LATIN SMALL LETTER GAMMA; gammalatinsmall;  
16894 % \ipagamma (wsuipa), \vod (phonetic)  
16895 \DeclareTextCommand{\textipagamma}{PU}{\82\143}%\* U+0263  
16896 %\* \textipagamma -> \vod (pnonetic)

16897 % U+0264 LATIN SMALL LETTER RAMS HORN; ramshorn;  
16898 % \babygamma (wsuipa)  
16899 \DeclareTextCommand{\textbabygamma}{PU}{\82\144}% U+0264  
16900 % U+0265 LATIN SMALL LETTER TURNED H; hturned; \textturnh (tipa)  
16901 \DeclareTextCommand{\textturnh}{PU}{\82\145}% U+0265  
16902 %\* \textturnh -> \invh (wsuipa)  
16903 %\* \textturnh -> \udesc (phonetic)  
16904 % U+0266 LATIN SMALL LETTER H WITH HOOK; hhook; \texthth (tipa)  
16905 \DeclareTextCommand{\texthth}{PU}{\82\146}% U+0266  
16906 %\* \texthth -> \hookh (wsuipa)  
16907 %\* \texthth -> \voicedh (phonetic)  
16908 % U+0267 LATIN SMALL LETTER HENG WITH HOOK; henghook; \tex-  
ththheng (tipa)  
16909 \DeclareTextCommand{\texththheng}{PU}{\82\147}% U+0267  
16910 %\* \texththheng -> \hookheng (wsuipa)  
16911 % U+0268 LATIN SMALL LETTER I WITH STROKE;  
16912 % \textbari (tipa), \bari (wsuipa)  
16913 \DeclareTextCommand{\textbari}{PU}{\82\150}% U+0268  
16914 %\* \textbari -> \ibar (phonetic)  
16915 % U+0269 LATIN SMALL LETTER IOTA; iotalatin; \niiota (wsuipa)  
16916 \DeclareTextCommand{\textniiota}{PU}{\82\151}% U+0269  
16917 %\* \textniiota -> \vari (phonetic)  
16918 % U+026A LATIN LETTER SMALL CAPITAL I; \textsci (tipa), \sci (wsuipa)  
16919 \DeclareTextCommand{\textsci}{PU}{\82\152}% U+026A  
16920 % U+026B LATIN SMALL LETTER L WITH MIDDLE TILDE; lmiddletilde;  
16921 % \textltilde (tipa)  
16922 \DeclareTextCommand{\textltilde}{PU}{\82\153}% U+026B  
16923 %\* \textltilde -> \tildel (wsuipa)  
16924 % U+026C LATIN SMALL LETTER L WITH BELT; lbelt; \textbeltl (tipa)  
16925 \DeclareTextCommand{\textbeltl}{PU}{\82\154}% U+026C  
16926 %\* \textbeltl -> \latfric (wsuipa)  
16927 % U+026D LATIN SMALL LETTER L WITH RETROFLEX HOOK;  
16928 % lhookretroflex; \textrtaill (tipa)  
16929 \DeclareTextCommand{\textrtaill}{PU}{\82\155}% U+026D  
16930 %\* \textrtaill -> \taill (wsuipa)  
16931 % U+026E LATIN SMALL LETTER LEZH; lezh; \textlyoghlig (tipa)  
16932 \DeclareTextCommand{\textlyoghlig}{PU}{\82\156}% U+026E  
16933 %\* \textlyoghlig -> \lz (wsuipa)  
16934 % U+026F LATIN SMALL LETTER TURNED M; mturned; \textturnm (tipa)  
16935 \DeclareTextCommand{\textturnm}{PU}{\82\157}% U+026F  
16936 %\* \textturnm -> \invm (wsuipa)  
16937 %\* \textturnm -> \rotm (phonetic)  
16938 % U+0270 LATIN SMALL LETTER TURNED M WITH LONG LEG; mlongleg-  
turned;  
16939 % \textturnmrlg (tipa)  
16940 \DeclareTextCommand{\textturnmrlg}{PU}{\82\160}% U+0270  
16941 %\* \textturnmrlg -> \legm (wsuipa)  
16942 % U+0271 LATIN SMALL LETTER M WITH HOOK; mhook; \textltailm (tipa)  
16943 \DeclareTextCommand{\textltailm}{PU}{\82\161}% U+0271  
16944 %\* \textltailm -> \labdentainas (wsuipa)

16945 %\* \textltailm -> \emgma (phonetic)  
16946 % U+0272 LATIN SMALL LETTER N WITH LEFT HOOK; nhookleft; \textltailn (tipa)  
16947 \DeclareTextCommand{\textltailn}{PU}{\82\162}% U+0272  
16948 %\* \textltailn -> \nj (wsuipa)  
16949 %\* \textltailn -> \nya (phonetic)  
16950 % U+0273 LATIN SMALL LETTER N WITH RETROFLEX HOOK;  
16951 % nhookretroflex; \textrtailn (tipa)  
16952 \DeclareTextCommand{\textrtailn}{PU}{\82\163}% U+0273  
16953 %\* \textrtailn -> \tailn (wsuipa)  
16954 % U+0274 LATIN LETTER SMALL CAPITAL N; \textscn (tipa), \scn (wsuipa)  
16955 \DeclareTextCommand{\textscn}{PU}{\82\164}% U+0274  
16956 % U+0275 LATIN CAPITAL LETTER O WITH MIDDLE TILDE/  
16957 % LATIN CAPITAL LETTER BARRED O; obarred;  
16958 % \textbaro (tipa), \baro (wsuipa)  
16959 % But \baro from stmaryrd is different!  
16960 \DeclareTextCommand{\textbaro}{PU}{\82\165}% U+0275  
16961 % U+0276 LATIN LETTER SMALL CAPITAL OE; \textscoeelig (tipa)  
16962 \DeclareTextCommand{\textscoeelig}{PU}{\82\166}% U+0276  
16963 % U+0277 LATIN SMALL LETTER CLOSED OMEGA; omegalatinclosed;  
16964 % \textcloseomega (tipa)  
16965 \DeclareTextCommand{\textcloseomega}{PU}{\82\167}% U+0277  
16966 %\* \textcloseomega -> \closedniomega (wsuipa)  
16967 %\* \textcloseomega -> \varomega (phonetic)  
16968 % U+0278 LATIN SMALL LETTER PHI; philatin; \nipher (wsuipa)  
16969 \DeclareTextCommand{\textnipher}{PU}{\82\170}% U+0278  
16970 % U+0279 LATIN SMALL LETTER TURNED R; rturned; \textturnr (tipa)  
16971 \DeclareTextCommand{\textturnr}{PU}{\82\171}% U+0279  
16972 %\* \textturnr -> \invr (wsuipa)  
16973 %\* \textturnr -> \rotr (phonetic)  
16974 % U+027A LATIN SMALL LETTER TURNED R WITH LONG LEG;  
16975 % rlonglegturned; \textturnlonglegr (tipa)  
16976 \DeclareTextCommand{\textturnlonglegr}{PU}{\82\172}% U+027A  
16977 %\* \textturnlonglegr -> \invlegr (wsuipa)  
16978 % U+027B LATIN SMALL LETTER TURNED R WITH HOOK; rhookturned;  
16979 % \textturnrrtail (tipa)  
16980 \DeclareTextCommand{\textturnrrtail}{PU}{\82\173}% U+027B  
16981 %\* \textturnrrtail -> \tailinvr (wsuipa)  
16982 % U+027C LATIN SMALL LETTER R WITH LONG LEG; rlongleg; \textlonglegr (tipa)  
16983 \DeclareTextCommand{\textlonglegr}{PU}{\82\174}% U+027C  
16984 %\* \textlonglegr -> \legr (wsuipa)  
16985 % U+027D LATIN SMALL LETTER R WITH TAIL; rhook; \textrtailr (tipa)  
16986 \DeclareTextCommand{\textrtailr}{PU}{\82\175}% U+027D  
16987 %\* \textrtailr -> \tailr (wsuipa)  
16988 % U+027E LATIN SMALL LETTER R WITH FISHHOOK; rfishhook;  
16989 % \textfishhookr (tipa)  
16990 \DeclareTextCommand{\textfishhookr}{PU}{\82\176}% U+027E  
16991 %\* \textfishhookr -> \flapr (wsuipa)  
16992 %\* \textfishhookr -> \flap (phonetic)

16993 % U+027F LATIN SMALL LETTER REVERSED R WITH FISHHOOK; rfishhookreversed;

16994 % \textlhtlongi (tipa)

16995 \DeclareTextCommand{\textlhtlongi}{PU}{\82\177}% U+027F

16996 % U+0280 LATIN LETTER SMALL CAPITAL R; \textscr (tipa), \scr (wsuipa)

16997 \DeclareTextCommand{\textscr}{PU}{\82\200}%\* U+0280

16998 % U+0281 LATIN LETTER SMALL CAPITAL INVERTED R; Rsmallinverted;

16999 % \textinvscr (tipa), \invscr (wsuipa)

17000 \DeclareTextCommand{\textinvscr}{PU}{\82\201}%\* U+0281

17001 % U+0282 LATIN SMALL LETTER S WITH HOOK; shook; \textrtails (tipa)

17002 \DeclareTextCommand{\textrtails}{PU}{\82\202}% U+0282

17003 %\* \textrtails -> \tails (wsuipa)

17004 % U+0283 LATIN SMALL LETTER ESH; esh; \textesh (tipa), \esh (wsuipa)

17005 \DeclareTextCommand{\textesh}{PU}{\82\203}%\* U+0283

17006 % U+0284 LATIN SMALL LETTER DOTLESS J WITH STROKE AND HOOK;

17007 % dotlessstrokehook; \texthtbardotlessj (tipa)

17008 \DeclareTextCommand{\texthtbardotlessj}{PU}{\82\204}% U+0284

17009 % U+0285 LATIN SMALL LETTER SQUAT REVERSED ESH; eshsquatreversed;

17010 % \textviby (tipa)

17011 \DeclareTextCommand{\textviby}{PU}{\82\205}% U+0285

17012 % U+0286 LATIN SMALL LETTER ESH WITH CURL; eshcurl; \textctesh (tipa)

17013 \DeclareTextCommand{\textctesh}{PU}{\82\206}% U+0286

17014 %\* \textctesh -> \curlyesh (wsuipa)

17015 % U+0287 LATIN SMALL LETTER TURNED T; tturned; \textturnt (tipa)

17016 \DeclareTextCommand{\textturnt}{PU}{\82\207}% U+0287

17017 %\* \textturnt -> \clickt (wsuipa)

17018 % U+0288 LATIN SMALL LETTER T WITH RETROFLEX HOOK; treflexhook;

17019 % \textrtailt (tipa)

17020 \DeclareTextCommand{\textrtailt}{PU}{\82\210}% U+0288

17021 %\* \textrtailt -> \tailt (wsuipa)

17022 % U+0289 LATIN SMALL LETTER U BAR; ubar;

17023 % \textbaru (tipa), \baru (wsuipa)

17024 \DeclareTextCommand{\textbaru}{PU}{\82\211}%\* U+0289

17025 %\* \textbaru -> \ubar (phonetic)

17026 % U+028A LATIN SMALL LETTER UPSILON; \niupsilon (wsuipa)

17027 \DeclareTextCommand{\textniupsilon}{PU}{\82\212}%\* U+028A

17028 %\* \textniupsilon -> \rotOmega (phonetic)

17029 % U+028B LATIN SMALL LETTER V WITH HOOK/LATIN SMALL LETTER SCRIPT V;

17030 % vhook; \textscriptv (tipa), \scriptv (wsuipa)

17031 \DeclareTextCommand{\textscriptv}{PU}{\82\213}%\* U+028B

17032 % U+028C LATIN SMALL LETTER TURNED V; vturned; \textturnv (tipa)

17033 \DeclareTextCommand{\textturnv}{PU}{\82\214}%\* U+028C

17034 %\* \textturnv -> \invv (wsuipa)

17035 %\* \textturnv -> \pwedge (phonetic)

17036 % U+028D LATIN SMALL LETTER TURNED W; wturned; \textturnw (tipa)

17037 \DeclareTextCommand{\textturnw}{PU}{\82\215}%\* U+028D

17038 %\* \textturnw -> \invw (wsuipa)

17039 %\* \textturnw -> \rotw (phonetic)  
17040 % U+028E LATIN SMALL LETTER TURNED Y; yturned; \textturny (tipa)  
17041 \DeclareTextCommand{\textturny}{PU}{\82\216}%\* U+028E  
17042 %\* \textturny -> \invy (wsuipa)  
17043 %\* \textturny -> \roty (phonetic)  
17044 % U+028F LATIN LETTER SMALL CAPITAL Y; \textscy (tipa), \scy (wsuipa)  
17045 \DeclareTextCommand{\textscy}{PU}{\82\217}%\* U+028F  
17046 % U+0290 LATIN SMALL LETTER Z WITH RETROFLEX HOOK; zretroflex-  
hook;  
17047 % \textrtailz (tipa)  
17048 \DeclareTextCommand{\textrtailz}{PU}{\82\220}% U+0290  
17049 %\* \textrtailz -> \tailz (wsuipa)  
17050 % U+0291 LATIN SMALL LETTER Z WITH CURL; zcurl; \textctz (tipa)  
17051 \DeclareTextCommand{\textctz}{PU}{\82\221}% U+0291  
17052 %\* \textctz -> \curlyz (wsuipa)  
17053 % U+0292 LATIN SMALL LETTER EZH/LATIN SMALL LETTER YOGH; ezh;  
17054 % \textyogh (tipa), \yogh (wsuipa)  
17055 \DeclareTextCommand{\textyogh}{PU}{\82\222}%\* U+0292  
17056 % U+0293 LATIN SMALL LETTER EZH WITH CURL/LATIN SMALL LET-  
TER YOGH CURL;  
17057 % ezhcurl; \textctyogh (tipa)  
17058 \DeclareTextCommand{\textctyogh}{PU}{\82\223}% U+0293  
17059 %\* \textctyogh -> \curlyyogh (wsuipa)  
17060 % U+0294 LATIN LETTER GLOTTAL STOP; glottalstop;  
17061 % \textglotstop (tipa), \glotstop (wsuipa)  
17062 \DeclareTextCommand{\textglotstop}{PU}{\82\224}%\* U+0294  
17063 %\* \textglotstop -> \ejective (wsuipa)  
17064 %\* \textglotstop -> \glottal (phonetic)  
17065 % U+0295 LATIN LETTER PHARYNGEAL VOICED FRICATIVE/  
17066 % LATIN LETTER REVERSED GLOTTAL STOP; glottalstopreversed;  
17067 % \textrevglotstop (tipa), \revglotstop (wsuipa)  
17068 \DeclareTextCommand{\textrevglotstop}{PU}{\82\225}%\* U+0295  
17069 %\* \textrevglotstop -> \reject (wsuipa)  
17070 % U+0296 LATIN LETTER INVERTED GLOTTAL STOP; glottalstopinverted;  
17071 % \textinvglotstop (tipa), \invglotstop (wsuipa)  
17072 \DeclareTextCommand{\textinvglotstop}{PU}{\82\226}%\* U+0296  
17073 % U+0297 LATIN LETTER STRETCHED C; cstretched; \textstretchc (tipa)  
17074 \DeclareTextCommand{\textstretchc}{PU}{\82\227}% U+0297  
17075 %\* \textstretchc -> \clickc (wsuipa)  
17076 %\* \textstretchc -> \textstretchcvar (tipx)  
17077 % U+0298 LATIN LETTER BILABIAL CLICK; bilabialclick;  
17078 % \textbullseye (tipa)  
17079 \DeclareTextCommand{\textbullseye}{PU}{\82\230}% U+0298  
17080 %\* \textbullseye -> \clickb (wsuipa)  
17081 %\* \textbullseye -> \textObullseye (tipx)  
17082 % U+0299 LATIN LETTER SMALL CAPITAL B; \textscb (tipa)  
17083 \DeclareTextCommand{\textscb}{PU}{\82\231}% U+0299  
17084 % U+029A LATIN SMALL LETTER CLOSED OPEN E; eopenclosed;  
17085 % \textcloseepsilon (tipa)  
17086 \DeclareTextCommand{\textcloseepsilon}{PU}{\82\232}% U+029A

17087 % U+029B LATIN LETTER SMALL CAPITAL G WITH HOOK; Gsmallhook;  
17088 % \texthtscg (tipa)  
17089 \DeclareTextCommand{\texthtscg}{PU}{\82\233}% U+029B  
17090 % U+029C LATIN LETTER SMALL CAPITAL H; \textsch (tipa)  
17091 \DeclareTextCommand{\textsch}{PU}{\82\234}% U+029C  
17092 % U+029D LATIN SMALL LETTER J WITH CROSSED-TAIL; jcrossed-  
tail; \textcdj (tipa)  
17093 \DeclareTextCommand{\textctj}{PU}{\82\235}% U+029D  
17094 %\* \textctj -> \textctjvar (tipx)  
17095 % U+029E LATIN SMALL LETTER TURNED K; kturned; \textturnk (tipa)  
17096 \DeclareTextCommand{\textturnk}{PU}{\82\236}% U+029E  
17097 %\* \textturnk -> \textturnsck (tipx)  
17098 % U+029F LATIN LETTER SMALL CAPITAL L; \textscsl (tipa)  
17099 \DeclareTextCommand{\textscsl}{PU}{\82\237}% U+029F  
17100 % U+02A0 LATIN SMALL LETTER Q WITH HOOK; qhook; \texthtq (tipa)  
17101 \DeclareTextCommand{\texthtq}{PU}{\82\240}% U+02A0  
17102 % U+02A1 LATIN LETTER GLOTTAL STOP WITH STROKE; glottalstop-  
stroke;  
17103 % \textbarglotstop (tipa)  
17104 \DeclareTextCommand{\textbarglotstop}{PU}{\82\241}% U+02A1  
17105 % U+02A2 LATIN LETTER REVERSED GLOTTAL STOP WITH STROKE/  
17106 % LATIN LETTER REVERSED GLOTTAL STOP BAR; glottalstopstrokere-  
versed;  
17107 % \textbarrevglotstop (tipa)  
17108 \DeclareTextCommand{\textbarrevglotstop}{PU}{\82\242}% U+02A2  
17109 % U+02A3 LATIN SMALL LETTER DZ DIGRAPH; dzaltone; \textdzlig (tipa)  
17110 \DeclareTextCommand{\textdzlig}{PU}{\82\243}% U+02A3  
17111 %\* \textdzlig -> \dz (wsupipa)  
17112 % U+02A4 LATIN SMALL LETTER DEZH DIGRAPH; dezh; \textdyogh-  
lig (tipa)  
17113 \DeclareTextCommand{\textdyoghlig}{PU}{\82\244}% U+02A4  
17114 % U+02A5 LATIN SMALL LETTER DZ DIGRAPH WITH CURL; dzcurl;  
17115 % \textdctzlig (tipa)  
17116 \DeclareTextCommand{\textdctzlig}{PU}{\82\245}% U+02A5  
17117 % U+02A6 LATIN SMALL LETTER TS DIGRAPH; ts; \texttslig (tipa)  
17118 \DeclareTextCommand{\texttslig}{PU}{\82\246}% U+02A6  
17119 % U+02A7 LATIN SMALL LETTER TESH DIGRAPH; tesh; \textteshlig (tipa)  
17120 \DeclareTextCommand{\textteshlig}{PU}{\82\247}% U+02A7  
17121 %\* \textteshlig -> \tesh (wsuipa)  
17122 % U+02A8 LATIN SMALL LETTER TC DIGRAPH WITH CURL; tccurl;  
17123 % \texttctclig (tipa)  
17124 \DeclareTextCommand{\texttctclig}{PU}{\82\250}% U+02A8  
17125 % U+02AE LATIN SMALL LETTER TURNED H WITH FISHHOOK;  
17126 % \textlhtlongy (tipa)  
17127 \DeclareTextCommand{\textlhtlongy}{PU}{\82\256}% U+02AE  
17128 % U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;  
17129 % \textviby (tipa)  
17130 \DeclareTextCommand{\textviby}{PU}{\82\257}% U+02AF

### 51.2.7 Spacing Modifier Letters: U+02B0 to U+02FF

```
17131 % U+02BD MODIFIER LETTER REVERSED COMMA;
17132 % commareversedmod, afi64937; \textrevapostrophe (tipa)
17133 \DeclareTextCommand{\textrevapostrophe}{PU}{\82\275}% U+02BD
17134 % U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;
17135 % \textraiseglotstop (tipa)
17136 \DeclareTextCommand{\textraiseglotstop}{PU}{\82\300}% U+02C0
17137 % U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;
17138 % \textlptr (tipa)
17139 \DeclareTextCommand{\textlptr}{PU}{\82\302}% U+02C2
17140 % U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;
17141 % \textrptr (tipa)
17142 \DeclareTextCommand{\textrptr}{PU}{\82\303}% U+02C3
17143 % U+02C7 CARON; caron
17144 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
17145 % U+02C8 MODIFIER LETTER VERTICAL LINE; verticalinmod;
17146 % \textprimstress (tipa)
17147 \DeclareTextCommand{\textprimstress}{PU}{\82\310}% U+02C8
17148 % U+02CC MODIFIER LETTER LOW VERTICAL LINE; verticalinlowmod;
17149 % \textsecstress (tipa)
17150 \DeclareTextCommand{\textsecstress}{PU}{\82\314}% U+02CC
17151 % U+02D0 MODIFIER LETTER TRIANGULAR COLON; colontriangularmod;
17152 % \textlengthmark (tipa)
17153 \DeclareTextCommand{\textlengthmark}{PU}{\82\320}% U+02D0
17154 % U+02D1 MODIFIER LETTER HALF TRIANGULAR COLON; colontriangularhalfmod;
17155 % \texthalflength (tipa)
17156 \DeclareTextCommand{\texthalflength}{PU}{\82\321}% U+02D1
17157 % U+02D8 BREVE; breve
17158 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
17159 % U+02D9 DOT ABOVE; dotaccent
17160 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
17161 % U+02DA RING ABOVE; ring
17162 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
17163 % U+02DB OGONEK; ogonek
17164 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
17165 % U+02DC SMALL TILDE; ilde, *tilde
17166 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
17167 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
17168 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
17169 \DeclareTextCommand{\textacutedbl}{PU}{\82\335}% U+02DD
17170 % U+02F3 MODIFIER LETTER LOW RING
17171 \DeclareTextCommand{\textringlow}{PU}{\82\363}% U+02F3
17172 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
17173 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
17174 % U+02F7 MODIFIER LETTER LOW TILDE
17175 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7
17176 % U+02F9 MODIFIER LETTER BEGIN HIGH TONE; \textopencorner (tipa)
17177 \DeclareTextCommand{\textopencorner}{PU}{\82\371}% U+02F9
```

17178 % U+02FA MODIFIER LETTER END HIGH TONE; \textcorner (tipa)  
17179 \DeclareTextCommand{\textcorner}{PU}{\82\372}% U+02FA

### 51.2.8 Combining Diacritical Marks: U+0300 to U+036F

17180 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb  
17181 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F  
17182 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb  
17183 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311  
17184 % U+0323 COMBINING DOT BELOW; dotbelowcmb, \*dotbelowcomb  
17185 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323  
17186 % U+0331 COMBINING MACRON BELOW; macronbelowcmb  
17187 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331  
17188 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb  
17189 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

### 51.2.9 Greek and Coptic: U+0370 to U+03FF

17190 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek  
17191 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374  
17192 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek  
17193 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375  
17194 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanonos  
17195 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386  
17196 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos  
17197 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388  
17198 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos  
17199 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389  
17200 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos  
17201 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A  
17202 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omicrantonos  
17203 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C  
17204 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilononos  
17205 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E  
17206 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos  
17207 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F  
17208 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS;  
17209 % iodadiesistonos  
17210 \DeclareTextCompositeCommand{\'}{PU}{\textIotadiesisis}{\83\220}% U+0390  
17211 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha  
17212 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391  
17213 % U+0392 GREEK CAPITAL LETTER BETA; Beta  
17214 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392  
17215 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma; \Gamma (LaTeX)  
17216 \DeclareTextCommand{\textGamma}{PU}{\83\223}%\* U+0393  
17217 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, \*Delta; \Delta (LaTeX)  
17218 \DeclareTextCommand{\textDelta}{PU}{\83\224}%\* U+0394  
17219 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon  
17220 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395

17221 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta  
17222 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396  
17223 % U+0397 GREEK CAPITAL LETTER ETA; Eta  
17224 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397  
17225 % U+0398 GREEK CAPITAL LETTER THETA; Theta; \Theta (LaTeX)  
17226 \DeclareTextCommand{\textTheta}{PU}{\83\230}%\* U+0398  
17227 % U+0399 GREEK CAPITAL LETTER IOTA; Iota  
17228 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399  
17229 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa  
17230 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A  
17231 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda; \Lambda (LaTeX)  
17232 \DeclareTextCommand{\textLambda}{PU}{\83\233}%\* U+039B  
17233 % U+039C GREEK CAPITAL LETTER MU; Mu  
17234 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C  
17235 % U+039D GREEK CAPITAL LETTER NU; Nu  
17236 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D  
17237 % U+039E GREEK CAPITAL LETTER XI; Xi; \Xi (LaTeX)  
17238 \DeclareTextCommand{\textXi}{PU}{\83\236}%\* U+039E  
17239 % U+039F GREEK CAPITAL LETTEROMICRON; Omicron  
17240 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F  
17241 % U+03A0 GREEK CAPITAL LETTER PI; Pi  
17242 \DeclareTextCommand{\textPi}{PU}{\83\240}%\* U+03A0  
17243 % U+03A1 GREEK CAPITAL LETTER RHO; Rho  
17244 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1  
17245 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma; \Sigma (LaTeX)  
17246 \DeclareTextCommand{\textSigma}{PU}{\83\243}%\* U+03A3  
17247 % U+03A4 GREEK CAPITAL LETTER TAU; Tau  
17248 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4  
17249 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon; \Upsilon (LaTeX)  
17250 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}%\* U+03A5  
17251 % U+03A6 GREEK CAPITAL LETTER PHI; Phi; \Phi (LaTeX)  
17252 \DeclareTextCommand{\textPhi}{PU}{\83\246}%\* U+03A6  
17253 % U+03A7 GREEK CAPITAL LETTER CHI; Chi  
17254 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7  
17255 % U+03A8 GREEK CAPITAL LETTER PSI; Psi; \Psi (LaTeX)  
17256 \DeclareTextCommand{\textPsi}{PU}{\83\250}%\* U+03A8  
17257 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, \*Omega;  
17258 % \Omega (LaTeX)  
17259 \DeclareTextCommand{\textOmega}{PU}{\83\251}%\* U+03A9  
17260 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis  
17261 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA  
17262 \DeclareTextCompositeCommand{\"}{PU}{\textIota}{\83\252}% U+03AA  
17263 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Upsilondieresis  
17264 \DeclareTextCompositeCommand{\"}{PU}{\textUpsilon}{\83\253}% U+03AB  
17265 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos  
17266 \DeclareTextCompositeCommand{\'}{PU}{\textalpha}{\83\254}%\* U+03AC  
17267 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilontonos  
17268 \DeclareTextCompositeCommand{\'}{PU}{\textepsilon}{\83\255}% U+03AD  
17269 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etatonos

17270 `\DeclareTextCompositeCommand{\'}{PU}{\texteta}{\83\256}% U+03AE`  
17271 `% U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotatonos`  
17272 `\DeclareTextCompositeCommand{\'}{PU}{\textiota}{\83\257}% U+03AF`  
17273 `% U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA`  
17274 `% AND TONOS; upsilondieresis`  
17275 `\DeclareTextCompositeCommand{"}{PU}{\textupsilonacute}{\83\260}% U+03B0`  
17276 `% U+03B1 GREEK SMALL LETTER ALPHA; alpha; \alpha (LaTeX)`  
17277 `\DeclareTextCommand{\textalpha}{PU}{\83\261}%* U+03B1`  
17278 `% U+03B2 GREEK SMALL LETTER BETA; beta; \beta (LaTeX)`  
17279 `\DeclareTextCommand{\textbeta}{PU}{\83\262}%* U+03B2`  
17280 `% U+03B3 GREEK SMALL LETTER GAMMA; gamma; \gamma (LaTeX)`  
17281 `\DeclareTextCommand{\textgamma}{PU}{\83\263}%* U+03B3`  
17282 `% U+03B4 GREEK SMALL LETTER DELTA; delta; \delta (LaTeX)`  
17283 `\DeclareTextCommand{\textdelta}{PU}{\83\264}%* U+03B4`  
17284 `% U+03B5 GREEK SMALL LETTER EPSILON; epsilon; \epsilon (LaTeX)`  
17285 `\DeclareTextCommand{\textepsilon}{PU}{\83\265}%* U+03B5`  
17286 `% U+03B6 GREEK SMALL LETTER ZETA; zeta; \zeta (LaTeX)`  
17287 `\DeclareTextCommand{\textzeta}{PU}{\83\266}%* U+03B6`  
17288 `% U+03B7 GREEK SMALL LETTER ETA; eta; \eta (LaTeX)`  
17289 `\DeclareTextCommand{\texteta}{PU}{\83\267}%* U+03B7`  
17290 `% U+03B8 GREEK SMALL LETTER THETA; theta; \theta (LaTeX)`  
17291 `\DeclareTextCommand{\texttheta}{PU}{\83\270}%* U+03B8`  
17292 `% U+03B9 GREEK SMALL LETTER IOTA; iota; \iota (LaTeX)`  
17293 `\DeclareTextCommand{\textiota}{PU}{\83\271}%* U+03B9`  
17294 `% U+03BA GREEK SMALL LETTER KAPPA; kappa; \kappa (LaTeX)`  
17295 `\DeclareTextCommand{\textkappa}{PU}{\83\272}%* U+03BA`  
17296 `% U+03BB GREEK SMALL LETTER LAMDA; lambda; \lambda (LaTeX)`  
17297 `\DeclareTextCommand{\textlambda}{PU}{\83\273}%* U+03BB`  
17298 `% U+03BC GREEK SMALL LETTER MU; mugreek, *mu; \mu (LaTeX)`  
17299 `\DeclareTextCommand{\textmugreek}{PU}{\83\274}%* U+03BC`  
17300 `% U+03BD GREEK SMALL LETTER NU; nu; \nu (LaTeX)`  
17301 `\DeclareTextCommand{\textnu}{PU}{\83\275}%* U+03BD`  
17302 `% U+03BE GREEK SMALL LETTER XI; xi; \xi (LaTeX)`  
17303 `\DeclareTextCommand{\textxi}{PU}{\83\276}%* U+03BE`  
17304 `% U+03BF GREEK SMALL LETTEROMICRON; omicron`  
17305 `\DeclareTextCommand{\textomicron}{PU}{\83\277}%* U+03BF`  
17306 `% U+03C0 GREEK SMALL LETTER PI; pi; \pi (LaTeX)`  
17307 `\DeclareTextCommand{\textpi}{PU}{\83\300}%* U+03C0`  
17308 `% U+03C1 GREEK SMALL LETTER RHO; rho; \rho (LaTeX)`  
17309 `\DeclareTextCommand{\textrho}{PU}{\83\301}%* U+03C1`  
17310 `% U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal`  
17311 `\DeclareTextCommand{\textvarsigma}{PU}{\83\302}%* U+03C2`  
17312 `% U+03C3 GREEK SMALL LETTER SIGMA; sigma; \sigma (LaTeX)`  
17313 `\DeclareTextCommand{\textsigma}{PU}{\83\303}%* U+03C3`  
17314 `% U+03C4 GREEK SMALL LETTER TAU; tau; \tau (LaTeX)`  
17315 `\DeclareTextCommand{\texttau}{PU}{\83\304}%* U+03C4`  
17316 `% U+03C5 GREEK SMALL LETTER UPSILON; upsilon; \upsilon (LaTeX)`  
17317 `\DeclareTextCommand{\textupsilon}{PU}{\83\305}%* U+03C5`  
17318 `% U+03C6 GREEK SMALL LETTER PHI; phi; \phi (LaTeX)`  
17319 `\DeclareTextCommand{\textphi}{PU}{\83\306}%* U+03C6`

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17320 % U+03C7 GREEK SMALL LETTER CHI; chi; \chi (LaTeX)
17321 \DeclareTextCommand{\textchi}{PU}{\83\307}%* U+03C7
17322 % U+03C8 GREEK SMALL LETTER PSI; psi; \psi (LaTeX)
17323 \DeclareTextCommand{\textpsi}{PU}{\83\310}%* U+03C8
17324 % U+03C9 GREEK SMALL LETTER OMEGA; omega; \omega (LaTeX)
17325 \DeclareTextCommand{\textomega}{PU}{\83\311}%* U+03C9
17326 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
17327 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
17328 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
silondieresis
17329 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
17330 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
17331 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
17332 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
17333 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
17334 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
17335 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
17336 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
17337 % U+03DA GREEK LETTER STIGMA; Stigmagreek
17338 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA
17339 % U+03DB GREEK SMALL LETTER STIGMA
17340 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
17341 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
17342 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
17343 % U+03DD GREEK SMALL LETTER DIGAMMA
17344 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
17345 %* \textdigammagreek -> \digamma (AmS)
17346 % U+03DE GREEK LETTER KOPPA; Koppagreek
17347 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
17348 % U+03DF GREEK SMALL LETTER KOPPA
17349 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
17350 % U+03E0 GREEK LETTER SAMPI; Sampigreek
17351 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
17352 % U+03E1 GREEK SMALL LETTER SAMPI
17353 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1
17354 % U+03F6 GREEK REVERSED LUNATE EPSILON SYMBOL;
17355 % \backepsilon (AmS)
17356 \DeclareTextCommand{\textbackepsilon}{PU}{\83\366}% U+03F6

```

### 51.2.10 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names.

```

17357 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
17358 \DeclareTextCompositeCommand{\`}{PU}{\CYRE}{\84\000}% U+0400
17359 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
17360 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
17361 \DeclareTextCompositeCommand{"}{PU}{\CYRE}{\84\001}% U+0401
17362 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
17363 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402

```

17364 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, \*afii10052  
17365 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403  
17366 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, \*afii10053  
17367 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404  
17368 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, \*afii10054  
17369 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405  
17370 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I;  
17371 % Icyrillic, \*afii10055  
17372 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406  
17373 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, \*afii10056  
17374 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407  
17375 \DeclareTextCompositeCommand{"}{PU}{\CYRII}{\84\007}% U+0407  
17376 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, \*afii10057  
17377 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408  
17378 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, \*afii10058  
17379 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409  
17380 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, \*afii10059  
17381 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A  
17382 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, \*afii10060  
17383 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B  
17384 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, \*afii10061  
17385 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C  
17386 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE  
17387 \DeclareTextCompositeCommand{\`}{PU}{\CYRI}{\84\015}% U+040D  
17388 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, \*afii10062  
17389 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E  
17390 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E  
17391 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, \*afii10145  
17392 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F  
17393 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, \*afii10017  
17394 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410  
17395 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, \*afii10018  
17396 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411  
17397 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, \*afii10019  
17398 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412  
17399 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, \*afii10020  
17400 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413  
17401 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, \*afii10021  
17402 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414  
17403 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, \*afii10022  
17404 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415  
17405 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, \*afii10024  
17406 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416  
17407 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, \*afii10025  
17408 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417  
17409 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, \*afii10026  
17410 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418  
17411 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, \*afii10027  
17412 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419  
17413 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419

17414 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, \*afii10028  
17415 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A  
17416 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, \*afii10029  
17417 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B  
17418 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, \*afii10030  
17419 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C  
17420 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, \*afii10031  
17421 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D  
17422 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, \*afii10032  
17423 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E  
17424 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, \*afii10033  
17425 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F  
17426 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, \*afii10034  
17427 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420  
17428 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, \*afii10035  
17429 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421  
17430 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, \*afii10036  
17431 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422  
17432 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, \*afii10037  
17433 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423  
17434 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, \*afii10038  
17435 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424  
17436 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, \*afii10039  
17437 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425  
17438 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, \*afii10040  
17439 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426  
17440 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, \*afii10041  
17441 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427  
17442 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, \*afii10042  
17443 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428  
17444 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, \*afii10043  
17445 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429  
17446 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN;  
17447 % Hardsigncyrillic, \*afii10044  
17448 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A  
17449 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, \*afii10045  
17450 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B  
17451 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN;  
17452 % Softsigncyrillic, \*afii10046  
17453 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C  
17454 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, \*afii10047  
17455 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D  
17456 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, \*afii10048  
17457 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E  
17458 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, \*afii10049  
17459 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F  
17460 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, \*afii10065  
17461 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430  
17462 % U+0431 CYRILLIC SMALL LETTER BE; \*afii10066, becyrillic  
17463 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431

17464 % U+0432 CYRILLIC SMALL LETTER VE; \*afii10067, vecyrillic  
17465 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432  
17466 % U+0433 CYRILLIC SMALL LETTER GHE; \*afii10068, gecyrillic  
17467 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433  
17468 % U+0434 CYRILLIC SMALL LETTER DE; \*afii10069, decyrillic  
17469 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434  
17470 % U+0435 CYRILLIC SMALL LETTER IE; \*afii10070, iecyrillic  
17471 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435  
17472 % U+0436 CYRILLIC SMALL LETTER ZHE; \*afii10072, zhecyrillic  
17473 \DeclareTextCommand{\cyrz}{PU}{\84\066}% U+0436  
17474 % U+0437 CYRILLIC SMALL LETTER ZE; \*afii10073, zecyrillic  
17475 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437  
17476 % U+0438 CYRILLIC SMALL LETTER I; \*afii10074, iicyrillic  
17477 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438  
17478 % U+0439 CYRILLIC SMALL LETTER SHORT I; \*afii10075, iishortcyrillic  
17479 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439  
17480 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439  
17481 % U+043A CYRILLIC SMALL LETTER KA; \*afii10076, kacyrillic  
17482 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A  
17483 % U+043B CYRILLIC SMALL LETTER EL; \*afii10077, elcyrillic  
17484 \DeclareTextCommand{\cyrl}{PU}{\84\073}% U+043B  
17485 % U+043C CYRILLIC SMALL LETTER EM; \*afii10078, emcyrillic  
17486 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C  
17487 % U+043D CYRILLIC SMALL LETTER EN; \*afii10079, encyrillic  
17488 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D  
17489 % U+043E CYRILLIC SMALL LETTER O; \*afii10080, ocyrillic  
17490 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E  
17491 % U+043F CYRILLIC SMALL LETTER PE; \*afii10081, pecyrillic  
17492 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F  
17493 % U+0440 CYRILLIC SMALL LETTER ER; \*afii10082, ercyrillic  
17494 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440  
17495 % U+0441 CYRILLIC SMALL LETTER ES; \*afii10083, escyrillic  
17496 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441  
17497 % U+0442 CYRILLIC SMALL LETTER TE; \*afii10084, tecyrillic  
17498 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442  
17499 % U+0443 CYRILLIC SMALL LETTER U; \*afii10085, ucyrillic  
17500 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443  
17501 % U+0444 CYRILLIC SMALL LETTER EF; \*afii10086, efcyrillic  
17502 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444  
17503 % U+0445 CYRILLIC SMALL LETTER HA; \*afii10087, khacyrillic  
17504 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445  
17505 % U+0446 CYRILLIC SMALL LETTER TSE; \*afii10088, tsecyrillic  
17506 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446  
17507 % U+0447 CYRILLIC SMALL LETTER CHE; \*afii10089, checyrillic  
17508 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447  
17509 % U+0448 CYRILLIC SMALL LETTER SHA; \*afii10090, shacyrillic  
17510 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448  
17511 % U+0449 CYRILLIC SMALL LETTER SHCHA; \*afii10091, shchacyrillic  
17512 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449

17513 % U+044A CYRILLIC SMALL LETTER HARD SIGN; \*afii10092, hardsigncyrillic  
17514 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A  
17515 %\* \cyrhrdsn -> \hardsign (tipa)  
17516 % U+044B CYRILLIC SMALL LETTER YERU; \*afii10093, yericyrillic  
17517 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B  
17518 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; \*afii10094, softsigncyrillic  
17519 \DeclareTextCommand{\cyrftsns}{PU}{\84\114}% U+044C  
17520 %\* \cyrftsns -> \softsign (tipa)  
17521 % U+044D CYRILLIC SMALL LETTER E; \*afii10095, ereversedcyrillic  
17522 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D  
17523 % U+044E CYRILLIC SMALL LETTER YU; \*afii10096, iucyrillic  
17524 \DeclareTextCommand{\cyrriu}{PU}{\84\116}% U+044E  
17525 % U+044F CYRILLIC SMALL LETTER YA; \*afii10097, iacyrillic  
17526 \DeclareTextCommand{\cyrria}{PU}{\84\117}% U+044F  
17527 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE  
17528 \DeclareTextCompositeCommand{\`}{PU}{\cyre}{\84\120}% U+0450  
17529 % U+0451 CYRILLIC SMALL LETTER IO; \*afii10071, iocyrillic  
17530 \DeclareTextCommand{\cyrrio}{PU}{\84\121}% U+0451  
17531 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451  
17532 % U+0452 CYRILLIC SMALL LETTER DJE; \*afii10099, djecyrillic  
17533 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452  
17534 % U+0453 CYRILLIC SMALL LETTER GJE; \*afii10100, gjecyrillic  
17535 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453  
17536 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; \*afii10101, ecyrillic  
17537 \DeclareTextCommand{\cyrrie}{PU}{\84\124}% U+0454  
17538 % U+0455 CYRILLIC SMALL LETTER DZE; \*afii10102, dzecyrillic  
17539 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455  
17540 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I;  
17541 % \*afii10103, icyrillic  
17542 \DeclareTextCommand{\cyrrii}{PU}{\84\126}% U+0456  
17543 % U+0457 CYRILLIC SMALL LETTER YI; \*afii10104, yicyrillic  
17544 \DeclareTextCommand{\cyrri}{PU}{\84\127}% U+0457  
17545 \DeclareTextCompositeCommand{\"}{PU}{\cyrrii}{\84\127}% U+0457  
17546 % U+0458 CYRILLIC SMALL LETTER JE; \*afii10105, jecyrillic  
17547 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458  
17548 % U+0459 CYRILLIC SMALL LETTER LJE; \*afii10106, ljecyrillic  
17549 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459  
17550 % U+045A CYRILLIC SMALL LETTER NJE; \*afii10107, njecyrillic  
17551 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A  
17552 % U+045B CYRILLIC SMALL LETTER TSHE; \*afii10108, tshecyrillic  
17553 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B  
17554 % U+045C CYRILLIC SMALL LETTER KJE; \*afii10109, kjecyrillic  
17555 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C  
17556 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE  
17557 \DeclareTextCompositeCommand{\`}{PU}{\cyrri}{\84\135}% U+045D  
17558 % U+045E CYRILLIC SMALL LETTER SHORT U; \*afii10110, ushortcyrillic  
17559 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E  
17560 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E  
17561 % U+045F CYRILLIC SMALL LETTER DZHE; \*afii10193, dzhecyrillic

17562 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F  
17563 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic  
17564 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460  
17565 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic  
17566 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461  
17567 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, \*afii10146  
17568 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462  
17569 % U+0463 CYRILLIC SMALL LETTER YAT; \*afii10194, yatcyrillic  
17570 \DeclareTextCommand{\cyr yat}{PU}{\84\143}% U+0463  
17571 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic  
17572 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464  
17573 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic  
17574 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465  
17575 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittleyrillic  
17576 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466  
17577 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittleyrillic  
17578 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467  
17579 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitlei-  
otifiedcyrillic  
17580 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468  
17581 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitlei-  
otifiedcyrillic  
17582 \DeclareTextCommand{\cyrriotlyus}{PU}{\84\151}% U+0469  
17583 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic  
17584 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A  
17585 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic  
17586 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B  
17587 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-  
cyrillic  
17588 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C  
17589 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-  
cyrillic  
17590 \DeclareTextCommand{\cyrriotbyus}{PU}{\84\155}% U+046D  
17591 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic  
17592 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E  
17593 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic  
17594 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F  
17595 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic  
17596 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470  
17597 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic  
17598 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471  
17599 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, \*afii10147  
17600 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472  
17601 % U+0473 CYRILLIC SMALL LETTER FITA; \*afii10195, fitacyrillic  
17602 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473  
17603 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, \*afii10148  
17604 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474  
17605 % U+0475 CYRILLIC SMALL LETTER IZHITSA; \*afii10196, izhitsacyrillic  
17606 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475  
17607 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE

17608 % GRAVE ACCENT; Izhitsadblgravecyrillic  
17609 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476  
17610 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE  
17611 % GRAVE ACCENT; izhitsadblgravecyrillic  
17612 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477  
17613 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic  
17614 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478  
17615 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic  
17616 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479  
17617 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic  
17618 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A  
17619 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic  
17620 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B  
17621 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic  
17622 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C  
17623 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic  
17624 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D  
17625 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic  
17626 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E  
17627 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic  
17628 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F  
17629 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic  
17630 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480  
17631 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic  
17632 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481  
17633 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic  
17634 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482  
\84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrilliccmb  
\84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrilliccmb  
\84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrilliccmb  
\84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatcyrilliccmb  
\84\207: U+0487 COMBINING CYRILLIC POKRYTIE  
\84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN  
\84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN  
17635 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL  
17636 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A  
17637 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL  
17638 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B  
17639 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN  
17640 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C  
17641 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN  
17642 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D

17643 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK  
17644 \DeclareTextCommand{\CYRRRTICK}{PU}{\84\216}% U+048E  
17645 % U+048F CYRILLIC SMALL LETTER ER WITH TICK  
17646 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F  
17647 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-cyrillic, \*afii10050  
17648 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490  
17649 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; \*afii10098, gheupturncyrillic  
17650 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491  
17651 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-cyrillic  
17652 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492  
17653 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic  
17654 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493  
17655 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK;  
17656 % Ghemiddlehookcyrillic  
17657 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494  
17658 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK;  
17659 % ghemiddlehookcyrillic  
17660 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495  
17661 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER;  
17662 % Zhedescendercyrillic  
17663 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496  
17664 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER;  
17665 % zhedescendercyrillic  
17666 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497  
17667 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic  
17668 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498  
17669 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498  
17670 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic  
17671 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499  
17672 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499  
17673 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic  
17674 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A  
17675 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic  
17676 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B  
17677 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE;  
17678 % Kaverticastrokecyrillic  
17679 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C  
17680 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE;  
17681 % kaverticastrokecyrillic  
17682 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D  
17683 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic  
17684 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E  
17685 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic

17686 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F  
17687 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic  
17688 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0  
17689 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic  
17690 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1  
17691 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescen-  
dercyrillic  
17692 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2  
17693 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-  
cyrillic  
17694 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3  
17695 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic  
17696 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4  
17697 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic  
17698 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5  
17699 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemid-  
dlehookcyrillic  
17700 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6  
17701 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddle-  
hookcyrillic  
17702 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7  
17703 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyril-  
lic  
17704 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8  
17705 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic  
17706 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9  
17707 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescen-  
dercyrillic  
17708 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA  
17709 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA  
17710 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescender-  
cyrillic  
17711 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB  
17712 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB  
17713 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescen-  
dercyrillic  
17714 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC  
17715 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescen-  
dercyrillic  
17716 \DeclareTextCommand{\cyrtdsc}{PU}{\84\255}% U+04AD  
17717 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic  
17718 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE  
17719 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic  
17720 \DeclareTextCommand{\cyr}{PU}{\84\257}% U+04AF  
17721 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Us-  
traightstrokecyrillic  
17722 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0  
17723 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; us-  
traightstrokecyrillic  
17724 \DeclareTextCommand{\cyrhcrs}{PU}{\84\261}% U+04B1

17725 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadescendercyrillic  
17726 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2  
17727 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic  
17728 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3  
17729 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetssecyrillic  
17730 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4  
17731 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetssecyrillic  
17732 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5  
17733 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER;  
17734 % Chedescendercyrillic  
17735 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6  
17736 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic  
17737 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7  
17738 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE;  
17739 % Cheverticalstrokecyrillic  
17740 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8  
17741 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE;  
17742 % cheverticalstrokecyrillic  
17743 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9  
17744 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic  
17745 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA  
17746 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic  
17747 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB  
17748 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic  
17749 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC  
17750 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic  
17751 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD  
17752 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic  
17753 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE  
17754 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE  
17755 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic  
17756 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF  
17757 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF  
17758 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic  
17759 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0  
17760 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic  
17761 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1  
17762 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic  
17763 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2  
17764 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic  
17765 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3  
17766 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic  
17767 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4

17768 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL  
17769 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5  
17770 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL  
17771 \DeclareTextCommand{\cyrljsc}{PU}{\84\306}% U+04C6  
17772 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic  
17773 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7  
17774 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic  
17775 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8  
17776 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakas-  
siancyrillic  
17777 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB  
17778 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-  
cyrillic  
17779 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC  
17780 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL  
17781 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD  
17782 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL  
17783 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE  
\84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA  
17784 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic  
17785 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0  
17786 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic  
17787 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1  
17788 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyril-  
lic  
17789 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\322}% U+04D2  
17790 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic  
17791 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\323}% U+04D3  
17792 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic  
17793 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4  
17794 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic  
17795 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5  
17796 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevocyrillic  
17797 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6  
17798 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevocyrillic  
17799 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7  
17800 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic  
17801 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8  
17802 % U+04D9 CYRILLIC SMALL LETTER SCHWA; \*afii10846, schwacyrillic  
17803 \DeclareTextCommand{\cyrswa}{PU}{\84\331}% U+04D9  
17804 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS;  
17805 % Schwadieresiscyrillic  
17806 \DeclareTextCompositeCommand{\U}{PU}{\CYRSCHWA}{\84\332}% U+04DA  
17807 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS;  
17808 % schwadieresiscyrillic  
17809 \DeclareTextCompositeCommand{\U}{PU}{\cyrswa}{\84\333}% U+04DB  
17810 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-  
siscyrillic  
17811 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\334}% U+04DC

17812 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-cyrillic  
17813 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% U+04DD  
17814 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-cyrillic  
17815 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE  
17816 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresis-cyrillic  
17817 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF  
17818 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-cyrillic  
17819 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0  
17820 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasian-cyrillic  
17821 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1  
17822 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacron-cyrillic  
17823 \DeclareTextCompositeCommand{=} {PU}{\CYRI}{\84\342}% U+04E2  
17824 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacron-cyrillic  
17825 \DeclareTextCompositeCommand{=} {PU}{\cyri}{\84\343}% U+04E3  
17826 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresis-cyrillic  
17827 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4  
17828 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresis-cyrillic  
17829 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5  
17830 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresis-cyrillic  
17831 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6  
17832 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresis-cyrillic  
17833 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7  
17834 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarred-cyrillic  
17835 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8  
17836 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarred-cyrillic  
17837 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9  
17838 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS;  
17839 % Obarreddieresis-cyrillic  
17840 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA  
17841 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS;  
17842 % obarreddieresis-cyrillic  
17843 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB  
17844 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS  
17845 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC  
17846 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS  
17847 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED  
17848 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacron-cyrillic  
17849 \DeclareTextCompositeCommand{=} {PU}{\CYRU}{\84\356}% U+04EE  
17850 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacron-cyrillic  
17851 \DeclareTextCompositeCommand{=} {PU}{\cyru}{\84\357}% U+04EF  
17852 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresis-cyrillic  
17853 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0  
17854 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresis-cyrillic

17855 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1  
 17856 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhun-  
 garumlautcyrillic  
 17857 \DeclareTextCompositeCommand{H}{PU}{\CYRU}{\84\362}% U+04F2  
 17858 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhun-  
 garumlautcyrillic  
 17859 \DeclareTextCompositeCommand{H}{PU}{\cyru}{\84\363}% U+04F3  
 17860 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chediere-  
 siscyrillic  
 17861 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4  
 17862 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieres-  
 isicyrillic  
 17863 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5  
 17864 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER  
 17865 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6  
 17866 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER  
 17867 \DeclareTextCommand{\cyrigdsc}{PU}{\84\367}% U+04F7  
 17868 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-  
 siscyrillic  
 17869 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8  
 17870 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-  
 siscyrillic  
 17871 \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  
 17872 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK  
 17873 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC  
 17874 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK  
 17875 \DeclareTextCommand{\cyrhkh}{PU}{\84\375}% U+04FD  
 \84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE  
 \84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

### 51.2.11 Hebrew: U+0590 to U+05FF

Macro names are taken from `he8enc.def`.

17876 % U+05C3 HEBREW PUNCTUATION SOF PASUQ  
 17877 \DeclareTextCommand{\sofpasuq}{PU}{\85\303}% U+05C3  
 17878 % U+05D0 HEBREW LETTER ALEF  
 17879 \DeclareTextCommand{\hebalef}{PU}{\85\320}% U+05D0  
 17880 % U+05D1 HEBREW LETTER BET  
 17881 \DeclareTextCommand{\hebbet}{PU}{\85\321}% U+05D1  
 17882 % U+05D2 HEBREW LETTER GIMEL  
 17883 \DeclareTextCommand{\hebgimel}{PU}{\85\322}% U+05D2  
 17884 % U+05D3 HEBREW LETTER DALET  
 17885 \DeclareTextCommand{\hebdalet}{PU}{\85\323}% U+05D3  
 17886 % U+05D4 HEBREW LETTER HE

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17887 \DeclareTextCommand{\hebhe}{PU}{\85\324}% U+05D4
17888 % U+05D5 HEBREW LETTER VAV
17889 \DeclareTextCommand{\hebvav}{PU}{\85\325}% U+05D5
17890 % U+05D6 HEBREW LETTER ZAYIN
17891 \DeclareTextCommand{\hebzayin}{PU}{\85\326}% U+05D6
17892 % U+05D7 HEBREW LETTER HET
17893 \DeclareTextCommand{\hebhet}{PU}{\85\327}% U+05D7
17894 % U+05D8 HEBREW LETTER TET
17895 \DeclareTextCommand{\hebtet}{PU}{\85\330}% U+05D8
17896 % U+05D9 HEBREW LETTER YOD
17897 \DeclareTextCommand{\hebyod}{PU}{\85\331}% U+05D9
17898 % U+05DA HEBREW LETTER FINAL KAF
17899 \DeclareTextCommand{\hebfinalkaf}{PU}{\85\332}% U+05DA
17900 % U+05DB HEBREW LETTER KAF
17901 \DeclareTextCommand{\hebkafe}{PU}{\85\333}% U+05DB
17902 % U+05DC HEBREW LETTER LAMED
17903 \DeclareTextCommand{\heblamed}{PU}{\85\334}% U+05DC
17904 % U+05DD HEBREW LETTER FINAL MEM
17905 \DeclareTextCommand{\hebfinalmem}{PU}{\85\335}% U+05DD
17906 % U+05DE HEBREW LETTER MEM
17907 \DeclareTextCommand{\hebmem}{PU}{\85\336}% U+05DE
17908 % U+05DF HEBREW LETTER FINAL NUN
17909 \DeclareTextCommand{\hebfinalnun}{PU}{\85\337}% U+05DF
17910 % U+05E0 HEBREW LETTER NUN
17911 \DeclareTextCommand{\hebnun}{PU}{\85\340}% U+05E0
17912 % U+05E1 HEBREW LETTER SAMEKH
17913 \DeclareTextCommand{\hebsamekh}{PU}{\85\341}% U+05E1
17914 % U+05E2 HEBREW LETTER AYIN
17915 \DeclareTextCommand{\hebayin}{PU}{\85\342}% U+05E2
17916 % U+05E3 HEBREW LETTER FINAL PE
17917 \DeclareTextCommand{\hebfinalpe}{PU}{\85\343}% U+05E3
17918 % U+05E4 HEBREW LETTER PE
17919 \DeclareTextCommand{\hebpe}{PU}{\85\344}% U+05E4
17920 % U+05E5 HEBREW LETTER FINAL TSADI
17921 \DeclareTextCommand{\hebfinaltsadi}{PU}{\85\345}% U+05E5
17922 % U+05E6 HEBREW LETTER TSADI
17923 \DeclareTextCommand{\hebtsadi}{PU}{\85\346}% U+05E6
17924 % U+05E7 HEBREW LETTER QOF
17925 \DeclareTextCommand{\hebqof}{PU}{\85\347}% U+05E7
17926 % U+05E8 HEBREW LETTER RESH
17927 \DeclareTextCommand{\hebresh}{PU}{\85\350}% U+05E8
17928 % U+05E9 HEBREW LETTER SHIN
17929 \DeclareTextCommand{\hebshin}{PU}{\85\351}% U+05E9
17930 %* \hebshin -> \hebsin (he8)
17931 % U+05EA HEBREW LETTER TAV
17932 \DeclareTextCommand{\hebtav}{PU}{\85\352}% U+05EA
17933 % U+05F0 HEBREW LIGATURE YIDDISH DOUBLE VAV
17934 \DeclareTextCommand{\doublevav}{PU}{\85\360}% U+05F0
17935 % U+05F1 HEBREW LIGATURE YIDDISH VAV YOD
17936 \DeclareTextCommand{\vavyod}{PU}{\85\361}% U+05F1

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17937 % U+05F2 HEBREW LIGATURE YIDDISH DOUBLE YOD  
17938 \DeclareTextCommand{\doubleyod}{PU}{\85\362}% U+05F2

### 51.2.12 Thai: U+0E00 to U+0E7F

17939 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai  
17940 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

### 51.2.13 Phonetic Extensions: U+1D00 to U+1D7F

17941 % U+1D00 LATIN LETTER SMALL CAPITAL A; \textscA (tipa)  
17942 \DeclareTextCommand{\textscA}{PU}{\9035\000}% U+1D00  
17943 % U+1D05 LATIN LETTER SMALL CAPITAL D; \scd (wsuipa)  
17944 \DeclareTextCommand{\textscd}{PU}{\9035\005}%\* U+1D05  
17945 % U+1D07 LATIN LETTER SMALL CAPITAL E; \textscE (tipa)  
17946 \DeclareTextCommand{\textscE}{PU}{\9035\007}% U+1D07  
17947 % U+1D0A LATIN LETTER SMALL CAPITAL J; \textscj (tipa)  
17948 \DeclareTextCommand{\textscj}{PU}{\9035\012}% U+1D0A  
17949 % U+1D0B LATIN LETTER SMALL CAPITAL K; \textscK (tipx)  
17950 \DeclareTextCommand{\textPUscK}{PU}{\9035\013}% U+1D0B  
17951 %\* \textPUscK -> \textscK (tipx)  
17952 % U+1D0D LATIN LETTER SMALL CAPITAL M; \textscM (tipx)  
17953 \DeclareTextCommand{\textPUscM}{PU}{\9035\015}% U+1D0D  
17954 %\* \textPUscM -> \textscM (tipx)  
17955 % U+1D18 LATIN LETTER SMALL CAPITAL P; \textscP (tipx)  
17956 \DeclareTextCommand{\textPUscP}{PU}{\9035\030}% U+1D18  
17957 %\* \textPUscP -> \textscP (tipx)  
17958 % U+1D19 LATIN LETTER SMALL CAPITAL REVERSED R; \textrevscr (tipx)  
17959 \DeclareTextCommand{\textPUrevscr}{PU}{\9035\031}% U+1D19  
17960 %\* \textPUrevscr -> \textrevscr (tipx)  
17961 % U+1D1C LATIN LETTER SMALL CAPITAL U; \textscU (tipa), \scu (wsuipa)  
17962 \DeclareTextCommand{\textscU}{PU}{\9035\034}%\* U+1D1C  
17963 % U+1D62 LATIN SUBSCRIPT SMALL LETTER I  
17964 \DeclareTextCommand{\textiinferior}{PU}{\9035\142}%\* U+1D62  
17965 % U+1D63 LATIN SUBSCRIPT SMALL LETTER R  
17966 \DeclareTextCommand{\textrinferior}{PU}{\9035\143}%\* U+1D63  
17967 % U+1D64 LATIN SUBSCRIPT SMALL LETTER U  
17968 \DeclareTextCommand{\textuinferior}{PU}{\9035\144}%\* U+1D64  
17969 % U+1D65 LATIN SUBSCRIPT SMALL LETTER V  
17970 \DeclareTextCommand{\textvinferior}{PU}{\9035\145}%\* U+1D65  
17971 % U+1D66 GREEK SUBSCRIPT SMALL LETTER BETA  
17972 \DeclareTextCommand{\textbetainferior}{PU}{\9035\146}%\* U+1D66  
17973 % U+1D67 GREEK SUBSCRIPT SMALL LETTER GAMMA  
17974 \DeclareTextCommand{\textgammainferior}{PU}{\9035\147}%\* U+1D67  
17975 % U+1D68 GREEK SUBSCRIPT SMALL LETTER RHO  
17976 \DeclareTextCommand{\textrhoinferior}{PU}{\9035\150}%\* U+1D68  
17977 % U+1D69 GREEK SUBSCRIPT SMALL LETTER PHI  
17978 \DeclareTextCommand{\textphiinferior}{PU}{\9035\151}%\* U+1D69  
17979 % U+1D6A GREEK SUBSCRIPT SMALL LETTER CHI  
17980 \DeclareTextCommand{\textchiinferior}{PU}{\9035\152}%\* U+1D6A  
17981 % U+1D7B LATIN SMALL CAPITAL LETTER I WITH STROKE;

17982 % \barsci (wsuipa)  
17983 \DeclareTextCommand{\textbarsci}{PU}{\9035\173}%\* U+1D7B  
17984 % U+1D7D LATIN SMALL LETTER P WITH STROKE; \barp (wsuipa)  
17985 \DeclareTextCommand{\textbarp}{PU}{\9035\175}%\* U+1D7D  
17986 % U+1D7E LATIN SMALL CAPITAL LETTER U WITH STROKE;  
17987 % \barscu (wsuipa)  
17988 \DeclareTextCommand{\textbarscu}{PU}{\9035\176}%\* U+1D7E

#### 51.2.14 Phonetic Extensions Supplement: U+1D80 to U+1DBF

17989 % U+1D8F LATIN SMALL LETTER A WITH RETROFLEX HOOK; \text-  
trhooka (tipx)  
17990 \DeclareTextCommand{\textPURhooka}{PU}{\9035\217}% U+1D8F  
17991 %\* \textPURhooka -> \texttrhooka (tipx)  
17992 % U+1D91 LATIN SMALL LETTER D WITH HOOK AND TAIL; \textthr-  
taild (tipa)  
17993 \DeclareTextCommand{\textthrtaild}{PU}{\9035\221}%\* U+1D91  
17994 % U+1D92 LATIN SMALL LETTER E WITH RETROFLEX HOOK; \text-  
trhooke (tipx)  
17995 \DeclareTextCommand{\textPURhooke}{PU}{\9035\222}% U+1D92  
17996 %\* \textPURhooke -> \texttrhooke (tipx)  
17997 % U+1D93 LATIN SMALL LETTER OPEN E WITH RETROFLEX HOOK;  
17998 % \textrhookepsilon (tipx)  
17999 \DeclareTextCommand{\textPURhookepsilon}{PU}{\9035\223}% U+1D93  
18000 %\* \textPURhookepsilon -> \textrhookepsilon (tipx)  
18001 % U+1D97 LATIN SMALL LETTER OPEN O WITH RETROFLEX HOOK;  
18002 % \textrhookopeno (tipx)  
18003 \DeclareTextCommand{\textPURhookopeno}{PU}{\9035\227}% U+1D97  
18004 %\* \textPURhookopeno -> \textrhookopeno (tipx)

#### 51.2.15 Latin Extended Additional: U+1E00 to U+1EFF

18005 % U+1E00 LATIN CAPITAL LETTER A WITH RING BELOW; Aringbelow  
18006 \DeclareTextCompositeCommand{\textsubring}{PU}{A}{\9036\000}% U+1E00  
18007 % U+1E01 LATIN SMALL LETTER A WITH RING BELOW; aringbelow  
18008 \DeclareTextCompositeCommand{\textsubring}{PU}{a}{\9036\001}% U+1E01  
18009 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent  
18010 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02  
18011 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent  
18012 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03  
18013 % U+1E04 LATIN CAPITAL LETTER B WITH DOT BELOW; Bdotbelow  
18014 \DeclareTextCompositeCommand{\d}{PU}{B}{\9036\004}% U+1E04  
18015 % U+1E05 LATIN SMALL LETTER B WITH DOT BELOW; bdotbelow  
18016 \DeclareTextCompositeCommand{\d}{PU}{b}{\9036\005}% U+1E05  
18017 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow  
18018 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06  
18019 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow  
18020 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07  
18021 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent  
18022 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A  
18023 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent  
18024 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B

18025 % U+1E0C LATIN CAPITAL LETTER D WITH DOT BELOW; Ddotbelow  
18026 \DeclareTextCompositeCommand{\d}{PU}{D}{\9036\014}% U+1E0C  
18027 % U+1E0D LATIN SMALL LETTER D WITH DOT BELOW; ddotbelow  
18028 \DeclareTextCompositeCommand{\d}{PU}{d}{\9036\015}% U+1E0D  
18029 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow  
18030 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E  
18031 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow  
18032 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F  
18033 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla  
18034 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10  
18035 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla  
18036 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11  
18037 % U+1E12 LATIN CAPITAL LETTER D WITH CIRCUMFLEX BELOW; Dcir-  
cumflexbelow  
18038 \DeclareTextCompositeCommand{\textsubcircum}{PU}{D}{\9036\022}% U+1E12  
18039 % U+1E13 LATIN SMALL LETTER D WITH CIRCUMFLEX BELOW; dcir-  
cumflexbelow  
18040 \DeclareTextCompositeCommand{\textsubcircum}{PU}{d}{\9036\023}% U+1E13  
18041 % U+1E14 LATIN CAPITAL LETTER E WITH MACRON AND GRAVE;  
18042 % E macrongrave  
18043 \DeclareTextCompositeCommand{\textgravemacron}{PU}{E}{\9036\024}% U+1E14  
18044 % U+1E15 LATIN SMALL LETTER E WITH MACRON AND GRAVE;  
18045 % e macrongrave  
18046 \DeclareTextCompositeCommand{\textgravemacron}{PU}{e}{\9036\025}% U+1E15  
18047 % U+1E16 LATIN CAPITAL LETTER E WITH MACRON AND ACUTE;  
18048 % E macronacute  
18049 \DeclareTextCompositeCommand{\textacutemacron}{PU}{E}{\9036\026}% U+1E16  
18050 % U+1E17 LATIN SMALL LETTER E WITH MACRON AND ACUTE;  
18051 % e macronacute  
18052 \DeclareTextCompositeCommand{\textacutemacron}{PU}{e}{\9036\027}% U+1E17  
18053 % U+1E18 LATIN CAPITAL LETTER E WITH CIRCUMFLEX BELOW; Ecir-  
cumflexbelow  
18054 \DeclareTextCompositeCommand{\textsubcircum}{PU}{E}{\9036\030}% U+1E18  
18055 % U+1E19 LATIN SMALL LETTER E WITH CIRCUMFLEX BELOW; ecir-  
cumflexbelow  
18056 \DeclareTextCompositeCommand{\textsubcircum}{PU}{e}{\9036\031}% U+1E19  
18057 % U+1E1A LATIN CAPITAL LETTER E WITH TILDE BELOW; Etildebelow  
18058 \DeclareTextCompositeCommand{\textsubtilde}{PU}{E}{\9036\032}% U+1E1A  
18059 % U+1E1B LATIN SMALL LETTER E WITH TILDE BELOW; etildebelow  
18060 \DeclareTextCompositeCommand{\textsubtilde}{PU}{e}{\9036\033}% U+1E1B  
18061 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent  
18062 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E  
18063 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent  
18064 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F  
18065 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron  
18066 \DeclareTextCompositeCommand{\=} {PU}{G}{\9036\040}% U+1E20  
18067 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron  
18068 \DeclareTextCompositeCommand{\=} {PU}{g}{\9036\041}% U+1E21  
18069 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent  
18070 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22

18071 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent  
18072 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23  
18073 % U+1E24 LATIN CAPITAL LETTER H WITH DOT BELOW; Hdotbelow  
18074 \DeclareTextCompositeCommand{\d}{PU}{H}{\9036\044}% U+1E24  
18075 % U+1E25 LATIN SMALL LETTER H WITH DOT BELOW; hdotbelow  
18076 \DeclareTextCompositeCommand{\d}{PU}{h}{\9036\045}% U+1E25  
18077 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis  
18078 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26  
18079 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis  
18080 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27  
18081 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla  
18082 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28  
18083 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla  
18084 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29  
18085 % U+1E2A LATIN CAPITAL LETTER H WITH BREVE BELOW; Hbrevebelow  
18086 \DeclareTextCompositeCommand{\textsubbreve}{PU}{H}{\9036\052}% U+1E2A  
18087 % U+1E2B LATIN SMALL LETTER H WITH BREVE BELOW; hbrevebelow  
18088 \DeclareTextCompositeCommand{\textsubbreve}{PU}{h}{\9036\053}% U+1E2B  
18089 % U+1E2C LATIN CAPITAL LETTER I WITH TILDE BELOW; Itildebelow  
18090 \DeclareTextCompositeCommand{\textsubtilde}{PU}{I}{\9036\054}% U+1E2C  
18091 % U+1E2D LATIN SMALL LETTER I WITH TILDE BELOW; itildebelow  
18092 \DeclareTextCompositeCommand{\textsubtilde}{PU}{i}{\9036\055}% U+1E2D  
18093 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute  
18094 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30  
18095 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute  
18096 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31  
18097 % U+1E32 LATIN CAPITAL LETTER K WITH DOT BELOW; Kdotbelow  
18098 \DeclareTextCompositeCommand{\d}{PU}{K}{\9036\062}% U+1E32  
18099 % U+1E33 LATIN SMALL LETTER K WITH DOT BELOW; kdotbelow  
18100 \DeclareTextCompositeCommand{\d}{PU}{k}{\9036\063}% U+1E33  
18101 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow  
18102 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34  
18103 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow  
18104 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35  
18105 % U+1E36 LATIN CAPITAL LETTER L WITH DOT BELOW; Ldotbelow  
18106 \DeclareTextCompositeCommand{\d}{PU}{L}{\9036\066}% U+1E36  
18107 % U+1E37 LATIN SMALL LETTER L WITH DOT BELOW; ldotbelow  
18108 \DeclareTextCompositeCommand{\d}{PU}{l}{\9036\067}% U+1E37  
18109 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow  
18110 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A  
18111 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow  
18112 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B  
18113 % U+1E3C LATIN CAPITAL LETTER L WITH CIRCUMFLEX BELOW; Lcir-  
cumflexbelow  
18114 \DeclareTextCompositeCommand{\textsubcircum}{PU}{L}{\9036\074}% U+1E3C  
18115 % U+1E3D LATIN SMALL LETTER L WITH CIRCUMFLEX BELOW; lcir-  
cumflexbelow  
18116 \DeclareTextCompositeCommand{\textsubcircum}{PU}{l}{\9036\075}% U+1E3D  
18117 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute  
18118 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E

18119 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute  
18120 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F  
18121 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent  
18122 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40  
18123 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent  
18124 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41  
18125 % U+1E42 LATIN CAPITAL LETTER M WITH DOT BELOW; Mdotbelow  
18126 \DeclareTextCompositeCommand{\d}{PU}{M}{\9036\102}% U+1E42  
18127 % U+1E43 LATIN SMALL LETTER M WITH DOT BELOW; mdotbelow  
18128 \DeclareTextCompositeCommand{\d}{PU}{m}{\9036\103}% U+1E43  
18129 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent  
18130 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44  
18131 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent  
18132 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45  
18133 % U+1E46 LATIN CAPITAL LETTER N WITH DOT BELOW; Ndotbelow  
18134 \DeclareTextCompositeCommand{\d}{PU}{N}{\9036\106}% U+1E46  
18135 % U+1E47 LATIN SMALL LETTER N WITH DOT BELOW; ndotbelow  
18136 \DeclareTextCompositeCommand{\d}{PU}{n}{\9036\107}% U+1E47  
18137 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow  
18138 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48  
18139 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow  
18140 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49  
18141 % U+1E4A LATIN CAPITAL LETTER N WITH CIRCUMFLEX BELOW; Ncir-  
cumflexbelow  
18142 \DeclareTextCompositeCommand{\textsubcircum}{PU}{N}{\9036\112}% U+1E4A  
18143 % U+1E4B LATIN SMALL LETTER N WITH CIRCUMFLEX BELOW; ncir-  
cumflexbelow  
18144 \DeclareTextCompositeCommand{\textsubcircum}{PU}{n}{\9036\113}% U+1E4B  
18145 % U+1E50 LATIN CAPITAL LETTER O WITH MACRON AND GRAVE;  
18146 % Omacrongrave  
18147 \DeclareTextCompositeCommand{\textgravemacron}{PU}{O}{\9036\120}% U+1E50  
18148 % U+1E51 LATIN SMALL LETTER O WITH MACRON AND GRAVE;  
18149 % omacrongrave  
18150 \DeclareTextCompositeCommand{\textgravemacron}{PU}{o}{\9036\121}% U+1E51  
18151 % U+1E52 LATIN CAPITAL LETTER O WITH MACRON AND ACUTE;  
18152 % Omacronacute  
18153 \DeclareTextCompositeCommand{\textacutemacron}{PU}{O}{\9036\122}% U+1E52  
18154 % U+1E53 LATIN SMALL LETTER O WITH MACRON AND ACUTE;  
18155 % omacronacute  
18156 \DeclareTextCompositeCommand{\textacutemacron}{PU}{o}{\9036\123}% U+1E53  
18157 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute  
18158 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54  
18159 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute  
18160 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55  
18161 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent  
18162 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56  
18163 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent  
18164 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57  
18165 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent  
18166 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58

18167 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent  
18168 \DeclareTextCompositeCommand{\r}{PU}{r}{\9036\131}% U+1E59  
18169 % U+1E5A LATIN CAPITAL LETTER R WITH DOT BELOW; Rdotbelow  
18170 \DeclareTextCompositeCommand{\d}{PU}{R}{\9036\132}% U+1E5A  
18171 % U+1E5B LATIN SMALL LETTER R WITH DOT BELOW; rdotbelow  
18172 \DeclareTextCompositeCommand{\d}{PU}{r}{\9036\133}% U+1E5B  
18173 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow  
18174 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E  
18175 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow  
18176 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F  
18177 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent  
18178 \DeclareTextCompositeCommand{\s}{PU}{S}{\9036\140}% U+1E60  
18179 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent  
18180 \DeclareTextCompositeCommand{\d}{PU}{s}{\9036\141}% U+1E61  
18181 % U+1E62 LATIN CAPITAL LETTER S WITH DOT BELOW; Sdotbelow  
18182 \DeclareTextCompositeCommand{\d}{PU}{S}{\9036\142}% U+1E62  
18183 % U+1E63 LATIN SMALL LETTER S WITH DOT BELOW; sdotbelow  
18184 \DeclareTextCompositeCommand{\d}{PU}{s}{\9036\143}% U+1E63  
18185 % U+1E6A LATIN CAPITAL LETTER T WITH DOT ABOVE; Tdotaccent  
18186 \DeclareTextCompositeCommand{\t}{PU}{T}{\9036\152}% U+1E6A  
18187 % U+1E6B LATIN SMALL LETTER T WITH DOT ABOVE; tdotaccent  
18188 \DeclareTextCompositeCommand{\d}{PU}{t}{\9036\153}% U+1E6B  
18189 % U+1E6C LATIN CAPITAL LETTER T WITH DOT BELOW; Tdotbelow  
18190 \DeclareTextCompositeCommand{\d}{PU}{T}{\9036\154}% U+1E6C  
18191 % U+1E6D LATIN SMALL LETTER T WITH DOT BELOW; tdotbelow  
18192 \DeclareTextCompositeCommand{\d}{PU}{t}{\9036\155}% U+1E6D  
18193 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow  
18194 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E  
18195 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow  
18196 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F  
18197 % U+1E70 LATIN CAPITAL LETTER T WITH CIRCUMFLEX BELOW; Tcir-  
cumflexbelow  
18198 \DeclareTextCompositeCommand{\textsubcircum}{PU}{T}{\9036\160}% U+1E70  
18199 % U+1E71 LATIN SMALL LETTER T WITH CIRCUMFLEX BELOW; tcir-  
cumflexbelow  
18200 \DeclareTextCompositeCommand{\textsubcircum}{PU}{t}{\9036\161}% U+1E71  
18201 % U+1E72 LATIN CAPITAL LETTER U WITH DIAERESIS BELOW; Udiere-  
sisbelow  
18202 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{U}{\9036\162}% U+1E72  
18203 % U+1E73 LATIN SMALL LETTER U WITH DIAERESIS BELOW; udieres-  
sisbelow  
18204 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{u}{\9036\163}% U+1E73  
18205 % U+1E74 LATIN CAPITAL LETTER U WITH TILDE BELOW; Utildebelow  
18206 \DeclareTextCompositeCommand{\textsubtilde}{PU}{U}{\9036\164}% U+1E74  
18207 % U+1E75 LATIN SMALL LETTER U WITH TILDE BELOW; utildebelow  
18208 \DeclareTextCompositeCommand{\textsubtilde}{PU}{u}{\9036\165}% U+1E75  
18209 % U+1E76 LATIN CAPITAL LETTER U WITH CIRCUMFLEX BELOW; Ucir-  
cumflexbelow  
18210 \DeclareTextCompositeCommand{\textsubcircum}{PU}{U}{\9036\166}% U+1E76  
18211 % U+1E77 LATIN SMALL LETTER U WITH CIRCUMFLEX BELOW; ucir-

cumflexbelow

18212 \DeclareTextCompositeCommand{\textsubcircum}{PU}{u}{\9036\167}% U+1E77  
18213 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde  
18214 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C  
18215 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde  
18216 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D  
18217 % U+1E7E LATIN CAPITAL LETTER V WITH DOT BELOW; Vdotbelow  
18218 \DeclareTextCompositeCommand{\d}{PU}{V}{\9036\176}% U+1E7E  
18219 % U+1E7F LATIN SMALL LETTER V WITH DOT BELOW; vdotbelow  
18220 \DeclareTextCompositeCommand{\d}{PU}{v}{\9036\177}% U+1E7F  
18221 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave  
18222 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80  
18223 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave  
18224 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81  
18225 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute  
18226 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82  
18227 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute  
18228 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83  
18229 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis  
18230 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84  
18231 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis  
18232 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85  
18233 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent  
18234 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86  
18235 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent  
18236 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87  
18237 % U+1E88 LATIN CAPITAL LETTER W WITH DOT BELOW; wdotbelow  
18238 \DeclareTextCompositeCommand{\d}{PU}{W}{\9036\210}% U+1E88  
18239 % U+1E89 LATIN SMALL LETTER W WITH DOT BELOW; wdotbelow  
18240 \DeclareTextCompositeCommand{\d}{PU}{w}{\9036\211}% U+1E89  
18241 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent  
18242 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A  
18243 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent  
18244 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B  
18245 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis  
18246 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C  
18247 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis  
18248 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D  
18249 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent  
18250 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E  
18251 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent  
18252 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F  
18253 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex  
18254 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90  
18255 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex  
18256 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91  
18257 % U+1E92 LATIN CAPITAL LETTER Z WITH DOT BELOW; Zdotbelow  
18258 \DeclareTextCompositeCommand{\d}{PU}{Z}{\9036\222}% U+1E92  
18259 % U+1E93 LATIN SMALL LETTER Z WITH DOT BELOW; zdotbelow  
18260 \DeclareTextCompositeCommand{\d}{PU}{z}{\9036\223}% U+1E93

18261 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow  
18262 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94  
18263 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow  
18264 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95  
18265 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow  
18266 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96  
18267 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis  
18268 \DeclareTextCompositeCommand{"}{PU}{t}{\9036\227}% U+1E97  
18269 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring  
18270 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98  
18271 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring  
18272 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99  
18273 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdo-  
taccent  
18274 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B  
18275 % U+1EA0 LATIN CAPITAL LETTER A WITH DOT BELOW; Adotbelow  
18276 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
18277 % U+1EA1 LATIN SMALL LETTER A WITH DOT BELOW; adotbelow  
18278 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1  
18279 % U+1EB8 LATIN CAPITAL LETTER E WITH DOT BELOW; Edotbelow  
18280 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
18281 % U+1EB9 LATIN SMALL LETTER E WITH DOT BELOW; edotbelow  
18282 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9  
18283 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde  
18284 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
18285 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde  
18286 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
18287 % U+1ECA LATIN CAPITAL LETTER I WITH DOT BELOW; Idotbelow  
18288 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA  
18289 % U+1ECB LATIN SMALL LETTER I WITH DOT BELOW; idotbelow  
18290 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
18291 % U+1ECC LATIN CAPITAL LETTER O WITH DOT BELOW; Odotbelow  
18292 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC  
18293 % U+1ECD LATIN SMALL LETTER O WITH DOT BELOW; odotbelow  
18294 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
18295 % U+1EE4 LATIN CAPITAL LETTER U WITH DOT BELOW; Udotbelow  
18296 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4  
18297 % U+1EE5 LATIN SMALL LETTER U WITH DOT BELOW; udotbelow  
18298 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
18299 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave  
18300 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2  
18301 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave  
18302 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3  
18303 % U+1EF4 LATIN CAPITAL LETTER Y WITH DOT BELOW; Ydotbelow  
18304 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4  
18305 % U+1EF5 LATIN SMALL LETTER Y WITH DOT BELOW; ydotbelow  
18306 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
18307 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde  
18308 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8  
18309 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde

18310 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

### 51.2.16 General Punctuation: U+2000 to U+206F

18311 % U+200C ZERO WIDTH NON-JOINER; \*afii61664, zerowidthnonjoiner  
18312 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C  
18313 % U+2013 EN DASH; endash  
18314 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013  
18315 % U+2014 EM DASH; emdash  
18316 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014  
18317 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar  
18318 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016  
18319 %\* \textbardbl -> \textdoublevertline (tipa)  
18320 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft  
18321 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018  
18322 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright  
18323 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019  
18324 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase  
18325 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A  
18326 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft  
18327 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C  
18328 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright  
18329 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D  
18330 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase  
18331 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E  
18332 % U+2020 DAGGER; dagger  
18333 \DeclareTextCommand{\textdagger}{PU}{\9040\040}%\* U+2020  
18334 %\* \textdagger -> \dag (LaTeX)  
18335 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)  
18336 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021  
18337 %\* \textdaggerdbl -> \ddagger (LaTeX)  
18338 %\* \textdaggerdbl -> \ddag (LaTeX)  
18339 % U+2022 BULLET; bullet  
18340 \DeclareTextCommand{\textbullet}{PU}{\9040\042}%\* U+2022  
18341 % U+2025 TWO DOT LEADER; \hdotfor (MnSymbol)  
18342 \DeclareTextCommand{\textthdotfor}{PU}{\9040\045}%\* U+2025  
18343 % U+2026 HORIZONTAL ELLIPSIS; ellipsis  
18344 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026  
18345 %\* \textellipsis -> \mathellipsis  
18346 % U+2030 PER MILLE SIGN; perthousand  
18347 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030  
18348 % U+2031 PER TEN THOUSAND SIGN  
18349 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031  
18350 % U+2032 PRIME; minute; \prime (MnSymbol)  
18351 \DeclareTextCommand{\textprime}{PU}{\9040\062}%\* U+2032  
18352 % U+2033 DOUBLE PRIME; \second (mathabx)  
18353 \DeclareTextCommand{\textsecond}{PU}{\9040\063}%\* U+2033  
18354 % U+2034 TRIPLE PRIME; \third (mathabx)  
18355 \DeclareTextCommand{\textthird}{PU}{\9040\064}%\* U+2034  
18356 % U+2035 REVERSED PRIME; \backprime (AmS)  
18357 \DeclareTextCommand{\textbackprime}{PU}{\9040\065}%\* U+2035

18358 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-  
inglleft  
18359 \DeclareTextCommand{\guilsglleft}{PU}{\9040\071}% U+2039  
18360 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-  
inglright  
18361 \DeclareTextCommand{\guilsglright}{PU}{\9040\072}% U+203A  
18362 % U+203B REFERENCE MARK; referencemark  
18363 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B  
18364 % U+203D INTERROBANG  
18365 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D  
18366 % U+2044 FRACTION SLASH; fraction  
18367 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044  
18368 % U+2045 LEFT SQUARE BRACKET WITH QUILL  
18369 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045  
18370 % U+2046 RIGHT SQUARE BRACKET WITH QUILL  
18371 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046  
18372 % U+2052 COMMERCIAL MINUS SIGN  
18373 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052  
18374 % U+2056 THREE DOT PUNCTUATION; \lefttherefore (MnSymbol)  
18375 \DeclareTextCommand{\textlefttherefore}{PU}{\9040\126}%\* U+2056  
18376 % U+2057 QUADRUPLE PRIME; \fourth (mathabx)  
18377 \DeclareTextCommand{\textfourth}{PU}{\9040\127}%\* U+2057  
18378 % U+2058 FOUR DOT PUNCTUATION; \diamonddots (MnSymbol)  
18379 \DeclareTextCommand{\textdiamonddots}{PU}{\9040\130}%\* U+2058

### 51.2.17 Superscripts and Subscripts: U+2070 to U+209F

18380 % U+2070 SUPERSCRIPT ZERO; zerosuperior  
18381 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}%\* U+2070  
18382 % U+2071 SUPERSCRIPT LATIN SMALL LETTER I  
18383 \DeclareTextCommand{\textisuperior}{PU}{\9040\161}%\* U+2071  
18384 % U+2074 SUPERSCRIPT FOUR; foursuperior  
18385 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}%\* U+2074  
18386 % U+2075 SUPERSCRIPT FIVE; fivesuperior  
18387 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}%\* U+2075  
18388 % U+2076 SUPERSCRIPT SIX; sixsuperior  
18389 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}%\* U+2076  
18390 % U+2077 SUPERSCRIPT SEVEN; sevensuperior  
18391 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}%\* U+2077  
18392 % U+2078 SUPERSCRIPT EIGHT; eightsuperior  
18393 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}%\* U+2078  
18394 % U+2079 SUPERSCRIPT NINE; ninesuperior  
18395 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}%\* U+2079  
18396 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior  
18397 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}%\* U+207A  
18398 % U+207B SUPERSCRIPT MINUS  
18399 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}%\* U+207B  
18400 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior  
18401 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}%\* U+207C  
18402 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior  
18403 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}%\* U+207D

18404 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior  
18405 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}%\* U+207E  
18406 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior  
18407 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}%\* U+207F  
18408 % U+2080 SUBSCRIPT ZERO; zeroinferior  
18409 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}%\* U+2080  
18410 % U+2081 SUBSCRIPT ONE; oneinferior  
18411 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}%\* U+2081  
18412 % U+2082 SUBSCRIPT TWO; twoinferior  
18413 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}%\* U+2082  
18414 % U+2083 SUBSCRIPT THREE; threeinferior  
18415 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}%\* U+2083  
18416 % U+2084 SUBSCRIPT FOUR; fourinferior  
18417 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}%\* U+2084  
18418 % U+2085 SUBSCRIPT FIVE; fiveinferior  
18419 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}%\* U+2085  
18420 % U+2086 SUBSCRIPT SIX; sixinferior  
18421 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}%\* U+2086  
18422 % U+2087 SUBSCRIPT SEVEN; seveninferior  
18423 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}%\* U+2087  
18424 % U+2088 SUBSCRIPT EIGHT; eightinferior  
18425 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}%\* U+2088  
18426 % U+2089 SUBSCRIPT NINE; nineinferior  
18427 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}%\* U+2089  
18428 % U+208A SUBSCRIPT PLUS SIGN  
18429 \DeclareTextCommand{\textplusinferior}{PU}{\9040\212}%\* U+208A  
18430 % U+208B SUBSCRIPT MINUS  
18431 \DeclareTextCommand{\textminusinferior}{PU}{\9040\213}%\* U+208B  
18432 % U+208C SUBSCRIPT EQUALS SIGN  
18433 \DeclareTextCommand{\textequalsinferior}{PU}{\9040\214}%\* U+208C  
18434 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior  
18435 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}%\* U+208D  
18436 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior  
18437 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}%\* U+208E  
18438 % U+2090 LATIN SUBSCRIPT SMALL LETTER A  
18439 \DeclareTextCommand{\textainferior}{PU}{\9040\220}%\* U+2090  
18440 % U+2091 LATIN SUBSCRIPT SMALL LETTER E  
18441 \DeclareTextCommand{\texteinferior}{PU}{\9040\221}%\* U+2091  
18442 % U+2092 LATIN SUBSCRIPT SMALL LETTER O  
18443 \DeclareTextCommand{\textoinferior}{PU}{\9040\222}%\* U+2092  
18444 % U+2093 LATIN SUBSCRIPT SMALL LETTER X  
18445 \DeclareTextCommand{\textxinferior}{PU}{\9040\223}%\* U+2093  
18446 % U+2094 LATIN SUBSCRIPT SMALL LETTER SCHWA  
18447 \DeclareTextCommand{\textschwainferior}{PU}{\9040\224}%\* U+2094  
18448 % U+2095 LATIN SUBSCRIPT SMALL LETTER H  
18449 \DeclareTextCommand{\texthinferior}{PU}{\9040\225}%\* U+2095  
18450 % U+2096 LATIN SUBSCRIPT SMALL LETTER K  
18451 \DeclareTextCommand{\textkinferior}{PU}{\9040\226}%\* U+2096  
18452 % U+2097 LATIN SUBSCRIPT SMALL LETTER L  
18453 \DeclareTextCommand{\textlinferior}{PU}{\9040\227}%\* U+2097

18454 % U+2098 LATIN SUBSCRIPT SMALL LETTER M  
18455 \DeclareTextCommand{\textminferior}{PU}{\9040\230}%\* U+2098  
18456 % U+2099 LATIN SUBSCRIPT SMALL LETTER N  
18457 \DeclareTextCommand{\textninferior}{PU}{\9040\231}%\* U+2099  
18458 % U+209A LATIN SUBSCRIPT SMALL LETTER P  
18459 \DeclareTextCommand{\textpinferior}{PU}{\9040\232}%\* U+209A  
18460 % U+209B LATIN SUBSCRIPT SMALL LETTER S  
18461 \DeclareTextCommand{\textsinferior}{PU}{\9040\233}%\* U+209B  
18462 % U+209C LATIN SUBSCRIPT SMALL LETTER T  
18463 \DeclareTextCommand{\texttinferior}{PU}{\9040\234}%\* U+209C

### 51.2.18 Currency Symbols: U+20A0 to U+20CF

18464 % U+20A1 COLON SIGN; \*colonmonetary, colonsign  
18465 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1  
18466 % U+20A4 LIRA SIGN; afi08941, \*lira  
18467 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4  
18468 % U+20A6 NAIRA SIGN  
18469 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6  
18470 % U+20A7 PESETA SIGN; peseta  
18471 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7  
18472 % U+20A9 WON SIGN; won  
18473 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9  
18474 % U+20AB DONG SIGN; dong  
18475 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB  
18476 % U+20AC EURO SIGN; \*Euro, euro  
18477 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC  
18478 %\* \texteuro -> \EurDig (marvosym)  
18479 %\* \texteuro -> \EURdig (marvosym)  
18480 %\* \texteuro -> \EurHv (marvosym)  
18481 %\* \texteuro -> \EURhv (marvosym)  
18482 %\* \texteuro -> \EurCr (marvosym)  
18483 %\* \texteuro -> \EURcr (marvosym)  
18484 %\* \texteuro -> \EurTm (marvosym)  
18485 %\* \texteuro -> \EURtm (marvosym)  
18486 %\* \texteuro -> \Eur (marvosym)  
18487 % U+20B0 GERMAN PENNY SIGN; \Deleatur (marvosym)  
18488 \DeclareTextCommand{\textDeleatur}{PU}{\9040\260}%\* U+20B0  
18489 %\* \textDeleatur -> \Denarius (marvosym)  
18490 % U+20B1 PESO SIGN  
18491 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1  
18492 % U+20B2 GUARANI SIGN  
18493 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

### 51.2.19 Letterlike Symbols: U+2100 to U+214F

18494 % U+2103 DEGREE CELSIUS; centigrade  
18495 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103  
18496 % U+210F PLANCK CONSTANT OVER TWO PI; \hslash (AmS)  
18497 \DeclareTextCommand{\texthslash}{PU}{\9041\017}%\* U+210F  
18498 % U+2111 BLACK-LETTER CAPITAL I (=imaginary part); Ifraktur; \Im (La-TeX)

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18499 \DeclareTextCommand{\textIm}{PU}{\9041\021}%* U+2111
18500 % U+2113 SCRIPT SMALL L (=ell, liter); afi61289, lsquare; \ell (LaTeX)
18501 \DeclareTextCommand{\textell}{PU}{\9041\023}%* U+2113
18502 % U+2116 NUMERO SIGN; *afi61352, numero
18503 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
18504 % U+2117 SOUND RECORDING COPYRIGHT
18505 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
18506 % U+2118 SCRIPT CAPITAL P (=Weierstrass elliptic function);
18507 % weierstrass; \wp (LaTeX)
18508 \DeclareTextCommand{\textwp}{PU}{\9041\030}%* U+2118
18509 % U+211C BLACK-LETTER CAPITAL R (=real part); Rfraktur; \Re (LaTeX)
18510 \DeclareTextCommand{\textRe}{PU}{\9041\034}%* U+211C
18511 % U+211E PRESCRIPTION TAKE; prescription
18512 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
18513 % U+2120 SERVICE MARK
18514 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
18515 % U+2122 TRADE MARK SIGN; trademark
18516 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
18517 % U+2126 OHM SIGN; Ohm, Omega
18518 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
18519 % U+2127 INVERTED OHM SIGN
18520 \DeclareTextCommand{\textmho}{PU}{\9041\047}%* U+2127
18521 %* \textmho -> \agemO (wasysym)
18522 % U+2129 TURNED GREEK SMALL LETTER IOTA; \riota (phonetic)
18523 \DeclareTextCommand{\textriota}{PU}{\9041\051}%* U+2129
18524 % U+212B ANGSTROM SIGN; angstrom
18525 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
18526 % U+212E ESTIMATED SYMBOL; estimated
18527 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
18528 %* \textestimated -> \EstimatedSign (marvosym)
18529 %* \textestimated -> \Ecommerce (marvosym)
18530 % U+2132 TURNED CAPITAL F; \Finv (AmS)
18531 \DeclareTextCommand{\textFinv}{PU}{\9041\062}%* U+2132
18532 % U+2135 ALEF SYMBOL; aleph; \aleph (LaTeX)
18533 \DeclareTextCommand{\textaleph}{PU}{\9041\065}%* U+2135
18534 % U+2136 BET SYMBOL; \beth (AmS, MnSymbol)
18535 \DeclareTextCommand{\textbeth}{PU}{\9041\066}%* U+2136
18536 % U+2137 GIMEL SYMBOL; \gimel (AmS, MnSymbol)
18537 \DeclareTextCommand{\textgimel}{PU}{\9041\067}%* U+2137
18538 % U+2138 DALET SYMBOL; \daleth (AmS, MnSymbol)
18539 \DeclareTextCommand{\textdaleth}{PU}{\9041\070}%* U+2138
18540 % U+213B FACSIMILE SIGN; \fax (marvosym)
18541 \DeclareTextCommand{\textfax}{PU}{\9041\073}%* U+213B
18542 % U+2141 TURNED SANS-SERIF CAPITAL G (=game); \Game
18543 \DeclareTextCommand{\textGame}{PU}{\9041\101}%* U+2141
18544 % U+214B TURNED AMPERSAND; \invamp (txfonts/pxfonts)
18545 \DeclareTextCommand{\textinvamp}{PU}{\9041\113}% U+214B
18546 %* \textinvamp -> \bindnasrepma (stmaryrd)
18547 %* \textinvamp -> \parr (cml)

```

### 51.2.20 Number Forms: U+2150 to U+218F

18548 % U+2150 VULGAR FRACTION ONE SEVENTH  
18549 \DeclareTextCommand{\textoneseventh}{PU}{\9041\120}% U+2150  
18550 % U+2151 VULGAR FRACTION ONE NINTH  
18551 \DeclareTextCommand{\textoneninth}{PU}{\9041\121}% U+2151  
18552 % U+2152 VULGAR FRACTION ONE TENTH  
18553 \DeclareTextCommand{\textonetenth}{PU}{\9041\122}% U+2152  
18554 % U+2153 VULGAR FRACTION ONE THIRD; onethird  
18555 \DeclareTextCommand{\textonethird}{PU}{\9041\123}% U+2153  
18556 % U+2154 VULGAR FRACTION TWO THIRDS; twothirds  
18557 \DeclareTextCommand{\texttwothirds}{PU}{\9041\124}% U+2154  
18558 % U+2155 VULGAR FRACTION ONE FIFTH  
18559 \DeclareTextCommand{\textonefifth}{PU}{\9041\125}% U+2155  
18560 % U+2156 VULGAR FRACTION TWO FIFTHS  
18561 \DeclareTextCommand{\texttwofifths}{PU}{\9041\126}% U+2156  
18562 % U+2157 VULGAR FRACTION THREE FIFTHS  
18563 \DeclareTextCommand{\textthreefifths}{PU}{\9041\127}% U+2157  
18564 % U+2158 VULGAR FRACTION FOUR FIFTHS  
18565 \DeclareTextCommand{\textfourfifths}{PU}{\9041\130}% U+2158  
18566 % U+2159 VULGAR FRACTION ONE SIXTH  
18567 \DeclareTextCommand{\textonesixth}{PU}{\9041\131}% U+2159  
18568 % U+215A VULGAR FRACTION FIVE SIXTHS  
18569 \DeclareTextCommand{\textfivesixths}{PU}{\9041\132}% U+215A  
18570 % U+215B VULGAR FRACTION ONE EIGHTH; oneeighth  
18571 \DeclareTextCommand{\textoneeighth}{PU}{\9041\133}% U+215B  
18572 % U+215C VULGAR FRACTION THREE EIGHTHS; threeeighths  
18573 \DeclareTextCommand{\textthreeeighths}{PU}{\9041\134}% U+215C  
18574 % U+215D VULGAR FRACTION FIVE EIGHTHS; fiveeighths  
18575 \DeclareTextCommand{\textfiveeighths}{PU}{\9041\135}% U+215D  
18576 % U+215E VULGAR FRACTION SEVEN EIGHTHS; seveneighths  
18577 \DeclareTextCommand{\textseveneighths}{PU}{\9041\136}% U+215E  
18578 % U+2184 LATIN SMALL LETTER REVERSED C  
18579 \DeclareTextCommand{\textrevc}{PU}{\9041\204}% U+2184  
18580 % U+2189 VULGAR FRACTION ZERO THIRDS  
18581 \DeclareTextCommand{\textzer thirds}{PU}{\9041\211}% U+2189

### 51.2.21 Arrows: U+2190 to U+21FF

18582 % U+2190 LEFTWARDS ARROW; arrowleft  
18583 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}%\* U+2190  
18584 % U+2191 UPWARDS ARROW; arrowup  
18585 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}%\* U+2191  
18586 % U+2192 RIGHTWARDS ARROW; arrowright  
18587 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}%\* U+2192  
18588 %\* \textrightarrow -> \MVRightArrow (marvosym)  
18589 %\* \textrightarrow -> \MVRightarrow (marvosym)  
18590 % U+2193 DOWNWARDS ARROW; arrowdown  
18591 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}%\* U+2193  
18592 %\* \textdownarrow -> \MVArrowDown (marvosym)  
18593 %\* \textdownarrow -> \Force (marvosym)

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18594 % U+2194 LEFT RIGHT ARROW; arrowboth; \leftrightarrow (LaTeX)
18595 \DeclareTextCommand{\textleftrightarrow}{PU}{\9041\224}%* U+2194
18596 % U+2195 UP DOWN ARROW; arrowupdn; \updownarrow (LaTeX)
18597 \DeclareTextCommand{\textupdownarrow}{PU}{\9041\225}%* U+2195
18598 % U+2196 NORTH WEST ARROW; arrowupleft; \nwarrow (LaTeX)
18599 \DeclareTextCommand{\textnwarrow}{PU}{\9041\226}%* U+2196
18600 % U+2197 NORTH EAST ARROW; arrowupright; \nearrow (LaTeX)
18601 \DeclareTextCommand{\textnearrow}{PU}{\9041\227}%* U+2197
18602 %* \textnearrow -> \textglobe (tipa)
18603 % U+2198 SOUTH EAST ARROW; arrowdownright; \searrow (LaTeX)
18604 \DeclareTextCommand{\textsearrow}{PU}{\9041\230}%* U+2198
18605 %* \textsearrow -> \textglobfall (tipa)
18606 % U+2199 SOUTH WEST ARROW; arrowdownleft; \swarrow (LaTeX)
18607 \DeclareTextCommand{\textswarrow}{PU}{\9041\231}%* U+2199
18608 % U+219A LEFTWARDS ARROW WITH STROKE; \leftarrow (AmS)
18609 \DeclareTextCommand{\textleftarrow}{PU}{\9041\232}%* U+219A
18610 % U+219B RIGHTWARDS ARROW WITH STROKE; \rightarrow (AmS)
18611 \DeclareTextCommand{\textrightarrow}{PU}{\9041\233}%* U+219B
18612 % U+219E LEFTWARDS TWO HEADED ARROW; \twoheadleftarrow (AmS)
18613 \DeclareTextCommand{\texttwoheadleftarrow}{PU}{\9041\236}%* U+219E
18614 % \twoheadleftarrow (txfonts/pxfonts)
18615 \DeclareTextCommand{\texttwoheadleftarrow}{PU}{\9041\236\83\070}%* U+219E U+0338
18616 % U+219F UPWARDS TWO HEADED ARROW; \twoheaduparrow (MnSymbol)
18617 \DeclareTextCommand{\texttwoheaduparrow}{PU}{\9041\237}%* U+219F
18618 % U+21A0 RIGHTWARDS TWO HEADED ARROW;
18619 % \twoheadrightarrow (AmS)
18620 \DeclareTextCommand{\texttwoheadrightarrow}{PU}{\9041\240}%* U+21A0
18621 % \twoheadrightarrow (txfonts/pxfonts)
18622 \DeclareTextCommand{\texttwoheadrightarrow}{PU}{\9041\240\83\070}%* U+21A0 U+0338
18623 % U+21A1 DOWNWARDS TWO HEADED ARROW; \twoheaddownarrow (Mn-
Symbol)
18624 \DeclareTextCommand{\texttwoheaddownarrow}{PU}{\9041\241}%* U+21A1
18625 % U+21A2 LEFTWARDS ARROW WITH TAIL; \leftarrowtail (AmS)
18626 \DeclareTextCommand{\textleftarrowtail}{PU}{\9041\242}%* U+21A2
18627 % U+21A3 RIGHTWARDS ARROW WITH TAIL; \rightarrowtail (AmS)
18628 \DeclareTextCommand{\textrightarrowtail}{PU}{\9041\243}%* U+21A3
18629 % U+21A6 RIGHTWARDS ARROW FROM BAR; \mapsto (LaTeX)
18630 \DeclareTextCommand{\textmapsto}{PU}{\9041\246}%* U+21A6
18631 % U+21A9 LEFTWARDS ARROW WITH HOOK; \hookleftarrow (LaTeX)
18632 \DeclareTextCommand{\texthookleftarrow}{PU}{\9041\251}%* U+21A9
18633 % U+21AA RIGHTWARDS ARROW WITH HOOK; \hookrightarrow (LaTeX)
18634 \DeclareTextCommand{\texthookrightarrow}{PU}{\9041\252}%* U+21AA
18635 % U+21AB LEFTWARDS ARROW WITH LOOP; \looparrowleft (AmS)
18636 \DeclareTextCommand{\textlooparrowleft}{PU}{\9041\253}%* U+21AB
18637 % U+21AC RIGHTWARDS ARROW WITH LOOP; \looparrowright (AmS)
18638 \DeclareTextCommand{\textlooparrowright}{PU}{\9041\254}%* U+21AC
18639 % U+21AE LEFT RIGHT ARROW WITH STROKE; \leftrightharrow (AmS)
18640 \DeclareTextCommand{\textleftrightharrow}{PU}{\9041\256}%* U+21AE
18641 % U+21AF DOWNWARDS ZIGZAG ARROW; \lightning (stmaryrd)
18642 \DeclareTextCommand{\textlightning}{PU}{\9041\257}%* U+21AF

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18643 %* \textlightning -> \Lightning (marvosym)
18644 % U+21B5 DOWNWARDS ARROW WITH CORNER LEFTWARDS;
18645 % \dlsh (mathabx)
18646 \DeclareTextCommand{\textdlsh}{PU}{\9041\265}%* U+21B5
18647 % U+21B6 ANTICLOCKWISE TOP SEMICIRCLE ARROW;
18648 % \curvearrowleft (AmS)
18649 \DeclareTextCommand{\textcurvearrowleft}{PU}{\9041\266}%* U+21B6
18650 % U+21B7 CLOCKWISE TOP SEMICIRCLE ARROW; \curvearrowright (AmS)
18651 \DeclareTextCommand{\textcurvearrowright}{PU}{\9041\267}%* U+21B7
18652 % U+21BC LEFTWARDS HARPOON WITH BARB UPWARDS; harpoonleft-
barbup;
18653 % \leftharpoonup (LaTeX)
18654 \DeclareTextCommand{\textleftharpoonup}{PU}{\9041\274}%* U+21BC
18655 % U+21BD LEFTWARDS HARPOON WITH BARB DOWNWARDS;
18656 % \leftharpoondown (LaTeX)
18657 \DeclareTextCommand{\textleftharpoondown}{PU}{\9041\275}%* U+21BD
18658 % U+21BE UPWARDS HARPOON WITH BARB RIGHTWARDS;
18659 % \upharpoonright (AmS)
18660 \DeclareTextCommand{\textupharpoonright}{PU}{\9041\276}%* U+21BE
18661 % U+21BF UPWARDS HARPOON WITH BARB LEFTWARDS;
18662 % \upharpoonleft (AmS)
18663 \DeclareTextCommand{\textupharpoonleft}{PU}{\9041\277}%* U+21BF
18664 % U+21C0 RIGHTWARDS HARPOON WITH BARB UPWARDS; harpoonright-
barbup
18665 % \rightharpoonup (LaTeX)
18666 \DeclareTextCommand{\textrightharpoonup}{PU}{\9041\300}%* U+21C0
18667 % U+21C1 RIGHTWARDS HARPOON WITH BARB DOWNWARDS;
18668 % \rightharpoondown (LaTeX)
18669 \DeclareTextCommand{\textrightharpoondown}{PU}{\9041\301}%* U+21C1
18670 % U+21C2 DOWNWARDS HARPOON WITH BARB RIGHTWARDS;
18671 % \downharpoonright (AmS)
18672 \DeclareTextCommand{\textdownharpoonright}{PU}{\9041\302}%* U+21C2
18673 % U+21C3 DOWNWARDS HARPOON WITH BARB LEFTWARDS;
18674 % \downharpoonleft (AmS)
18675 \DeclareTextCommand{\textdownharpoonleft}{PU}{\9041\303}%* U+21C3
18676 % U+21C4 RIGHTWARDS ARROW OVER LEFTWARDS ARROW;
18677 % \arrowrightoverleft; \rightleftarrows (MnSymbol)
18678 \DeclareTextCommand{\textrightleftarrows}{PU}{\9041\304}%* U+21C4
18679 % U+21C5 UPWARDS ARROW LEFTWARDS OF DOWNWARDS ARROW; ar-
rowupleftofdown;
18680 % \updownarrows (MnSymbol)
18681 \DeclareTextCommand{\textupdownarrows}{PU}{\9041\305}%* U+21C5
18682 % U+21C6 LEFTWARDS ARROW OVER RIGHTWARDS ARROW; arrowleft-
overright;
18683 % \leftrightarrows (AmS)
18684 \DeclareTextCommand{\textleftrightarrows}{PU}{\9041\306}%* U+21C6
18685 % U+21C7 LEFTWARDS PAIRED ARROWS; \leftleftarrows (AmS)
18686 \DeclareTextCommand{\textleftleftarrows}{PU}{\9041\307}%* U+21C7
18687 % U+21C8 UPWARDS PAIRED ARROWS; \upuparrows (AmS)
18688 \DeclareTextCommand{\textupuparrows}{PU}{\9041\310}%* U+21C8

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18689 % U+21C9 RIGHTWARDS PAIRED ARROWS; \rightrightarrows (AmS)
18690 \DeclareTextCommand{\textrightrightarrows}{PU}{\9041\311}%* U+21C9
18691 % U+21CA DOWNWARDS PAIRED ARROWS; \downarrowarrows (AmS)
18692 \DeclareTextCommand{\textdownarrowarrows}{PU}{\9041\312}%* U+21CA
18693 % U+21CB LEFTWARDS HARPOON OVER RIGHTWARDS HARPOON;
18694 % \leftrightharpoons (AmS);
18695 \DeclareTextCommand{\textleftrightharpoons}{PU}{\9041\313}%* U+21CB
18696 % U+21CC RIGHTWARDS HARPOON OVER LEFTWARDS HARPOON;
18697 % \rightleftharpoons (LaTeX, AmS)
18698 \DeclareTextCommand{\textrightleftharpoons}{PU}{\9041\314}%* U+21CC
18699 % U+21CD LEFTWARDS DOUBLE ARROW WITH STROKE; arrowleftd-
18700 % \nLeftarrow (AmS)
18701 \DeclareTextCommand{\textnLeftarrow}{PU}{\9041\315}%* U+21CD
18702 % U+21CE LEFT RIGHT DOUBLE ARROW WITH STROKE; \nLeftarrow-
18703 % \rightarrow (AmS)
18704 \DeclareTextCommand{\textnLeftarrow}{PU}{\9041\316}%* U+21CE
18704 % U+21CF RIGHTWARDS DOUBLE ARROW WITH STROKE; arrowrightd-
18705 % \rightarrow (AmS)
18706 \DeclareTextCommand{\textnRightarrow}{PU}{\9041\317}%* U+21CF
18707 % U+21D0 LEFTWARDS DOUBLE ARROW; arrowdblleft, arrowleftdbl;
18708 % \Leftarrow (LaTeX)
18709 \DeclareTextCommand{\textLeftarrow}{PU}{\9041\320}%* U+21D0
18710 % U+21D1 UPWARDS DOUBLE ARROW; arrowdblup; \Uparrow (LaTeX)
18711 \DeclareTextCommand{\textUparrow}{PU}{\9041\321}%* U+21D1
18712 % U+21D2 RIGHTWARDS DOUBLE ARROW; arrowdblright, dblarrowright;
18713 % \Rightarrow (LaTeX)
18714 \DeclareTextCommand{\textRightarrow}{PU}{\9041\322}%* U+21D2
18715 %* \textRightarrow -> \Conclusion (marvosym)
18716 % U+21D3 DOWNWARDS DOUBLE ARROW; arrowdbl down; \Downarrow (La-
18717 % \Downarrow (LaTeX)
18717 \DeclareTextCommand{\textDownarrow}{PU}{\9041\323}%* U+21D3
18718 % U+21D4 LEFT RIGHT DOUBLE ARROW; arrowdblboth;
18719 % \Leftrightarrow (LaTeX)
18720 \DeclareTextCommand{\textLeftrightarrow}{PU}{\9041\324}%* U+21D4
18721 %* \textLeftrightarrow -> \Equivalence (marvosym)
18722 % U+21D5 UP DOWN DOUBLE ARROW; \Updownarrow (LaTeX)
18723 \DeclareTextCommand{\textUpdownarrow}{PU}{\9041\325}%* U+21D5
18724 % U+21D6 NORTH WEST DOUBLE ARROW; \Nwarrow (MnSymbol)
18725 \DeclareTextCommand{\textNwarrow}{PU}{\9041\326}%* U+21D6
18726 % U+21D7 NORTH EAST DOUBLE ARROW; \Nearrow (MnSymbol)
18727 \DeclareTextCommand{\textNearrow}{PU}{\9041\327}%* U+21D7
18728 % U+21D8 SOUTH EAST DOUBLE ARROW; \Searrow (MnSymbol)
18729 \DeclareTextCommand{\textSearrow}{PU}{\9041\330}%* U+21D8
18730 % U+21D9 SOUTH WEST DOUBLE ARROW; \Swarrow (MnSymbol)
18731 \DeclareTextCommand{\textSwarrow}{PU}{\9041\331}%* U+21D9
18732 % U+21DA LEFTWARDS TRIPLE ARROW; \Lleftarrow (AmS)
18733 \DeclareTextCommand{\textLleftarrow}{PU}{\9041\332}%* U+21DA
18734 % U+21DB RIGHTWARDS TRIPLE ARROW; \Rrightarrow (MnSymbol)

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18735 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\333}%* U+21DB
18736 % U+21DC LEFTWARDS SQUIGGLE ARROW; \leftsquigarrow (mathabx)
18737 \DeclareTextCommand{\textleftsquigarrow}{PU}{\9041\334}%* U+21DC
18738 % U+21DD RIGHTWARDS SQUIGGLE ARROW; \rightsquigarrow (mathabx)
18739 \DeclareTextCommand{\textright squigarrow}{PU}{\9041\335}%* U+21DD
18740 % U+21E0 LEFTWARDS DASHED ARROW; arrowdashleft;
18741 % \dashleftarrow (AmS)
18742 \DeclareTextCommand{\textdashleftarrow}{PU}{\9041\340}%* U+21E0
18743 %* \textdashleftarrow -> \dashedleftarrow (MnSymbol)
18744 % U+21E1 UPWARDS DASHED ARROW; arrowdashedup; \dasheduparrow (Mn-
Symbol)
18745 \DeclareTextCommand{\textdasheduparrow}{PU}{\9041\341}%* U+21E1
18746 % U+21E2 RIGHTWARDS DASHED ARROW; arrowdashright; \dashrightarrow
(AmS)
18747 \DeclareTextCommand{\textdashrightarrow}{PU}{\9041\342}%* U+21E2
18748 %* \textdashrightarrow -> \dashedrightarrow (MnSymbol)
18749 % U+21E3 DOWNWARDS DASHED ARROW; arrowdashdown; \dasheddownar-
row (MnSymbol)
18750 \DeclareTextCommand{\textdasheddownarrow}{PU}{\9041\343}%* U+21E3
18751 % U+21E8 RIGHTWARDS WHITE ARROW; \pointer (wasysym)
18752 \DeclareTextCommand{\textpointer}{PU}{\9041\350}%* U+21E8
18753 % U+21F5 DOWNWARDS ARROW LEFTWARDS OF UPWARDS ARROW;
18754 % \downuparrows (MnSymbol)
18755 \DeclareTextCommand{\textdownuparrows}{PU}{\9041\365}%* U+21F5
18756 % U+21FD LEFTWARDS OPEN-HEADED ARROW; \leftarrowtriangle (stmaryrd)
18757 \DeclareTextCommand{\textleftarrowtriangle}{PU}{\9041\375}%* U+21FD
18758 % U+21FE RIGHTWARDS OPEN-HEADED ARROW; \rightarrowtriangle (stmaryrd)
18759 \DeclareTextCommand{\textrightarrowtriangle}{PU}{\9041\376}%* U+21FE
18760 % U+21FF LEFT RIGHT OPEN-HEADED ARROW; \leftrightarrowtri-
angle (stmaryrd)
18761 \DeclareTextCommand{\textleftrightarrowtriangle}{PU}{\9041\377}%* U+21FF

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### 51.2.22 Mathematical Operators: U+2200 to U+22FF

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18762 % U+2200 FOR ALL; forall; \forall (LaTeX)
18763 \DeclareTextCommand{\textforall}{PU}{\9042\000}%* U+2200
18764 % U+2201 COMPLEMENT; \complement (AmS)
18765 \DeclareTextCommand{\textcomplement}{PU}{\9042\001}%* U+2201
18766 % U+2202 PARTIAL DIFFERENTIAL; partialdiff; \partial (LaTeX)
18767 \DeclareTextCommand{\textpartial}{PU}{\9042\002}%* U+2202
18768 % U+2203 THERE EXISTS; existential; \exists (LaTeX)
18769 \DeclareTextCommand{\textexists}{PU}{\9042\003}%* U+2203
18770 % U+2204 THERE DOES NOT EXIST; \nexists (AmS)
18771 \DeclareTextCommand{\textnexists}{PU}{\9042\004}%* U+2204
18772 % U+2205 EMPTY SET; emptyset; \emptyset (LaTeX), \varnothing (AmS)
18773 \DeclareTextCommand{\textemptyset}{PU}{\9042\005}%* U+2205
18774 %* \textemptyset -> \varnothing (AmS)
18775 % U+2206 INCREMENT; increment, Delta; \triangle (LaTeX)
18776 \DeclareTextCommand{\texttriangle}{PU}{\9042\006}%* U+2206
18777 % U+2207 NABLA; nabla, gradient; \nabla (LaTeX)
18778 \DeclareTextCommand{\textnabla}{PU}{\9042\007}%* U+2207

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18779 % U+2208 ELEMENT OF; element; \in (LaTeX)
18780 \DeclareTextCommand{\textin}{PU}{\9042\010}%* U+2208
18781 % U+2209 NOT AN ELEMENT OF; notelement, notelementof; \notin (LaTeX)
18782 \DeclareTextCommand{\textnotin}{PU}{\9042\011}%* U+2209
18783 % U+220A SMALL ELEMENT OF; \smallin (mathdesign)
18784 \DeclareTextCommand{\textsmallin}{PU}{\9042\012}%* U+220A
18785 % U+220B CONTAINS AS MEMBER; suchthat; \ni (LaTeX)
18786 \DeclareTextCommand{\textni}{PU}{\9042\013}%* U+220B
18787 %* \textni -> \owns (mathabx)
18788 % U+220C DOES NOT CONTAIN AS MEMBER; \notowner (mathabx)
18789 \DeclareTextCommand{\textnotowner}{PU}{\9042\014}%* U+220C
18790 %* \textnotowner -> \notni (txfonts/pxfonts)
18791 % U+220D SMALL CONTAINS AS MEMBER; \smallowns (mathdesign)
18792 \DeclareTextCommand{\textsmallowns}{PU}{\9042\015}%* U+220D
18793 % U+220F N-ARY PRODUCT; \prod (LaTeX)
18794 \DeclareTextCommand{\textprod}{PU}{\9042\017}%* U+220F
18795 % U+2210 N-ARY COPRODUCT; \amalg (LaTeX)
18796 \DeclareTextCommand{\textamalg}{PU}{\9042\020}%* U+2210
18797 % U+2211 N-ARY SUMMATION; summation; \sum (LaTeX)
18798 \DeclareTextCommand{\textsum}{PU}{\9042\021}%* U+2211
18799 % U+2212 MINUS SIGN; minus
18800 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
18801 % U+2213 MINUS-OR-PLUS SIGN; minusplus; \mp (LaTeX)
18802 \DeclareTextCommand{\textmp}{PU}{\9042\023}%* U+2213
18803 % U+2214 DOT PLUS; \dotplus (AmS)
18804 \DeclareTextCommand{\textdotplus}{PU}{\9042\024}%* U+2214
18805 % U+2215 DIVISION SLASH; divisionslash; \Divides (marvosym)
18806 \DeclareTextCommand{\textDivides}{PU}{\9042\025}%* U+2215
18807 % \DividesNot (marvosym)
18808 \DeclareTextCommand{\textDividesNot}{PU}{\9042\025\9040\322}%* U+2215 U+20D2
18809 % U+2216 SET MINUS; \setminus (LaTeX)
18810 \DeclareTextCommand{\textsetminus}{PU}{\9042\026}%* U+2216
18811 % U+2217 ASTERISK OPERATOR; asteriskmath; \ast (LaTeX)
18812 \DeclareTextCommand{\textast}{PU}{\9042\027}%* U+2217
18813 % U+2218 RING OPERATOR; \circ (LaTeX)
18814 \DeclareTextCommand{\textcirc}{PU}{\9042\030}%* U+2218
18815 % U+2219 BULLET OPERATOR; bulletoperator; \bullet (LaTeX)
18816 \DeclareTextCommand{\textbulletoperator}{PU}{\9042\031}% U+2219
18817 % U+221A SQUARE ROOT; radical
18818 \DeclareTextCommand{\textsqrt}{PU}{\9042\032}%* U+221A
18819 % U+221D PROPORTIONAL TO; proportional; \propto (LaTeX)
18820 \DeclareTextCommand{\textpropto}{PU}{\9042\035}%* U+221D
18821 %* \textpropto -> \varprop (wasysym)
18822 % U+221E INFINITY; infinity; \infty (LaTeX)
18823 \DeclareTextCommand{\textinfty}{PU}{\9042\036}%* U+221E
18824 % U+2220 ANGLE; angle; \angle (LaTeX)
18825 \DeclareTextCommand{\textangle}{PU}{\9042\040}%* U+2220
18826 % U+2221 MEASURED ANGLE; \measuredangle (mathabx, MnSymbol)
18827 \DeclareTextCommand{\textmeasuredangle}{PU}{\9042\041}%* U+2221
18828 % U+2222 SPHERICAL ANGLE; \sphericalangle (AmS)

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18829 \DeclareTextCommand{\textsphericalangle}{PU}{\9042\042}%* U+2222
18830 %* \textsphericalangle -> \varangle (wasysym)
18831 %* \textsphericalangle -> \Anglesign (marvosym)
18832 %* \textsphericalangle -> \AngleSign (marvosym)
18833 % U+2223 DIVIDES; divides; \mid (LaTeX)
18834 \DeclareTextCommand{\textmid}{PU}{\9042\043}%* U+2223
18835 % U+2224 DOES NOT DIVIDE; \nmid (AmS)
18836 \DeclareTextCommand{\textnmid}{PU}{\9042\044}%* U+2224
18837 %* \textnmid -> \notdivides (mathabx)
18838 % U+2225 PARALLEL TO; parallel; \parallel (LaTeX)
18839 \DeclareTextCommand{\textparallel}{PU}{\9042\045}%* U+2225
18840 % U+2226 NOT PARALLEL TO; notparallel; \nparallel (AmS)
18841 \DeclareTextCommand{\textnparallel}{PU}{\9042\046}%* U+2226
18842 %* \textnparallel -> nUpdownline (MnSymbol)
18843 % U+2227 LOGICAL AND; logicaland; \wedge (LaTeX)
18844 \DeclareTextCommand{\textwedge}{PU}{\9042\047}%* U+2227
18845 % \owedge (stmaryrd)
18846 \DeclareTextCommand{\textowedge}{PU}{\9042\047\9040\335}%* U+2227 U+20DD
18847 %* \textowedge -> \varowedge (stmaryrd)
18848 % U+2228 LOGICAL OR; logicalor; \vee (LaTeX)
18849 \DeclareTextCommand{\textvee}{PU}{\9042\050}%* U+2228
18850 % \ovee (stmaryrd)
18851 \DeclareTextCommand{\textovee}{PU}{\9042\050\9040\335}%* U+2228 U+20DD
18852 %* \textovee -> \varovee (stmaryrd)
18853 % U+2229 INTERSECTION; intersection; \cap (LaTeX)
18854 \DeclareTextCommand{\textcap}{PU}{\9042\051}%* U+2229
18855 % U+222A UNION; union; \cup (LaTeX)
18856 \DeclareTextCommand{\textcup}{PU}{\9042\052}%* U+222A
18857 % U+222B INTEGRAL; integral; \int (LaTeX)
18858 \DeclareTextCommand{\textint}{PU}{\9042\053}%* U+222B
18859 %* \textint -> \varint (wasysym)
18860 % U+222C DOUBLE INTEGRAL; dblintegral; \iint (AmS)
18861 \DeclareTextCommand{\textiint}{PU}{\9042\054}%* U+222C
18862 % U+222D TRIPLE INTEGRAL; \iiint (AmS)
18863 \DeclareTextCommand{\textiiint}{PU}{\9042\055}%* U+222D
18864 % U+222E CONTOUR INTEGRAL; contourintegral; \oint (LaTeX)
18865 \DeclareTextCommand{\textoint}{PU}{\9042\056}%* U+222E
18866 %* \textoint -> \varoint (wasysym)
18867 % U+222F SURFACE INTEGRAL; \oiint (wasysym)
18868 \DeclareTextCommand{\textoiint}{PU}{\9042\057}%* U+222F
18869 % U+2232 CLOCKWISE CONTOUR INTEGRAL;
18870 % \ointclockwise (txfonts/pxfonts)
18871 \DeclareTextCommand{\textointclockwise}{PU}{\9042\062}%* U+2232
18872 % U+2233 ANTICLOCKWISE CONTOUR INTEGRAL; \ointctrclockwise (tx-
fontsf/pxfontsf)
18873 \DeclareTextCommand{\textointctrclockwise}{PU}{\9042\063}%* U+2233
18874 % U+2234 THEREFORE; therefore; \therefore (AmS)
18875 \DeclareTextCommand{\texttherefore}{PU}{\9042\064}%* U+2234
18876 %* \texttherefore -> uptherefore (MnSymbol)
18877 % U+2235 BECAUSE; because; \because (AmS)

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18878 \DeclareTextCommand{\textbecause}{PU}{\9042\065}%\* U+2235  
18879 %\* \textbecause -> \downtherefore (MnSymbol)  
18880 % U+2236 RATIO; \vdotdot (MnSymbol)  
18881 \DeclareTextCommand{\textvdotdot}{PU}{\9042\066}%\* U+2236  
18882 % U+2237 PROPORTION; \squaredots (MnSymbol)  
18883 \DeclareTextCommand{\textsquaredots}{PU}{\9042\067}%\* U+2237  
18884 % U+2238 DOT MINUS; \dotminus (MnSymbol)  
18885 \DeclareTextCommand{\textdotminus}{PU}{\9042\070}%\* U+2238  
18886 %\* \textdotminus -> \textdotdiv (mathabx)  
18887 % U+2239 EXCESS; \eqcolon (txfonts/pxfonts)  
18888 \DeclareTextCommand{\texteqcolon}{PU}{\9042\071}%\* U+2239  
18889 % U+223C TILDE OPERATOR; similar; \sim (LaTeX)  
18890 \DeclareTextCommand{\textsim}{PU}{\9042\074}%\* U+223C  
18891 %\* \textsim -> \AC (wasysym)  
18892 % U+223D REVERSED TILDE; reversetilde; \backsim (AmS)  
18893 \DeclareTextCommand{\textbacksim}{PU}{\9042\075}%\* U+223D  
18894 % \nbacksim (txfonts/pxfonts)  
18895 \DeclareTextCommand{\textnbacksim}{PU}{\9042\075\83\070}%\* U+223D U+0338  
18896 % U+2240 WREATH PRODUCT; \wr (LaTeX)  
18897 \DeclareTextCommand{\textwr}{PU}{\9042\100}%\* U+2240  
18898 %\* \textwr -> \wreath (MnSymbol)  
18899 % U+2241 NOT TILDE; \nsim (AmS)  
18900 \DeclareTextCommand{\textnsim}{PU}{\9042\101}%\* U+2241  
18901 % U+2242 MINUS TILDE; \eqsim (MnSymbol)  
18902 \DeclareTextCommand{\texteqsim}{PU}{\9042\102}%\* U+2242  
18903 % \neqsim (MnSymbol)  
18904 \DeclareTextCommand{\textneqsim}{PU}{\9042\102\83\070}%\* U+2242 U+0338  
18905 % U+2243 ASYMPTOTICALLY EQUAL TO; asymptoticallyequal; \simeq (LaTeX)  
18906 \DeclareTextCommand{\textsimeq}{PU}{\9042\103}%\* U+2243  
18907 % U+2244 NOT ASYMPTOTICALLY EQUAL TO; \nsimeq (txfonts/pxfonts)  
18908 \DeclareTextCommand{\textnsimeq}{PU}{\9042\104}%\* U+2244  
18909 % U+2245 APPROXIMATELY EQUAL TO; approximatelyequal; \cong (LaTeX)  
18910 \DeclareTextCommand{\textcong}{PU}{\9042\105}%\* U+2245  
18911 % U+2247 NEITHER APPROXIMATELY NOR ACTUALLY EQUAL TO;  
18912 % \ncong (AmS)  
18913 \DeclareTextCommand{\textncong}{PU}{\9042\107}%\* U+2247  
18914 % U+2248 ALMOST EQUAL TO; approxequal; \approx (LaTeX)  
18915 \DeclareTextCommand{\textapprox}{PU}{\9042\110}%\* U+2248  
18916 % U+2249 NOT ALMOST EQUAL TO; \napprox (txfonts/pxfonts0  
18917 \DeclareTextCommand{\textnapprox}{PU}{\9042\111}%\* U+2249  
18918 %\* \textnapprox -> \nthickapprox (txfonts/pxfonts)  
18919 % U+224A ALMOST EQUAL OR EQUAL TO; \approxeq (AmS)  
18920 \DeclareTextCommand{\textapproxeq}{PU}{\9042\112}%\* U+224A  
18921 % \napproxeq (txfonts/pxfonts)  
18922 \DeclareTextCommand{\textnapproxeq}{PU}{\9042\112\83\070}%\* U+224A U+0338  
18923 % U+224B TRIPLE TILDE; \triplesim (MnSymbol)  
18924 \DeclareTextCommand{\texttriplesim}{PU}{\9042\113}%\* U+224B  
18925 %\* \texttriplesim -> \VHF (wasysym)  
18926 % \ntriplesim (MnSymbol)

18927 \DeclareTextCommand{\textntriplesim}{PU}{\9042\113\83\070}%\* U+224B U+0338  
18928 % U+224C ALL EQUAL TO; allequal; \backcong (MnSymbol)  
18929 \DeclareTextCommand{\textbackcong}{PU}{\9042\114}%\* U+224C  
18930 % \nbackcong (MnSymbol)  
18931 \DeclareTextCommand{\textnbackcong}{PU}{\9042\114\83\070}%\* U+224C U+0338  
18932 % U+224D EQUIVALENT TO; \asymp (LaTeX)  
18933 \DeclareTextCommand{\textasymp}{PU}{\9042\115}%\* U+224D  
18934 % \nasymp (txfonts/pxfonts)  
18935 \DeclareTextCommand{\textnasymp}{PU}{\9042\115\83\070}%\* U+224D U+0338  
18936 %\* \textnasymp -> \notasymp (mathabx)  
18937 % U+224E GEOMETRICALLY EQUIVALENT TO; \Bumpeq (AmS)  
18938 \DeclareTextCommand{\textBumpeq}{PU}{\9042\116}%\* U+224E  
18939 % \nBumpeq (txfonts/pxfonts)  
18940 \DeclareTextCommand{\textnBumpeq}{PU}{\9042\116\83\070}%\* U+224E U+0338  
18941 % U+224F DIFFERENCE BETWEEN; \bumpeq (AmS)  
18942 \DeclareTextCommand{\textbumpeq}{PU}{\9042\117}%\* U+224F  
18943 % \nbumpeq (txfonts/pxfonts)  
18944 \DeclareTextCommand{\textnbumpeq}{PU}{\9042\117\83\070}%\* U+224F U+0338  
18945 % U+2250 APPROACHES THE LIMIT; approaches; \doteq (LaTeX)  
18946 \DeclareTextCommand{\textdoteq}{PU}{\9042\120}%\* U+2250  
18947 % \ndoteq (MnSymbol)  
18948 \DeclareTextCommand{\textndoteq}{PU}{\9042\120\83\070}%\* U+2250 U+0338  
18949 % U+2251 GEOMETRICALLY EQUAL TO; geometricallyequal;  
18950 % \doteqdot (AmS)  
18951 \DeclareTextCommand{\textdoteqdot}{PU}{\9042\121}%\* U+2251  
18952 %\* \textdoteqdot -> \Doteq (MnSymbol)  
18953 % \nDoteq (MnSymbol)  
18954 \DeclareTextCommand{\textnDoteq}{PU}{\9042\121\83\070}%\* U+2251 U+0338  
18955 % U+2252 APPROXIMATELY EQUAL TO OR THE IMAGE OF; approx-  
equalorimage;  
18956 % \fallingdotseq (AmS)  
18957 \DeclareTextCommand{\textfallingdotseq}{PU}{\9042\122}%\* U+2252  
18958 % \nfallingdotseq (MnSymbol)  
18959 \DeclareTextCommand{\textnfallingdotseq}{PU}{\9042\122\83\070}%\* U+2252 U+0338  
18960 % U+2253 IMAGE OF OR APPROXIMATELY EQUAL TO; imageorapprox-  
imatelyequal;  
18961 % \risingdotseq (AmS)  
18962 \DeclareTextCommand{\textrisingdotseq}{PU}{\9042\123}%\* U+2253  
18963 % \nrisingdotseq (MnSymbol)  
18964 \DeclareTextCommand{\textnrisingdotseq}{PU}{\9042\123\83\070}%\* U+2253 U+0338  
18965 % U+2254 COLON EQUALS; \colonequals (colonequals)  
18966 \DeclareTextCommand{\textcolonequals}{PU}{\9042\124}%\* U+2254  
18967 % U+2255 EQUALS COLON; \equalscolon (colonequals)  
18968 \DeclareTextCommand{\textequalscolon}{PU}{\9042\125}%\* U+2255  
18969 % U+2256 RING IN EQUAL TO; \eqcirc (AmS)  
18970 \DeclareTextCommand{\texteqcirc}{PU}{\9042\126}%\* U+2256  
18971 % \neqcirc (MnSymbol)  
18972 \DeclareTextCommand{\textneqcirc}{PU}{\9042\126\83\070}%\* U+2256 U+0338  
18973 % U+2257 RING EQUAL TO; \circeq (AmS)  
18974 \DeclareTextCommand{\textcirceq}{PU}{\9042\127}%\* U+2257

18975 % \ncirceq (MnSymbol)  
18976 \DeclareTextCommand{\textncirceq}{PU}{\9042\127\83\070}%\* U+2257 U+0338  
18977 % U+2259 ESTIMATES; \hateq (MnSymbol)  
18978 \DeclareTextCommand{\texthateq}{PU}{\9042\131}%\* U+2259  
18979 %\* \texthateq -> \corresponds (mathabx)  
18980 %\* \texthateq -> \Corresponds (marvosym)  
18981 % \nhateq (MnSymbol)  
18982 \DeclareTextCommand{\textnhateq}{PU}{\9042\131\83\070}%\* U+2259 U+0338  
18983 % U+225C DELTA EQUAL TO; \triangleq (AmS)  
18984 \DeclareTextCommand{\texttriangleq}{PU}{\9042\134}%\* U+225C  
18985 % U+2260 NOT EQUAL TO; notequal; \ne (LaTeX), \neq (LaTeX)  
18986 \DeclareTextCommand{\textneq}{PU}{\9042\140}%\* U+2260  
18987 \DeclareTextCommand{\textne}{PU}{\9042\140}%\* U+2260  
18988 %\* \textneq -> \nequal (MnSymbol)  
18989 % U+2261 IDENTICAL TO; equivalence; \equiv (LaTeX)  
18990 \DeclareTextCommand{\textequiv}{PU}{\9042\141}%\* U+2261  
18991 %\* \textequiv -> \Congruent (marvosym)  
18992 % U+2262 NOT IDENTICAL TO; notidentical; \notequiv (txfonts/pxfonts)  
18993 \DeclareTextCommand{\textnequiv}{PU}{\9042\142}%\* U+2262  
18994 %\* \textnequiv -> \NotCongruent (marvosym)  
18995 %\* \textnequiv -> \notequiv (mathabx)  
18996 % U+2264 LESS-THAN OR EQUAL TO; lessequal; \le (LaTeX), \leq (LaTeX)  
18997 \DeclareTextCommand{\textleq}{PU}{\9042\144}%\* U+2264  
18998 \DeclareTextCommand{\textle}{PU}{\9042\144}%\* U+2264  
18999 %\* \textleq -> \LessOrEqual (marvosym)  
19000 % U+2265 GREATER-THAN OR EQUAL TO; greaterqual;  
19001 % \ge (LaTeX), \geq (LaTeX)  
19002 \DeclareTextCommand{\textgeq}{PU}{\9042\145}%\* U+2265  
19003 \DeclareTextCommand{\textge}{PU}{\9042\145}%\* U+2265  
19004 %\* \textgeq -> \LargerOrEqual (marvosym)  
19005 % U+2266 LESS-THAN OVER EQUAL TO; lessoverequal; \leqq (AmS)  
19006 \DeclareTextCommand{\textleqq}{PU}{\9042\146}%\* U+2266  
19007 % \nleqq (txfonts/pxfonts)  
19008 \DeclareTextCommand{\textnleqq}{PU}{\9042\146\83\070}%\* U+2266 U+0338  
19009 % U+2267 GREATER-THAN OVER EQUAL TO; greateroverequal; \geqq (AmS)  
19010 \DeclareTextCommand{\textgeqq}{PU}{\9042\147}%\* U+2267  
19011 % \ngeqq (txfonts/pxfonts)  
19012 \DeclareTextCommand{\textngeqq}{PU}{\9042\147\83\070}%\* U+2267 U+0338  
19013 % U+2268 LESS-THAN BUT NOT EQUAL TO; \lneqq (AmS)  
19014 \DeclareTextCommand{\textlneqq}{PU}{\9042\150}%\* U+2268  
19015 % U+2269 GREATER-THAN BUT NOT EQUAL TO; \gneqq (AmS)  
19016 \DeclareTextCommand{\textgneqq}{PU}{\9042\151}%\* U+2269  
19017 % U+226A MUCH LESS-THAN; muchless; \ll (LaTeX)  
19018 \DeclareTextCommand{\textll}{PU}{\9042\152}%\* U+226A  
19019 % \nll (txfonts/pxfonts)  
19020 \DeclareTextCommand{\textnll}{PU}{\9042\152\83\070}%\* U+226A U+0338  
19021 % U+226B MUCH GREATER-THAN; muchgreater; \gg (LaTeX)  
19022 \DeclareTextCommand{\textgg}{PU}{\9042\153}%\* U+226B  
19023 % \ngg (txfonts/pxfonts)  
19024 \DeclareTextCommand{\textngg}{PU}{\9042\153\83\070}%\* U+226B U+0338

19025 % U+226C BETWEEN; \between (AmS)  
19026 \DeclareTextCommand{\textbetween}{PU}{\9042\154}%\* U+226C  
19027 % U+226E NOT LESS-THAN; notless; \nless (AmS)  
19028 \DeclareTextCommand{\textnless}{PU}{\9042\156}%\* U+226E  
19029 % U+226F NOT GREATER-THAN; notgreater; \ngtr (AmS)  
19030 \DeclareTextCommand{\textngtr}{PU}{\9042\157}%\* U+226F  
19031 % U+2270 NEITHER LESS-THAN NOR EQUAL TO; notlessnorequal;  
19032 % \nleq (AmS)  
19033 \DeclareTextCommand{\textnleq}{PU}{\9042\160}%\* U+2270  
19034 % U+2271 NEITHER GREATER-THAN NOR EQUAL TO; notgreaternorequal;  
19035 % \ngeq (AmS)  
19036 \DeclareTextCommand{\textngeq}{PU}{\9042\161}%\* U+2271  
19036 % U+2272 LESS-THAN OR EQUIVALENT TO; lessorequivalent; \lessim (AmS)  
19037 \DeclareTextCommand{\textlessim}{PU}{\9042\162}%\* U+2272  
19038 %\* \textlessim -> \apprle (wasysym)  
19039 % U+2273 GREATER-THAN OR EQUIVALENT TO; greaterorequivalent; \gtrsim  
19040 % (AmS)  
19040 \DeclareTextCommand{\textgtrsim}{PU}{\9042\163}%\* U+2273  
19041 %\* \textgtrsim -> \apprge (wasysym)  
19042 % U+2274 NEITHER LESS-THAN NOR EQUIVALENT TO; \nlessim (tx-  
19043 % fonts/pxfonts)  
19043 \DeclareTextCommand{\textnlessim}{PU}{\9042\164}%\* U+2274  
19044 % U+2275 NEITHER GREATER-THAN NOR EQUIVALENT TO; \ngtrsim (tx-  
19045 % fonts/pxfonts)  
19045 \DeclareTextCommand{\textngtrsim}{PU}{\9042\165}%\* U+2275  
19046 % U+2276 LESS-THAN OR GREATER-THAN; lessorgreater; \lessgtr (AmS)  
19047 \DeclareTextCommand{\textlessgtr}{PU}{\9042\166}%\* U+2276  
19048 % U+2277 GREATER-THAN OR LESS-THAN; greaterorless; \gtrless (AmS)  
19049 \DeclareTextCommand{\textgtrless}{PU}{\9042\167}%\* U+2277  
19050 % U+2278 NEITHER LESS-THAN NOR GREATER-THAN; \ngtrless (tx-  
19051 % fonts/pxfonts)  
19051 \DeclareTextCommand{\textngtrless}{PU}{\9042\170}%\* U+2278  
19052 % U+2279 NEITHER GREATER-THAN NOR LESS-THAN; \nlessgtr (tx-  
19053 % fonts/pxfonts)  
19053 \DeclareTextCommand{\textnlessgtr}{PU}{\9042\171}%\* U+2279  
19054 % U+227A PRECEDES; precedes; \prec (LaTeX)  
19055 \DeclareTextCommand{\textprec}{PU}{\9042\172}%\* U+227A  
19056 % U+227B SUCCEEDS; succeeds; \succ (LaTeX)  
19057 \DeclareTextCommand{\textsucc}{PU}{\9042\173}%\* U+227B  
19058 % U+227C PRECEDES OR EQUAL TO; \preccurlyeq (AmS)  
19059 \DeclareTextCommand{\textpreccurlyeq}{PU}{\9042\174}%\* U+227C  
19060 % U+227D SUCCEEDS OR EQUAL TO; \succcurlyeq (AmS)  
19061 \DeclareTextCommand{\textsucccurlyeq}{PU}{\9042\175}%\* U+227D  
19062 % U+227E PRECEDES OR EQUIVALENT TO; \precsim (AmS)  
19063 \DeclareTextCommand{\textprecsim}{PU}{\9042\176}%\* U+227E  
19064 % \nprecsim (txfonts/pxfonts)  
19065 \DeclareTextCommand{\textnprecsim}{PU}{\9042\176\83\070}%\* U+227E U+0338  
19066 % U+227F SUCCEEDS OR EQUIVALENT TO; \succsim (AmS)  
19067 \DeclareTextCommand{\textsuccsim}{PU}{\9042\177}%\* U+227F  
19068 % \nsuccsim (txfonts/pxfonts)

19069 \DeclareTextCommand{\textnssuccsim}{PU}{\9042\177\83\070}%\* U+227F U+0338  
19070 % U+2280 DOES NOT PRECEDE; notprecedes; \nprec (AmS)  
19071 \DeclareTextCommand{\textnprec}{PU}{\9042\200}%\* U+2280  
19072 % U+2281 DOES NOT SUCCEED; notsucceds; \nsucc (AmS)  
19073 \DeclareTextCommand{\textnsucc}{PU}{\9042\201}%\* U+2281  
19074 % U+2282 SUBSET OF; propersubset; \subset (LaTeX)  
19075 \DeclareTextCommand{\textsubset}{PU}{\9042\202}%\* U+2282  
19076 % U+2283 SUPERSET OF; propersuperset; \supset (LaTeX)  
19077 \DeclareTextCommand{\textsupset}{PU}{\9042\203}%\* U+2283  
19078 % U+2284 NOT A SUBSET OF; notsubset; \nsubset (mathabx)  
19079 \DeclareTextCommand{\textnsubset}{PU}{\9042\204}%\* U+2284  
19080 % U+2285 NOT A SUPERSET OF; notsuperset; \nsupset (mathabx)  
19081 \DeclareTextCommand{\textnsupset}{PU}{\9042\205}%\* U+2285  
19082 % U+2286 SUBSET OF OR EQUAL TO; reflexsubset; \subseteq (LaTeX)  
19083 \DeclareTextCommand{\textsubseteq}{PU}{\9042\206}%\* U+2286  
19084 % U+2287 SUPERSET OF OR EQUAL TO; reflexsuperset; \supseteq (LaTeX)  
19085 \DeclareTextCommand{\textsupseteq}{PU}{\9042\207}%\* U+2287  
19086 % U+2288 NEITHER A SUBSET OF NOR EQUAL TO; \nsubseteq (AmS)  
19087 \DeclareTextCommand{\textnsubseteq}{PU}{\9042\210}%\* U+2288  
19088 % U+2289 NEITHER A SUPERSET OF NOR EQUAL TO; \nsupseteq (AmS)  
19089 \DeclareTextCommand{\textnsupseteq}{PU}{\9042\211}%\* U+2289  
19090 % U+228A SUBSET OF WITH NOT EQUAL TO; subsetnotequal; \subsetneq (AmS)  
19091 \DeclareTextCommand{\textsubsetneq}{PU}{\9042\212}%\* U+228A  
19092 % U+228B SUPERSET OF WITH NOT EQUAL TO; supersetnotequal; \supsetneq (AmS)  
19093 \DeclareTextCommand{\textsupsetneq}{PU}{\9042\213}%\* U+228B  
19094 % U+228D MULTISSET MULTIPLICATION; \cupdot (MnSymbol)  
19095 \DeclareTextCommand{\textcupdot}{PU}{\9042\215}%\* U+228D  
19096 % U+228E MULTISSET UNION; \cupplus (MnSymbol)  
19097 \DeclareTextCommand{\textcupplus}{PU}{\9042\216}%\* U+228E  
19098 % U+228F SQUARE IMAGE OF; \sqsubset (latexsym, ...)  
19099 \DeclareTextCommand{\textsqsubset}{PU}{\9042\217}%\* U+228F  
19100 % \nsqsubset (txfonts/pxfonts)  
19101 \DeclareTextCommand{\textnqssubset}{PU}{\9042\217\83\070}%\* U+228F U+0338  
19102 % U+2290 SQUARE ORIGINAL OF; \sqsupset (latexsym, ...)  
19103 \DeclareTextCommand{\textsqsupset}{PU}{\9042\220}%\* U+2290  
19104 % \nsqsupset (txfonts/pxfonts)  
19105 \DeclareTextCommand{\textnqsqsupset}{PU}{\9042\220\83\070}%\* U+2290 U+0338  
19106 % U+2291 SQUARE IMAGE OF OR EQUAL TO; \sqsubseteq (LaTeX)  
19107 \DeclareTextCommand{\textsqsubseteq}{PU}{\9042\221}%\* U+2291  
19108 % \nsqsubseteq (txfonts/pxfonts)  
19109 \DeclareTextCommand{\textnqsqsubseteq}{PU}{\9042\221\83\070}%\* U+2291 U+0338  
19110 % U+2292 SQUARE ORIGINAL OF OR EQUAL TO; \sqsupseteq (LaTeX)  
19111 \DeclareTextCommand{\textsqsupseteq}{PU}{\9042\222}%\* U+2292  
19112 % \nsqsupseteq (txfonts/pxfonts)  
19113 \DeclareTextCommand{\textnqsqsupseteq}{PU}{\9042\222\83\070}%\* U+2292 U+0338  
19114 % U+2293 SQUARE CAP; \sqcap (LaTeX)  
19115 \DeclareTextCommand{\textsqcap}{PU}{\9042\223}%\* U+2293  
19116 % U+2294 SQUARE CUP; \sqcup (LaTeX)

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19117 \DeclareTextCommand{\textscup}{PU}{\9042\224}%* U+2294
19118 % U+2295 CIRCLED PLUS; circleplus; \oplus (LaTeX)
19119 \DeclareTextCommand{\textoplus}{PU}{\9042\225}%* U+2295
19120 %* \textoplus -> \varoplus (stmaryrd)
19121 % U+2296 CIRCLED MINUS; minuscircle; \ominus (LaTeX)
19122 \DeclareTextCommand{\textominus}{PU}{\9042\226}%* U+2296
19123 %* \textominus -> \varominus (stmaryrd)
19124 % U+2297 CIRCLED TIMES; circlemultiply; \otimes (LaTeX)
19125 \DeclareTextCommand{\textotimes}{PU}{\9042\227}%* U+2297
19126 %* \textotimes -> \varotimes (stmaryrd)
19127 % U+2298 CIRCLED DIVISION SLASH; \oslash (LaTeX)
19128 \DeclareTextCommand{\textoslash}{PU}{\9042\230}%* U+2298
19129 %* \textoslash -> \varoslash (stmaryrd)
19130 % U+2299 CIRCLED DOT OPERATOR; circle(d?)ot; \odot (LaTeX)
19131 \DeclareTextCommand{\textodot}{PU}{\9042\231}%* U+2299
19132 %* \textodot -> \varodot (stmaryrd)
19133 % U+229A CIRCLED RING OPERATOR; \circledcirc (AmS)
19134 \DeclareTextCommand{\textcircledcirc}{PU}{\9042\232}%* U+229A
19135 %* \textcircledcirc -> \ocirc (mathabx)
19136 %* \textcircledcirc -> \varocircle (stmaryrd)
19137 % U+229B CIRCLED ASTERISK OPERATOR; \circledast (AmS)
19138 \DeclareTextCommand{\textcircledast}{PU}{\9042\233}%* U+229B
19139 %* \textcircledast -> \varoast (stmaryrd)
19140 %* \textcircledast -> \oasterisk (mathabx)
19141 % U+229D CIRCLED DASH; \circleddash (AmS)
19142 \DeclareTextCommand{\textcircleddash}{PU}{\9042\235}%* U+229D
19143 % U+229E SQUARED PLUS; \boxplus (AmS)
19144 \DeclareTextCommand{\textboxplus}{PU}{\9042\236}%* U+229E
19145 % U+229F SQUARED MINUS; \boxminus (AmS)
19146 \DeclareTextCommand{\textboxminus}{PU}{\9042\237}%* U+229F
19147 % U+22A0 SQUARED TIMES; \boxtimes (AmS)
19148 \DeclareTextCommand{\textboxtimes}{PU}{\9042\240}%* U+22A0
19149 % U+22A1 SQUARED DOT OPERATOR; \boxdot (AmS)
19150 \DeclareTextCommand{\textboxdot}{PU}{\9042\241}%* U+22A1
19151 % U+22A2 RIGHT TACK; \vdash (LaTeX)
19152 \DeclareTextCommand{\textvdash}{PU}{\9042\242}%* U+22A2
19153 %* \textvdash -> \rightvdash (MnSymbol)
19154 % U+22A3 LEFT TACK; \dashleftarrow; \dashv (LaTeX)
19155 \DeclareTextCommand{\textdashv}{PU}{\9042\243}%* U+22A3
19156 %* \textdashv -> \leftvdash (MnSymbol)
19157 % \ndashv (mathabx)
19158 \DeclareTextCommand{\textndashv}{PU}{\9042\243\83\070}%* U+22A3 U+0338
19159 %* \textndashv -> \leftvdash (MnSymbol)
19160 % U+22A4 DOWN TACK (=top); \dashrightarrow; \top (LaTeX)
19161 \DeclareTextCommand{\texttop}{PU}{\9042\244}%* U+22A4
19162 %* \texttop -> \downvdash (MnSymbol)
19163 % \ndownvdash (MnSymbol)
19164 \DeclareTextCommand{\textndownvdash}{PU}{\9042\244\83\070}%* U+22A4 U+0338
19165 % U+22A5 UP TACK (=base, bottom); \bot (LaTeX)
19166 \DeclareTextCommand{\textbot}{PU}{\9042\245}%* U+22A5

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19167 %* \textbot -> \upvdash (MnSymbol)
19168 % \nupvdash (MnSymbol)
19169 \DeclareTextCommand{\textnupvdash}{PU}{\9042\245\83\070}%* U+22A5 U+0338
19170 %* \textnupvdash -> \nperp (MnSymbol)
19171 % U+22A8 TRUE; \vDash (AmS)
19172 \DeclareTextCommand{\textvDash}{PU}{\9042\250}%* U+22A8
19173 %* \textvDash -> \models (LaTeX)
19174 %* \textvDash -> \rightmodels (MnSymbol)
19175 % U+22A9 FORCES; \Vdash (AmS)
19176 \DeclareTextCommand{\textVdash}{PU}{\9042\251}%* U+22A9
19177 %* \textVdash -> \rightVdash (MnSymbol)
19178 % U+22AA TRIPLE VERTICAL BAR RIGHT TURNSTILE; \Vvdash (AmS)
19179 \DeclareTextCommand{\textVvdash}{PU}{\9042\252}%* U+22AA
19180 % \nVvash (mathabx)
19181 \DeclareTextCommand{\textnVvash}{PU}{\9042\252\83\070}%* U+22AA U+0338
19182 % U+22AB DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE;
19183 % \VDash (mathabx)
19184 \DeclareTextCommand{\textVDash}{PU}{\9042\253}%* U+22AB
19185 %* \textVDash -> \rightModels (MnSymbol)
19186 % U+22AC DOES NOT PROVE; \nvdash (AmS)
19187 \DeclareTextCommand{\textnvdash}{PU}{\9042\254}%* U+22AC
19188 %* \textnvdash -> \nrighvdash (MnSymbol)
19189 % U+22AD NOT TRUE; \nvDash (AmS)
19190 \DeclareTextCommand{\textnvDash}{PU}{\9042\255}%* U+22AD
19191 %* \textnvDash -> \nrighmodels (MnSymbol)
19192 %* \textnvDash -> \nmodels (MnSymbol)
19193 % U+22AE DOES NOT FORCE; \nVdash (txfonts/pxfonts)
19194 \DeclareTextCommand{\textnVdash}{PU}{\9042\256}%* U+22AE
19195 %* \textnVdash -> \nrighVdash (MnSymbol)
19196 % U+22AF NEGATED DOUBLE VERTICAL BAR DOUBLE RIGHT TURN-
STILE; \nVDash (AmS)
19197 \DeclareTextCommand{\textnVDash}{PU}{\9042\257}%* U+22AF
19198 %* \textnVDash -> \nrighModels (MnSymbol)
19199 % U+22B2 NORMAL SUBGROUP OF; \lhd (latexsym, ...)
19200 \DeclareTextCommand{\textlhd}{PU}{\9042\262}%* U+22B2
19201 %* \textlhd -> \lessclosed (MnSymbol)
19202 % U+22B3 CONTAINS AS NORMAL SUBGROUP; \rhd (latexsym, ...)
19203 \DeclareTextCommand{\textrhd}{PU}{\9042\263}%* U+22B3
19204 %* \textrhd -> \gtrclosed (MnSymbol)
19205 % U+22B4 NORMAL SUBGROUP OF OR EQUAL TO; \unlhd (latexsym, ...)
19206 \DeclareTextCommand{\textunlhd}{PU}{\9042\264}%* U+22B4
19207 %* \textunlhd -> \leqclosed (MnSymbol)
19208 %* \textunlhd -> \trianglelefteq (MnSymbol)
19209 % U+22B5 CONTAINS AS NORMAL SUBGROUP OR EQUAL TO; \unrhd (la-
texsym, ...)
19210 \DeclareTextCommand{\textunrhd}{PU}{\9042\265}%* U+22B5
19211 %* \textunrhd -> \geqclosed (MnSymbol)
19212 %* \textunrhd -> \trianglerighteq (MnSymbol)
19213 % U+22B6 ORIGINAL OF; \multimapdotbothA (txfonts/pxfonts)
19214 \DeclareTextCommand{\textmultimapdotbothA}{PU}{\9042\266}%* U+22B6

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19215 % U+22B7 IMAGE OF; \multimapdotbothB (txfonts/pxfonts)
19216 \DeclareTextCommand{\textmultimapdotbothB}{PU}{\9042\267}%* U+22B7
19217 % U+22B8 MULTIMAP; \multimap (AmS, txfonts/pxfonts)
19218 \DeclareTextCommand{\textmultimap}{PU}{\9042\270}%* U+22B8
19219 % U+22BB XOR; \veebar (AmS)
19220 \DeclareTextCommand{\textveebar}{PU}{\9042\273}%* U+22BB
19221 % U+22BC NAND; \barwedge (mathabx)
19222 \DeclareTextCommand{\textbarwedge}{PU}{\9042\274}%* U+22BC
19223 % U+22C6 STAR OPERATOR; \star (LaTeX)
19224 \DeclareTextCommand{\textstar}{PU}{\9042\306}%* U+22C6
19225 % U+22C7 DIVISION TIMES; \divideontimes (AmS)
19226 \DeclareTextCommand{\textdivideontimes}{PU}{\9042\307}%* U+22C7
19227 % U+22C8 BOWTIE; \bowtie (LaTeX)
19228 \DeclareTextCommand{\textbowtie}{PU}{\9042\310}%* U+22C8
19229 %* \textbowtie -> \Bowtie (wasysym)
19230 % U+22C9 LEFT NORMAL FACTOR SEMIDIRECT PRODUCT; \ltimes (AmS)
19231 \DeclareTextCommand{\textltimes}{PU}{\9042\311}%* U+22C9
19232 % U+22CA RIGHT NORMAL FACTOR SEMIDIRECT PRODUCT;
19233 % \rtimes (AmS)
19234 \DeclareTextCommand{\textrtimes}{PU}{\9042\312}%* U+22CA
19235 % U+22CB LEFT SEMIDIRECT PRODUCT; \leftthreetimes (AmS)
19236 \DeclareTextCommand{\textleftthreetimes}{PU}{\9042\313}%* U+22CB
19237 % U+22CC RIGHT SEMIDIRECT PRODUCT; \rightthreetimes (AmS)
19238 \DeclareTextCommand{\textrightthreetimes}{PU}{\9042\314}%* U+22CC
19239 % U+22CD REVERSED TILDE EQUALS; \backsimeq (AmS)
19240 \DeclareTextCommand{\textbacksimeq}{PU}{\9042\315}%* U+22CD
19241 % \nbacksimeq (txfonts/pxfonts)
19242 \DeclareTextCommand{\textnbacksimeq}{PU}{\9042\315\83\070}%* U+22CD U+0338
19243 % U+22CE CURLY LOGICAL OR; curlyor; \curlyvee (AmS)
19244 \DeclareTextCommand{\textcurlyvee}{PU}{\9042\316}%* U+22CE
19245 %* \textcurlyvee -> \varcurlyvee (stmaryrd)
19246 % U+22CF CURLY LOGICAL AND; curlyand; \curlywedge (AmS)
19247 \DeclareTextCommand{\textcurlywedge}{PU}{\9042\317}%* U+22CF
19248 %* \textcurlywedge -> \varcurlywedge (stmaryrd)
19249 % U+22D0 DOUBLE SUBSET; \Subset (AmS)
19250 \DeclareTextCommand{\textSubset}{PU}{\9042\320}%* U+22D0
19251 % \nSubset (txfonts/pxfonts)
19252 \DeclareTextCommand{\textnSubset}{PU}{\9042\320\83\070}%* U+22D0 U+0338
19253 % U+22D1 DOUBLE SUPERSET; \Supset (AmS)
19254 \DeclareTextCommand{\textSupset}{PU}{\9042\321}%* U+22D1
19255 % \nSupset (txfonts/pxfonts)
19256 \DeclareTextCommand{\textnSupset}{PU}{\9042\321\83\070}%* U+22D1 U+0338
19257 % U+22D2 DOUBLE INTERSECTION; \Cap (AmS)
19258 \DeclareTextCommand{\textCap}{PU}{\9042\322}%* U+22D2
19259 %* \textCap -> \doublecap (mathabx)
19260 % U+22D3 DOUBLE UNION; \Cup (AmS)
19261 \DeclareTextCommand{\textCup}{PU}{\9042\323}%* U+22D3
19262 %* \textCup -> \doublecup (mathabx)
19263 % U+22D4 PITCHFORK; \pitchfork (mathabx)
19264 \DeclareTextCommand{\textpitchfork}{PU}{\9042\324}%* U+22D4

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19265 % U+22D6 LESS-THAN WITH DOT; \lessdot (AmS)  
19266 \DeclareTextCommand{\textlessdot}{PU}{\9042\326}%\* U+22D6  
19267 % U+22D7 GREATER-THAN WITH DOT; \gtrdot (AmS)  
19268 \DeclareTextCommand{\textgtrdot}{PU}{\9042\327}%\* U+22D7  
19269 % U+22D8 VERY MUCH LESS-THAN; \lll (AmS)  
19270 \DeclareTextCommand{\textlll}{PU}{\9042\330}%\* U+22D8  
19271 % U+22D9 VERY MUCH GREATER-THAN; \ggg (AmS)  
19272 \DeclareTextCommand{\textggg}{PU}{\9042\331}%\* U+22D9  
19273 % U+22DA LESS-THAN EQUAL TO OR GREATER-THAN; lessequalorgreater;  
19274 % \lesseqgtr (AmS)  
19275 \DeclareTextCommand{\textlesseqgtr}{PU}{\9042\332}%\* U+22DA  
19276 % U+22DB GREATER-THAN EQUAL TO OR LESS-THAN; greaterequalorless;  
19277 % \gtreqless (AmS)  
19278 \DeclareTextCommand{\textgtreqless}{PU}{\9042\333}%\* U+22DB  
19279 % U+22DE EQUAL TO OR PRECEDES; \curlyeqprec (MnSymbol)  
19280 \DeclareTextCommand{\textcurlyeqprec}{PU}{\9042\336}%\* U+22DE  
19281 % \ncurlyeqprec (mathabx)  
19282 \DeclareTextCommand{\textncurlyeqprec}{PU}{\9042\336\83\070}%\* U+22DE U+0338  
19283 % U+22DF EQUAL TO OR SUCCEEDS; \curlyeqsucc (MnSymbol)  
19284 \DeclareTextCommand{\textcurlyeqsucc}{PU}{\9042\337}%\* U+22DF  
19285 % \ncurlyeqsucc (mathabx)  
19286 \DeclareTextCommand{\textncurlyeqsucc}{PU}{\9042\337\83\070}%\* U+22DF U+0338  
19287 % U+22E0 DOES NOT PRECEDE OR EQUAL; \npreccurlyeq (txfonts/pxfonts)  
19288 \DeclareTextCommand{\textnpreccurlyeq}{PU}{\9042\340}%\* U+22E0  
19289 % U+22E1 DOES NOT SUCCEED OR EQUAL; \nsucccurlyeq (txfonts/pxfonts)  
19290 \DeclareTextCommand{\textnsucccurlyeq}{PU}{\9042\341}%\* U+22E1  
19291 % U+22E2 NOT SQUARE IMAGE OF OR EQUAL TO; \nsqsubseteq (tx-  
font/pxfont)  
19292 \DeclareTextCommand{\textnsqsubseteq}{PU}{\9042\342}%\* U+22E2  
19293 % U+22E3 NOT SQUARE ORIGINAL OF OR EQUAL TO; \nsqsupseteq (tx-  
font/pxfont)  
19294 \DeclareTextCommand{\textnsqsupseteq}{PU}{\9042\343}%\* U+22E3  
19295 % U+22E4 SQUARE IMAGE OF OR NOT EQUAL TO; \sqsubsetneq (mathabx)  
19296 \DeclareTextCommand{\textsqsubsetneq}{PU}{\9042\344}%\* U+22E4  
19297 %\* \textsqsubsetneq -> \varsqsubsetneq (mathabx)  
19298 % U+22E5 SQUARE ORIGINAL OF OR NOT EQUAL TO; \sqsupsetneq (math-  
abx)  
19299 \DeclareTextCommand{\textsqsupsetneq}{PU}{\9042\345}%\* U+22E5  
19300 %\* \textsqsupsetneq -> \varsqsupsetneq (mathabx)  
19301 % U+22E6 LESS-THAN BUT NOT EQUIVALENT TO; \lnsim (AmS)  
19302 \DeclareTextCommand{\textlnsim}{PU}{\9042\346}%\* U+22E6  
19303 % U+22E7 GREATER-THAN BUT NOT EQUIVALENT TO; \gnsim (AmS)  
19304 \DeclareTextCommand{\textgnsim}{PU}{\9042\347}%\* U+22E7  
19305 % U+22E8 PRECEDES BUT NOT EQUIVALENT TO; \precnsim (AmS)  
19306 \DeclareTextCommand{\textprecnsim}{PU}{\9042\350}%\* U+22E8  
19307 % U+22E9 SUCCEEDS BUT NOT EQUIVALENT TO; \succnsim (AmS)  
19308 \DeclareTextCommand{\textsuccnsim}{PU}{\9042\351}%\* U+22E9  
19309 % U+22EA NOT NORMAL SUBGROUP OF; \ntriangleleft (AmS)  
19310 \DeclareTextCommand{\textntriangleleft}{PU}{\9042\352}%\* U+22EA  
19311 %\* \textntriangleleft -> \nlessclosed (MnSymbol)

19312 % U+22EB DOES NOT CONTAIN AS NORMAL SUBGROUP; \ntriangleright (AmS)  
19313 \DeclareTextCommand{\textntriangleright}{PU}{\9042\353}%\* U+22EB  
19314 %\* \textntriangleright -> \ngtrclosed (MnSymbol)  
19315 % U+22EC NOT NORMAL SUBGROUP OF OR EQUAL TO;  
19316 % \ntriangleleft (AmS)  
19317 \DeclareTextCommand{\textntriangleleft}{PU}{\9042\354}%\* U+22EC  
19318 % U+22ED DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL;  
19319 % \ntrianglerighteq (AmS)  
19320 \DeclareTextCommand{\textntrianglerighteq}{PU}{\9042\355}%\* U+22ED  
19321 %\* \textntrianglerighteq -> \ngtrgeqclosed  
19322 % U+22EE VERTICAL ELLIPSIS; ellipsisvertical; \vdots (LaTeX)  
19323 \DeclareTextCommand{\textvdots}{PU}{\9042\356}%\* U+22EE  
19324 % U+22EF MIDLINE HORIZONTAL ELLIPSIS; \cdots (LaTeX)  
19325 \DeclareTextCommand{\textcdots}{PU}{\9042\357}%\* U+22EF  
19326 % U+22F0 UP RIGHT DIAGONAL ELLIPSIS; \udots (MnSymbol)  
19327 \DeclareTextCommand{\textudots}{PU}{\9042\360}%\* U+22F0  
19328 % U+22F1 DOWN RIGHT DIAGONAL ELLIPSIS; \ddots (LaTeX)  
19329 \DeclareTextCommand{\textddots}{PU}{\9042\361}%\* U+22F1  
19330 % U+22F6 ELEMENT OF WITH OVERBAR; \barin (mathabx)  
19331 \DeclareTextCommand{\textbarin}{PU}{\9042\366}%\* U+22F6

### 51.2.23 Miscellaneous Technical: U+2300 to U+23FF

19332 % U+2300 DIAMETER SIGN; \diameter (mathabx,wasysym)  
19333 \DeclareTextCommand{\textdiameter}{PU}{\9043\000}%\* U+2300  
19334 % U+2310 REVERSED NOT SIGN; \backneg (MnSymbol)  
19335 \DeclareTextCommand{\textbackneg}{PU}{\9043\020}%\* U+2310  
19336 % U+2311 SQUARE LOZENGE; \wasylozenge (wasysym)  
19337 \DeclareTextCommand{\textwasylozenge}{PU}{\9043\021}%\* U+2311  
19338 % U+2319 TURNED NOT SIGN; \invbackneg (MnSymbol)  
19339 \DeclareTextCommand{\textinvbackneg}{PU}{\9043\031}%\* U+2319  
19340 % U+231A WATCH; \clock (wasysym)  
19341 \DeclareTextCommand{\textclock}{PU}{\9043\032}%\* U+231A  
19342 %\* \textclock -> \Clocklogo (marvosym)  
19343 %\* \textclock -> \ClockLogo (marvosym)  
19344 % U+231C TOP LEFT CORNER; \ulcorner (AmS)  
19345 \DeclareTextCommand{\textulcorner}{PU}{\9043\034}%\* U+231C  
19346 % U+231D TOP RIGHT CORNER; \urcorner (AmS)  
19347 \DeclareTextCommand{\texturcorner}{PU}{\9043\035}%\* U+231D  
19348 % U+231E BOTTOM LEFT CORNER; \llcorner (AmS)  
19349 \DeclareTextCommand{\textllcorner}{PU}{\9043\036}%\* U+231E  
19350 % U+231F BOTTOM RIGHT CORNER; \lrcorner (AmS)  
19351 \DeclareTextCommand{\textlrcorner}{PU}{\9043\037}%\* U+231F  
19352 % U+2322 FROWN; \frown (LaTeX)  
19353 \DeclareTextCommand{\textfrown}{PU}{\9043\042}%\* U+2322  
19354 % U+2323 SMILE; \smile (LaTeX)  
19355 \DeclareTextCommand{\textsmile}{PU}{\9043\043}%\* U+2323  
19356 % U+2328 KEYBOARD; \Keyboard (marvosym)  
19357 \DeclareTextCommand{\textKeyboard}{PU}{\9043\050}%\* U+2328  
19358 % U+2329 LEFT-POINTING ANGLE BRACKET; \angleleft; \langle (LaTeX)

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19359 \DeclareTextCommand{\textlangle}{PU}{\9043\051}%* U+2329
19360 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright; \rangle (LaTeX)
19361 \DeclareTextCommand{\textrightangle}{PU}{\9043\052}%* U+232A
19362 % U+2339 APL FUNCTIONAL SYMBOL QUAD DIVIDE; \APLinv (wasysym)
19363 \DeclareTextCommand{\textAPLinv}{PU}{\9043\071}%* U+2339
19364 % U+233C APL FUNCTIONAL SYMBOL QUAD CIRCLE; \Tumbler (marvosym)
19365 \DeclareTextCommand{\textTumbler}{PU}{\9043\074}%* U+233C
19366 % U+233D APL FUNCTIONAL SYMBOL CIRCLE STILE; \baro (stmaryrd)
19367 \DeclareTextCommand{\textstmaryrdbaro}{PU}{\9043\075}% U+233D
19368 %* \textstmaryrdbaro -> \baro (stmaryrd)
19369 % U+233F APL FUNCTIONAL SYMBOL SLASH BAR; \notslash (wasysym)
19370 \DeclareTextCommand{\textnotslash}{PU}{\9043\077}%* U+233F
19371 % U+2340 APL FUNCTIONAL SYMBOL BACKSLASH BAR;
19372 % \notbackslash (wasysym)
19373 \DeclareTextCommand{\textnotbackslash}{PU}{\9043\100}%* U+2340
19374 % U+2342 APL FUNCTIONAL SYMBOL QUAD BACKSLASH; \boxbackslash (mathabx)
19375 \DeclareTextCommand{\textboxbackslash}{PU}{\9043\102}%* U+2342
19376 % U+2347 APL FUNCTIONAL SYMBOL QUAD LEFTWARDS ARROW;
19377 % \APLleftarrowbox (wasysym)
19378 \DeclareTextCommand{\textAPLleftarrowbox}{PU}{\9043\107}%* U+2347
19379 % U+2348 APL FUNCTIONAL SYMBOL QUAD RIGHTWARDS ARROW;
19380 % \APLrightarrowbox (wasysym)
19381 \DeclareTextCommand{\textAPLrightarrowbox}{PU}{\9043\110}%* U+2348
19382 % U+2350 APL FUNCTIONAL SYMBOL QUAD UPWARDS ARROW; \APLuparrowbox (wasysym)
19383 \DeclareTextCommand{\textAPLuparrowbox}{PU}{\9043\120}%* U+2350
19384 % U+2357 APL FUNCTIONAL SYMBOL QUAD DOWNWARDS ARROW;
19385 % \APLdownarrowbox (wasysym)
19386 \DeclareTextCommand{\textAPLdownarrowbox}{PU}{\9043\127}%* U+2357
19387 % U+235E APL FUNCTIONAL SYMBOL QUOTE QUAD;
19388 % \APLinput (wasysym)
19389 \DeclareTextCommand{\textAPLinput}{PU}{\9043\136}%* U+235E
19390 % U+2370 APL FUNCTIONAL SYMBOL QUAD QUESTION; \Request (china2e)
19391 \DeclareTextCommand{\textRequest}{PU}{\9043\160}%* U+2370
19392 % U+2393 DIRECT CURRENT SYMBOL FORM TWO; \Beam (marvosym)
19393 \DeclareTextCommand{\textBeam}{PU}{\9043\223}%* U+2393
19394 % U+2394 SOFTWARE-FUNCTION SYMBOL; \hexagon (wasysym)
19395 \DeclareTextCommand{\texthexagon}{PU}{\9043\224}%* U+2394
19396 % U+2395 APL FUNCTIONAL SYMBOL QUAD; \APLbox (wasysym)
19397 \DeclareTextCommand{\textAPLbox}{PU}{\9043\225}%* U+2395
19398 % U+23ED BLACK RIGHT-POINTING DOUBLE TRIANGLE WITH VERTICAL BAR;
19399 % \ForwardToIndex (marvosym)
19400 \DeclareTextCommand{\textForwardToIndex}{PU}{\9043\355}%* U+23ED
19401 % U+23EE BLACK LEFT-POINTING DOUBLE TRIANGLE WITH VERTICAL BAR;
19402 % \RewindToIndex (marvosym)
19403 \DeclareTextCommand{\textRewindToIndex}{PU}{\9043\356}%* U+23EE

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### 51.2.24 Control Pictures: U+2400 to U+243F

19404 % U+2422 BLANK SYMBOL  
19405 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422  
19406 % U+2423 OPEN BOX; blank  
19407 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

### 51.2.25 Optical Character Recognition: U+2440 to U+245F

19408 % U+244A OCR DOUBLE BACKSLASH; \bbslash (stmaryrd)  
19409 \DeclareTextCommand{\textbbslash}{PU}{\9044\112}%\* U+244A  
19410 %\* \textbbslash -> \varparallelinv (txfonts/pxfonts)

### 51.2.26 Enclosed Alphanumerics: U+2460 to U+24FF

19411 % U+2460 CIRCLED DIGIT ONE; onecircle  
19412 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460  
19413 % U+2461 CIRCLED DIGIT TWO; twocircle  
19414 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461  
19415 % U+2462 CIRCLED DIGIT THREE; threecircle  
19416 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462  
19417 % U+2463 CIRCLED DIGIT FOUR; fourcircle  
19418 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463  
19419 % U+2464 CIRCLED DIGIT FIVE; fivecircle  
19420 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464  
19421 % U+2465 CIRCLED DIGIT SIX; sixcircle  
19422 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465  
19423 % U+2466 CIRCLED DIGIT SEVEN; sevenscircle  
19424 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466  
19425 % U+2467 CIRCLED DIGIT EIGHT; eightcircle  
19426 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467  
19427 % U+2468 CIRCLED DIGIT NINE; ninecircle  
19428 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468  
19429 % U+2469 CIRCLED NUMBER TEN; tencircle  
19430 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469  
19431 % U+246A CIRCLED NUMBER ELEVEN; elevencircle  
19432 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A  
19433 % U+246B CIRCLED NUMBER TWELVE; twelvecircle  
19434 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B  
19435 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle  
19436 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C  
19437 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle  
19438 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D  
19439 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle  
19440 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E  
19441 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle  
19442 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F  
19443 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle  
19444 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470  
19445 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle  
19446 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471  
19447 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle

19448 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472  
19449 % U+2473 CIRCLED NUMBER TWENTY; twentycircle  
19450 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473  
19451 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle  
19452 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6  
19453 % \CircledA (marvosym)  
19454 \DeclareTextCommand{\textCircledA}{PU}{\9044\266}%\* U+24B6  
19455 %\* \textCircledA -> \CleaningA  
19456 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle  
19457 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7  
19458 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle  
19459 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8  
19460 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle  
19461 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9  
19462 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle  
19463 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA  
19464 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle  
19465 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB  
19466 % \CleaningF (marvosym)  
19467 \DeclareTextCommand{\textCleaningF}{PU}{\9044\273}%\* U+24BB  
19468 % \CleaningFF (marvosym)  
19469 \DeclareTextCommand{\textCleaningFF}{PU}{\9044\273\83\062}%\* U+24BB U+0332  
19470 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle  
19471 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC  
19472 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle  
19473 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD  
19474 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle  
19475 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE  
19476 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle  
19477 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF  
19478 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle  
19479 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0  
19480 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle  
19481 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1  
19482 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle  
19483 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2  
19484 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle  
19485 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3  
19486 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle  
19487 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4  
19488 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle  
19489 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5  
19490 % \CleaningP (marvosym)  
19491 \DeclareTextCommand{\textCleaningP}{PU}{\9044\305}%\* U+24C5  
19492 % \CleaningPP (marvosym)  
19493 \DeclareTextCommand{\textCleaningPP}{PU}{\9044\305\83\062}%\* U+24C5 U+0332  
19494 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle  
19495 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6  
19496 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle  
19497 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7

19498 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle  
19499 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8  
19500 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle  
19501 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9  
19502 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle  
19503 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA  
19504 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle  
19505 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB  
19506 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle  
19507 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC  
19508 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle  
19509 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD  
19510 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle  
19511 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE  
19512 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle  
19513 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF  
19514 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle  
19515 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0  
19516 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle  
19517 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1  
19518 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle  
19519 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2  
19520 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle  
19521 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3  
19522 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle  
19523 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4  
19524 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle  
19525 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5  
19526 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle  
19527 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6  
19528 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle  
19529 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7  
19530 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle  
19531 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8  
19532 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle  
19533 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9  
19534 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle  
19535 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA  
19536 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle  
19537 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB  
19538 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle  
19539 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC  
19540 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle  
19541 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD  
19542 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle  
19543 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE  
19544 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle  
19545 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF  
19546 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle  
19547 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0

19548 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle  
 19549 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1  
 19550 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle  
 19551 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2  
 19552 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle  
 19553 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3  
 19554 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle  
 19555 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4  
 19556 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle  
 19557 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5  
 19558 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle  
 19559 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6  
 19560 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle  
 19561 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7  
 19562 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle  
 19563 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8  
 19564 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle  
 19565 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9  
 19566 % U+24EA CIRCLED DIGIT ZERO  
 19567 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

### 51.2.27 Box Drawing: U+2500 to 257F

19568 % U+2504 BOX DRAWINGS LIGHT TRIPLE DASH HORIZONTAL; \Cutting-  
 Line (marvosym)  
 19569 \DeclareTextCommand{\textCuttingLine}{PU}{\9045\004}%\* U+2504  
 19570 %\* \textCuttingLine -> \Kutline (marvosym)  
 19571 %\* \textCuttingLine -> \CutLine (marvosym)  
 19572 %\* \textCuttingLine -> \Cutline (marvosym)

### 51.2.28 Geometric Shapes: U+25A0 to U+25FF

19573 % U+25B2 BLACK UP-POINTING TRIANGLE; \UParrow (wasysym)  
 19574 \DeclareTextCommand{\textUParrow}{PU}{\9045\262}%\* U+25B2  
 19575 %\* \textUParrow -> \MoveUp (marvosym)  
 19576 % U+25B3 WHITE UP-POINTING TRIANGLE; whiteuppointingtriangle;  
 19577 % \bigtriangleup (LaTeX)  
 19578 \DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}%\* U+25B3  
 19579 %\* \textbigtriangleup -> \APLup (wasysym)  
 19580 %\* \textbigtriangleup -> \Bleech (marvosym)  
 19581 % U+25B6 BLACK RIGHT-POINTING TRIANGLE; \Forward (marvosym)  
 19582 \DeclareTextCommand{\textForward}{PU}{\9045\266}%\* U+25B6  
 19583 % U+25B7 WHITE RIGHT-POINTING TRIANGLE (= z notation range restric-  
 tion);  
 19584 % whiterightpointingtriangle; \triangleright (LaTeX)  
 19585 \DeclareTextCommand{\texttriangleright}{PU}{\9045\267}%\* U+25B7  
 19586 % U+25BA BLACK RIGHT-POINTING POINTER; \RHD (wasysym)  
 19587 \DeclareTextCommand{\textRHD}{PU}{\9045\272}%\* U+25BA  
 19588 % U+25BC BLACK DOWN-POINTING TRIANGLE; \DOWNarrow (wasysym)  
 19589 \DeclareTextCommand{\textDOWNarrow}{PU}{\9045\274}%\* U+25BC  
 19590 %\* \textDOWNarrow -> \MoveDown (marvosym)

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19591 % U+25BD WHITE DOWN-POINTING TRIANGLE; whitedownpointingtri-
angle;
19592 % \bigtriangledown (LaTeX)
19593 \DeclareTextCommand{\textbigtriangledown}{PU}{\9045\275}%* U+25BD
19594 %* \textbigtriangledown -> \APLdown (wasysym)
19595 % U+25C0 BLACK LEFT-POINTING TRIANGLE; \Rewind (marvosym)
19596 \DeclareTextCommand{\textRewind}{PU}{\9045\300}%* U+25C0
19597 % U+25C1 WHITE RIGHT-POINTING TRIANGLE (= z notation domain re-
striction);
19598 % whiteleftpointingtriangle; \triangleleft (LaTeX)
19599 \DeclareTextCommand{\texttriangleleft}{PU}{\9045\301}%* U+25C1
19600 % U+25C4 BLACK LEFT-POINTING POINTER; \LHD (wasysym)
19601 \DeclareTextCommand{\textLHD}{PU}{\9045\304}%* U+25C4
19602 % U+25C7 WHITE DIAMOND; whitediamond; \diamond (LaTeX)
19603 \DeclareTextCommand{\textdiamond}{PU}{\9045\307}%* U+25C7
19604 %* \textdiamond -> \Diamond (wasysym)
19605 % U+25CA LOZENGE; lozenge; \lozenge (AmS)
19606 \DeclareTextCommand{\textlozenge}{PU}{\9045\312}%* U+25CA
19607 % U+25D6 LEFT HALF BLACK CIRCLE; \LEFTCIRCLE (wasysym)
19608 \DeclareTextCommand{\textLEFTCIRCLE}{PU}{\9045\326}%* U+25D6
19609 % U+25D7 RIGHT HALF BLACK CIRCLE; \RIGHTCIRCLE (wasysym)
19610 \DeclareTextCommand{\textRIGHTCIRCLE}{PU}{\9045\327}%* U+25D7
19611 % U+25E6 WHITE BULLET; *openbullet, whitebullet
19612 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}%* U+25E6
19613 % U+25EB WHITE SQUARE WITH VERTICAL BISECTING LINE;
19614 % \boxbar (stmaryrd)
19615 \DeclareTextCommand{\textboxbar}{PU}{\9045\353}%* U+25EB
19616 % U+25EF LARGE CIRCLE; largecircle
19617 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}%* U+25EF
19618 %* \textbigcircle -> \varbigcirc (stmaryrd)
19619 %

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### 51.2.29 Miscellaneous Symbols: U+2600 to U+26FF

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19620 % U+2601 CLOUD; \Cloud (ifsym)
19621 \DeclareTextCommand{\textCloud}{PU}{\9046\001}%* U+2601
19622 % U+2605 BLACK STAR; \FiveStar (bbding)
19623 \DeclareTextCommand{\textFiveStar}{PU}{\9046\005}%* U+2605
19624 % U+2606 WHITE STAR; \FiveStarOpen (bbding)
19625 \DeclareTextCommand{\textFiveStarOpen}{PU}{\9046\006}%* U+2606
19626 % U+260E BLACK TELEPHONE; telephoneblack; \Phone (bbding)
19627 \DeclareTextCommand{\textPhone}{PU}{\9046\016}%* U+260E
19628 %* \textPhone -> \Telefon (marvosym)
19629 % U+2610 BALLOT BOX; \boxempty (stmaryrd)
19630 \DeclareTextCommand{\textboxempty}{PU}{\9046\020}%* U+2610
19631 %* \textboxempty -> \Box (wasysym)
19632 % U+2611 BALLOT BOX WITH CHECK; \Checkedbox (marvosym)
19633 \DeclareTextCommand{\textCheckedbox}{PU}{\9046\021}%* U+2611
19634 %* \textCheckedbox -> \CheckedBox (marvosym)
19635 % U+2612 BALLOT BOX WITH X; \Crossedbox (marvosym)
19636 \DeclareTextCommand{\textCrossedbox}{PU}{\9046\022}%* U+2612

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19637 %\* \textCrossedbox -> \XBox (wasysym)  
19638 %\* \textCrossedbox -> \CrossedBox (marvosym)  
19639 % U+2615 HOT BEVERAGE; \Coffeecup (marvosym)  
19640 \DeclareTextCommand{\textCoffeecup}{PU}{\9046\025}%\* U+2615  
19641 % U+261A BLACK LEFT POINTING INDEX; \HandCuffLeft (bding)  
19642 \DeclareTextCommand{\textHandCuffLeft}{PU}{\9046\032}%\* U+261A  
19643 % U+261B BLACK RIGHT POINTING INDEX; \HandCuffRight (bding)  
19644 \DeclareTextCommand{\textHandCuffRight}{PU}{\9046\033}%\* U+261B  
19645 % U+261C WHITE LEFT POINTING INDEX; \HandLeft (bding)  
19646 \DeclareTextCommand{\textHandLeft}{PU}{\9046\034}%\* U+261C  
19647 %\* \textHandLeft -> \rightpointleft (fourier)  
19648 % U+261E WHITE RIGHT POINTING INDEX; \HandRight (bding)  
19649 \DeclareTextCommand{\textHandRight}{PU}{\9046\036}%\* U+261E  
19650 %\* \textHandRight -> \leftpointright (fourier)  
19651 %\* \textHandRight -> \PointingHand (marvosym)  
19652 %\* \textHandRight -> \Pointinghand (marvosym)  
19653 % U+2622 RADIOACTIVE SIGN; \Radioactivity (marvosym)  
19654 \DeclareTextCommand{\textRadioactivity}{PU}{\9046\042}%\* U+2622  
19655 %\* \textRadioactivity -> \Radiation (ifsym)  
19656 % U+2623 BIOHAZARD SIGN; \Biohazard (marvosym)  
19657 \DeclareTextCommand{\textBiohazard}{PU}{\9046\043}%\* U+2623  
19658 % U+2625 ANKH; \Ankh (marvosym)  
19659 \DeclareTextCommand{\textAnkh}{PU}{\9046\045}%\* U+2625  
19660 % U+262F YIN YANG; \YinYang (marvosym)  
19661 \DeclareTextCommand{\textYinYang}{PU}{\9046\057}%\* U+262F  
19662 %\* \textYinYang -> \Yinyang (marvosym)  
19663 %\* \textYinYang -> \YingYang (marvosym)  
19664 %\* \textYinYang -> \Yingyang (marvosym)  
19665 % U+2639 WHITE FROWNING FACE; \frownie (wasysym)  
19666 \DeclareTextCommand{\textfrownie}{PU}{\9046\071}%\* U+2639  
19667 %\* \textfrownie -> \Frowny (marvosym)  
19668 % U+263A WHITE SMILING FACE; \smiley (wasysym)  
19669 \DeclareTextCommand{\textsmiley}{PU}{\9046\072}%\* U+263A  
19670 %\* \textsmiley -> \Smiley (marvosym)  
19671 % U+263B BLACK SMILING FACE; \blacksmiley (wasysym)  
19672 \DeclareTextCommand{\textblacksmiley}{PU}{\9046\073}%\* U+263B  
19673 % U+263C WHITE SUN WITH RAYS; \sun (wasysym)  
19674 \DeclareTextCommand{\textsun}{PU}{\9046\074}%\* U+263C  
19675 %\* \textsun -> \Sun (marvosym)  
19676 % U+263D FIRST QUARTER MOON; \leftmoon (wasysym, mathabx)  
19677 \DeclareTextCommand{\textleftmoon}{PU}{\9046\075}%\* U+263D  
19678 % U+263E LAST QUARTER MOON; \rightmoon (wasysym, mathabx)  
19679 \DeclareTextCommand{\textrightmoon}{PU}{\9046\076}%\* U+263E  
19680 % U+263F MERCURY; \mercury (wasysym)  
19681 \DeclareTextCommand{\textmercury}{PU}{\9046\077}%\* U+263F  
19682 %\* \textmercury -> \Mercury (marvosym)  
19683 % U+2640 FEMALE SIGN; female; \female (wasysym)  
19684 \DeclareTextCommand{\textPUfemale}{PU}{\9046\100}% U+2640  
19685 %\* \textPUfemale -> \textfemale (tipx)  
19686 %\* \textPUfemale -> \female (wasysym)

19687 %\* \textPUfemale -> \venus (wasysym)  
19688 %\* \textPUfemale -> \Venus (marvosym)  
19689 %\* \textPUfemale -> \Female (marvosym)  
19690 % U+2641 EARTH; \earth (wasysym)  
19691 \DeclareTextCommand{\textearth}{PU}{\9046\101}%\* U+2641  
19692 %\* \textearth -> \Earth (marvosym)  
19693 % U+2642 MALE SIGN; male, mars; \male (wasysym)  
19694 \DeclareTextCommand{\textmale}{PU}{\9046\102}%\* U+2642  
19695 %\* \textmale -> \mars (wasysym)  
19696 %\* \textmale -> \Mars (marvosym)  
19697 %\* \textmale -> \Male (marvosym)  
19698 % U+2643 JUPITER; \jupiter (wasysym)  
19699 \DeclareTextCommand{\textjupiter}{PU}{\9046\103}%\* U+2643  
19700 %\* \textjupiter -> \Jupiter (marvosym)  
19701 % U+2644 SATURN; \saturn (wasysym)  
19702 \DeclareTextCommand{\textsaturn}{PU}{\9046\104}%\* U+2644  
19703 %\* \textsaturn -> \Saturn (marvosym)  
19704 % U+2645 URANUS; \uranus (wasysym)  
19705 \DeclareTextCommand{\texturanus}{PU}{\9046\105}%\* U+2645  
19706 %\* \texturanus -> \Uranus (marvosym)  
19707 % U+2646 NEPTUNE; \neptune (wasysym)  
19708 \DeclareTextCommand{\textneptune}{PU}{\9046\106}%\* U+2646  
19709 %\* \textneptune -> \Neptune (marvosym)  
19710 % U+2647 PLUTO; \pluto (wasysym)  
19711 \DeclareTextCommand{\textpluto}{PU}{\9046\107}%\* U+2647  
19712 %\* \textpluto -> \Pluto (marvosym)  
19713 % U+2648 ARIES; \aries (wasysym)  
19714 \DeclareTextCommand{\textaries}{PU}{\9046\110}%\* U+2648  
19715 %\* \textaries -> \Aries (marvosym)  
19716 % U+2649 TAURUS; \taurus (wasysym)  
19717 \DeclareTextCommand{\texttaurus}{PU}{\9046\111}%\* U+2649  
19718 %\* \texttaurus -> \Taurus (marvosym)  
19719 % U+264A GEMINI; \gemini (wasysym)  
19720 \DeclareTextCommand{\textgemini}{PU}{\9046\112}%\* U+264A  
19721 %\* \textgemini -> \Gemini (marvosym)  
19722 % U+264B CANCER; \cancer (wasysym)  
19723 \DeclareTextCommand{\textcancer}{PU}{\9046\113}%\* U+264B  
19724 %\* \textcancer -> \Cancer (marvosym)  
19725 % U+264C LEO; \leo (wasysym)  
19726 \DeclareTextCommand{\textleo}{PU}{\9046\114}%\* U+264C  
19727 %\* \textleo -> \Leo (marvosym)  
19728 % U+264D VIRGO; \virgo (wasysym)  
19729 \DeclareTextCommand{\textvirgo}{PU}{\9046\115}%\* U+264D  
19730 %\* \textvirgo -> \Virgo (marvosym)  
19731 % U+264E LIBRA; \libra (wasysym)  
19732 \DeclareTextCommand{\textlibra}{PU}{\9046\116}%\* U+264E  
19733 %\* \textlibra -> \Libra (marvosym)  
19734 % U+264F SCORPIO; \scorpio (wasysym)  
19735 \DeclareTextCommand{\textscorpio}{PU}{\9046\117}%\* U+264F  
19736 %\* \textscorpio -> \Scorpio (marvosym)

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19737 % U+2650 SAGITTARIUS; \sagittarius (wasysym)
19738 \DeclareTextCommand{\textsagittarius}{PU}{\9046\120}%* U+2650
19739 %* \textsagittarius -> \Sagittarius (marvosym)
19740 % U+2651 CAPRICORN; \capricornus (wasysym)
19741 \DeclareTextCommand{\textcapricornus}{PU}{\9046\121}%* U+2651
19742 %* \textcapricornus -> \Capricorn (marvosym)
19743 % U+2652 AQUARIUS; \aquarius (wasysym)
19744 \DeclareTextCommand{\textaquarius}{PU}{\9046\122}%* U+2652
19745 %* \textaquarius -> \Aquarius (marvosym)
19746 % U+2653 PISCES; \pisces (wasysym)
19747 \DeclareTextCommand{\textpisces}{PU}{\9046\123}%* U+2653
19748 %* \textpisces -> \Pisces (marvosym)
19749 % U+2660 BLACK SPADE SUIT; spade, spadesuitblack; \spadesuit (LaTeX)
19750 \DeclareTextCommand{\textspadesuitblack}{PU}{\9046\140}% U+2660
19751 %* \textspadesuitblack -> \spadesuit (MnSymbol)
19752 % U+2661 WHITE HEART SUIT; heartsuitwhite; \heartsuit (LaTeX)
19753 \DeclareTextCommand{\textheartsuitwhite}{PU}{\9046\141}% U+2661
19754 %* \textheartsuitwhite -> \Heart (marvosym)
19755 %* \textheartsuitwhite -> \heartsuit (MnSymbol)
19756 % U+2662 WHITE DIAMOND SUIT; diamondsuitwhite; \diamondsuit (LaTeX)
19757 \DeclareTextCommand{\textdiamondsuitwhite}{PU}{\9046\142}% U+2662
19758 %* \textdiamondsuitwhite -> \diamondsuit (MnSymbol)
19759 % U+2663 BLACK CLUB SUIT; club, clubsuitblack; \clubsuit (LaTeX)
19760 \DeclareTextCommand{\textclubsuitblack}{PU}{\9046\143}% U+2663
19761 %* \textclubsuitblack -> \clubsuit (MnSymbol)
19762 % U+2664 WHITE SPADE SUIT; spadesuitwhite
19763 \DeclareTextCommand{\textspadesuitwhite}{PU}{\9046\144}% U+2664
19764 % U+2665 BLACK HEART SUIT; heartsuitblack, heart
19765 \DeclareTextCommand{\textheartsuitblack}{PU}{\9046\145}% U+2665
19766 % U+2666 BLACK DIAMOND SUIT; diamond
19767 \DeclareTextCommand{\textdiamondsuitblack}{PU}{\9046\146}% U+2666
19768 % U+2667 WHITE CLUB SUIT; clubsuitwhite
19769 \DeclareTextCommand{\textclubsuitwhite}{PU}{\9046\147}% U+2667
19770 % U+2669 QUARTER NOTE; quarternote; \quarternote (wasysym, arev)
19771 \DeclareTextCommand{\textquarternote}{PU}{\9046\151}%* U+2669
19772 % U+266A EIGHTH NOTE; musicalnote; \textmusicalnote (textcomp)
19773 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
19774 %* \textmusicalnote -> \eighthnote (wasysym, arev)
19775 % U+266B BEAMED EIGHTH NOTES; eighthnotebeamed; \twonotes (wasysym)
19776 \DeclareTextCommand{\texttwonotes}{PU}{\9046\153}%* U+266B
19777 % U+266C BEAMED SIXTEENTH NOTES; beamedsixteenthnotes; \sixteenth-
note (arev)
19778 \DeclareTextCommand{\textsixteenthnote}{PU}{\9046\154}%* U+266C
19779 % U+266D MUSIC FLAT SIGN; musicflatsign; \flat (LaTeX)
19780 \DeclareTextCommand{\textflat}{PU}{\9046\155}%* U+266D
19781 % U+266E MUSIC NATURAL SIGN; \natural (LaTeX)
19782 \DeclareTextCommand{\textnatural}{PU}{\9046\156}%* U+266E
19783 % U+266F MUSIC SHARP SIGN; musicsharpsign; \sharp (LaTeX)
19784 \DeclareTextCommand{\textsharp}{PU}{\9046\157}%* U+266F
19785 % U+2672 UNIVERSAL RECYCLING SYMBOL; \recycle (recycle)

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19786 \DeclareTextCommand{\textrecycle}{PU}{\9046\162}%\* U+2672  
19787 %\* \textrecycle -> \Recycling (marvosym)  
19788 % U+267F WHEELCHAIR SYMBOL; \Wheelchair (marvosym)  
19789 \DeclareTextCommand{\textWheelchair}{PU}{\9046\177}%\* U+267F  
19790 % U+2691 BLACK FLAG; \Flag (ifsym)  
19791 \DeclareTextCommand{\textFlag}{PU}{\9046\221}%\* U+2691  
19792 %\* \textFlag -> \VarFlag (ifsym)  
19793 % U+2692 HAMMER AND PICK; \MineSign (marvosym)  
19794 \DeclareTextCommand{\textMineSign}{PU}{\9046\222}%\* U+2692  
19795 % U+2694 CROSSED SWORDS; \dsmilitary (dictsym)  
19796 \DeclareTextCommand{\textdsmilitary}{PU}{\9046\224}%\* U+2694  
19797 %\* \textdsmilitary -> \textxswup (fourier)  
19798 % U+2695 STAFF OF AESCULAPIUS; \dsmedical (dictsym)  
19799 \DeclareTextCommand{\textdsmedical}{PU}{\9046\225}%\* U+2695  
19800 % U+2696 SCALES; \dsjuridical (dictsym)  
19801 \DeclareTextCommand{\textdsjuridical}{PU}{\9046\226}%\* U+2696  
19802 % U+2697 ALEMBIC; \dschemical (dictsym)  
19803 \DeclareTextCommand{\textdschemical}{PU}{\9046\227}%\* U+2697  
19804 % U+2698 FLOWER; \dsbiological (dictsym)  
19805 \DeclareTextCommand{\textdsbiological}{PU}{\9046\230}%\* U+2698  
19806 % U+269A STAFF OF HERMES; \dscommercial (dictsym)  
19807 \DeclareTextCommand{\textdscommercial}{PU}{\9046\232}%\* U+269A  
19808 % U+269D OUTLINED WHITE STAR; \manstar (manfnt)  
19809 \DeclareTextCommand{\textmanstar}{PU}{\9046\235}%\* U+269D  
19810 % U+26A0 WARNING SIGN; \danger (fourier)  
19811 \DeclareTextCommand{\textdanger}{PU}{\9046\240}%\* U+26A0  
19812 % U+26A2 DOUBLED FEMALE SIGN; \FemaleFemale (marvosym)  
19813 \DeclareTextCommand{\textFemaleFemale}{PU}{\9046\242}%\* U+26A2  
19814 % U+26A3 DOUBLED MALE SIGN; \MaleMale (marvosym)  
19815 \DeclareTextCommand{\textMaleMale}{PU}{\9046\243}%\* U+26A3  
19816 % U+26A4 INTERLOCKED FEMALE AND MALE SIGN; \FemaleMale (mar-  
vosym)  
19817 \DeclareTextCommand{\textFemaleMale}{PU}{\9046\244}%\* U+26A4  
19818 % U+26A5 MALE AND FEMALE SIGN; \Hermaphrodite (marvosym)  
19819 \DeclareTextCommand{\textHermaphrodite}{PU}{\9046\245}%\* U+26A5  
19820 % U+26AA MEDIUM WHITE CIRCLE; \Neural (marvosym)  
19821 \DeclareTextCommand{\textNeutral}{PU}{\9046\252}%\* U+26AA  
19822 % U+26AD MARRIAGE SYMBOL  
19823 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD  
19824 % U+26AE DIVORCE SYMBOL  
19825 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE  
19826 % U+26B2 NEUTER; \textunconfemale (tipx)  
19827 \DeclareTextCommand{\textPUunconfemale}{PU}{\9046\262}% U+26B2  
19828 %\* \textPUunconfemale -> \textunconfemale (tipx)  
19829 % U+26B9 SEXTILE; \hexstar (wasysym)  
19830 \DeclareTextCommand{\texthexstar}{PU}{\9046\271}%\* U+26B9  
19831 % U+26BD SOCCER BALL; \Football (marvosym)  
19832 \DeclareTextCommand{\textSoccerBall}{PU}{\9046\275}% U+26BD  
19833 %\* \textSoccerBall -> \Football (marvosym)  
19834 % U+26C5 SUN BEHIND CLOUD; \SunCloud (ifsym)

19835 \DeclareTextCommand{\textSunCloud}{PU}{\9046\305}%\* U+26C5  
 19836 % U+26C6 RAIN; \Rain (ifsym)  
 19837 \DeclareTextCommand{\textRain}{PU}{\9046\306}%\* U+26C6  
 19838 % U+26D4 NO ENTRY; \noway (fourier)  
 19839 \DeclareTextCommand{\textnoway}{PU}{\9046\324}%\* U+26D4  
 19840 % U+26F0 MOUNTAIN; \Mountain (ifsym)  
 19841 \DeclareTextCommand{\textMountain}{PU}{\9046\360}%\* U+26F0  
 19842 % U+26FA TENT; \Tent (ifsym)  
 19843 \DeclareTextCommand{\textTent}{PU}{\9046\372}%\* U+26FA

### 51.2.30 Dingbats: U+2700 to U+27BF

19844 % U+2701 UPPER BLADE SCISSORS; \ScissorRightBrokenBottom (bding)  
 19845 \DeclareTextCommand{\textScissorRightBrokenBottom}{PU}{\9047\001}% U+2701  
 19846 %\* \textScissorRightBrokenBottom -> \CutLeft (marvosym)  
 19847 %\* \textScissorRightBrokenBottom -> \Cutright (marvosym)  
 19848 % U+2702 BLACK SCISSORS; \ScissorRight (bding)  
 19849 \DeclareTextCommand{\textScissorRight}{PU}{\9047\002}%\* U+2702  
 19850 %\* \textScissorRight -> \RightScissors (marvosym)  
 19851 %\* \textScissorRight -> \Leftscissors (marvosym)  
 19852 % U+2703 LOWER BLADE SCISSORS; \ScissorRightBrokenTop (bding)  
 19853 \DeclareTextCommand{\textScissorRightBrokenTop}{PU}{\9047\003}%\* U+2703  
 19854 % U+2704 WHITE SCISSORS; \ScissorHollowRight (bding)  
 19855 \DeclareTextCommand{\textScissorHollowRight}{PU}{\9047\004}%\* U+2704  
 19856 % U+2706 TELEPHONE LOCATION SIGN; \PhoneHandset (bding)  
 19857 \DeclareTextCommand{\textPhoneHandset}{PU}{\9047\006}%\* U+2706  
 19858 % U+2707 TAPE DRIVE; \Tape (bding)  
 19859 \DeclareTextCommand{\textTape}{PU}{\9047\007}%\* U+2707  
 19860 % U+2708 AIRPLANE; \Plane (bding)  
 19861 \DeclareTextCommand{\textPlane}{PU}{\9047\010}%\* U+2708  
 19862 % U+2709 ENVELOPE; \Envelope (bding),  
 19863 \DeclareTextCommand{\textEnvelope}{PU}{\9047\011}%\* U+2709  
 19864 %\* \textEnvelope -> \Letter (marvosym)  
 19865 % U+270C VICTORY HAND; \Peace (bding)  
 19866 \DeclareTextCommand{\textPeace}{PU}{\9047\014}%\* U+270C  
 19867 % U+270D WRITING HAND; \WritingHand (marvosym)  
 19868 \DeclareTextCommand{\textWritingHand}{PU}{\9047\015}%\* U+270D  
 19869 %\* \textWritingHand -> \Writinghand (marvosym)  
 19870 % U+270E LOWER RIGHT PENCIL; \PencilRightDown (bding)  
 19871 \DeclareTextCommand{\textPencilRightDown}{PU}{\9047\016}%\* U+270E  
 19872 % U+270F PENCIL; \PencilRight (bding)  
 19873 \DeclareTextCommand{\textPencilRight}{PU}{\9047\017}%\* U+270F  
 19874 % U+2710 UPPER RIGHT PENCIL; \PencilRightUp (bding)  
 19875 \DeclareTextCommand{\textPencilRightUp}{PU}{\9047\020}%\* U+2710  
 19876 % U+2711 WHITE NIB; \NibRight (bding)  
 19877 \DeclareTextCommand{\textNibRight}{PU}{\9047\021}%\* U+2711  
 19878 % U+2712 BLACK NIB; \NibSolidRight (bding)  
 19879 \DeclareTextCommand{\textNibSolidRight}{PU}{\9047\022}%\* U+2712  
 19880 % U+2713 CHECK MARK; checkmark; \Checkmark (bding)  
 19881 \DeclareTextCommand{\textCheckmark}{PU}{\9047\023}%\* U+2713  
 19882 %\* \textCheckmark -> \checkmark (MnSymbol)

19883 % U+2714 HEAVY CHECK MARK; \CheckmarkBold (bding)  
19884 \DeclareTextCommand{\textCheckmarkBold}{PU}{\9047\024}%\* U+2714  
19885 % U+2715 MULTIPLICATION X; \XSolid (bding)  
19886 \DeclareTextCommand{\textXSolid}{PU}{\9047\025}%\* U+2715  
19887 % U+2716 HEAVY MULTIPLICATION X; \XSolidBold (bding)  
19888 \DeclareTextCommand{\textXSolidBold}{PU}{\9047\026}%\* U+2716  
19889 % U+2717 BALLOT X; \XSolidBrush (bding)  
19890 \DeclareTextCommand{\textXSolidBrush}{PU}{\9047\027}%\* U+2717  
19891 % U+2719 OUTLINED GREEK CROSS; \PlusOutline (bding)  
19892 \DeclareTextCommand{\textPlusOutline}{PU}{\9047\031}%\* U+2719  
19893 % U+271A HEAVY GREEK CROSS; \Plus (bding)  
19894 \DeclareTextCommand{\textPlus}{PU}{\9047\032}%\* U+271A  
19895 % U+271B OPEN CENTRE CROSS; \PlusThinCenterOpen (bding)  
19896 \DeclareTextCommand{\textPlusThinCenterOpen}{PU}{\9047\033}%\* U+271B  
19897 % U+271C HEAVY OPEN CENTRE CROSS; \PlusCenterOpen (bding)  
19898 \DeclareTextCommand{\textPlusCenterOpen}{PU}{\9047\034}%\* U+271C  
19899 % U+271D LATIN CROSS; \Cross (bding)  
19900 \DeclareTextCommand{\textCross}{PU}{\9047\035}%\* U+271D  
19901 % U+271E SHADOWED WHITE LATIN CROSS; \CrossOpenShadow (bding)  
19902 \DeclareTextCommand{\textCrossOpenShadow}{PU}{\9047\036}%\* U+271E  
19903 % U+271F OUTLINED LATIN CROSS; \CrossOutline (bding)  
19904 \DeclareTextCommand{\textCrossOutline}{PU}{\9047\037}%\* U+271F  
19905 % U+2720 MALTESE CROSS; \CrossMaltese (bding)  
19906 \DeclareTextCommand{\textCrossMaltese}{PU}{\9047\040}%\* U+2720  
19907 % U+2721 STAR OF DAVID; \DavidStar (bding)  
19908 \DeclareTextCommand{\textDavidStar}{PU}{\9047\041}%\* U+2721  
19909 %\* \textDavidStar -> \davidstar (wasysym)  
19910 % U+2722 FOUR TEARDROP-SPOKED ASTERISK; \FourAsterisk (bding)  
19911 \DeclareTextCommand{\textFourAsterisk}{PU}{\9047\042}%\* U+2722  
19912 % U+2723 FOUR BALLOON-SPOKED ASTERISK; \JackStar (bding)  
19913 \DeclareTextCommand{\textJackStar}{PU}{\9047\043}%\* U+2723  
19914 % U+2724 HEAVY FOUR BALLOON-SPOKED ASTERISK; \JackStarBold (bding)  
19915 \DeclareTextCommand{\textJackStarBold}{PU}{\9047\044}%\* U+2724  
19916 % U+2725 FOUR CLUB-SPOKED ASTERISK; \CrossClowerTips (bding)  
19917 \DeclareTextCommand{\textClowerTips}{PU}{\9047\045}%\* U+2725  
19918 % U+2726 BLACK FOUR POINTED STAR; \FourStar (bding)  
19919 \DeclareTextCommand{\textFourStar}{PU}{\9047\046}%\* U+2726  
19920 % U+2727 WHITE FOUR POINTED STAR; \FourStarOpen (bding)  
19921 \DeclareTextCommand{\textFourStarOpen}{PU}{\9047\047}%\* U+2727  
19922 % U+272A CIRCLED WHITE STAR; \FiveStarOpenCircled (bding)  
19923 \DeclareTextCommand{\textFiveStarOpenCircled}{PU}{\9047\052}%\* U+272A  
19924 % U+272B OPEN CENTRE BLACK STAR; \FiveStarCenterOpen (bding)  
19925 \DeclareTextCommand{\textFiveStarCenterOpen}{PU}{\9047\053}%\* U+272B  
19926 % U+272C BLACK CENTRE WHITE STAR; \FiveStarOpenDotted (bding)  
19927 \DeclareTextCommand{\textFiveStarOpenDotted}{PU}{\9047\054}%\* U+272C  
19928 % U+272D OUTLINED BLACK STAR; \FiveStarOutline (bding)  
19929 \DeclareTextCommand{\textFiveStarOutline}{PU}{\9047\055}%\* U+272D  
19930 % U+272E HEAVY OUTLINED BLACK STAR; \FiveStarOutlineHeavy (bding)  
19931 \DeclareTextCommand{\textFiveStarOutlineHeavy}{PU}{\9047\056}%\* U+272E

19932 % U+272F PINWHEEL STAR; \FiveStarConvex (bding)  
19933 \DeclareTextCommand{\textFiveStarConvex}{PU}{\9047\057}%\* U+272F  
19934 % U+2730 SHADOWED WHITE STAR; \FiveStarShadow (bding)  
19935 \DeclareTextCommand{\textFiveStarShadow}{PU}{\9047\060}%\* U+2730  
19936 % U+2731 HEAVY ASTERISK; \AsteriskBold (bding)  
19937 \DeclareTextCommand{\textAsteriskBold}{PU}{\9047\061}%\* U+2731  
19938 % U+2732 OPEN CENTRE ASTERISK; \AsteriskCenterOpen (bding)  
19939 \DeclareTextCommand{\textAsteriskCenterOpen}{PU}{\9047\062}%\* U+2732  
19940 % U+2734 EIGHT POINTED BLACK STAR; \EightStarTaper (bding)  
19941 \DeclareTextCommand{\textEightStarTaper}{PU}{\9047\064}%\* U+2734  
19942 % U+2735 EIGHT POINTED PINWHEEL STAR; \EightStarConvex (bding)  
19943 \DeclareTextCommand{\textEightStarConvex}{PU}{\9047\065}%\* U+2735  
19944 % U+2736 SIX POINTED BLACK STAR; \SixStar (bding)  
19945 \DeclareTextCommand{\textSixStar}{PU}{\9047\066}%\* U+2736  
19946 % U+2737 EIGHT POINTED RECTILINEAR BLACK STAR; \EightStar (bding)  
19947 \DeclareTextCommand{\textEightStar}{PU}{\9047\067}%\* U+2737  
19948 % U+2738 HEAVY EIGHT POINTED RECTILINEAR BLACK STAR; \EightStarBold (bding)  
19949 \DeclareTextCommand{\textEightStarBold}{PU}{\9047\070}%\* U+2738  
19950 % U+2739 TWELVE POINTED BLACK STAR; \TwelveStar (bding)  
19951 \DeclareTextCommand{\textTwelveStar}{PU}{\9047\071}%\* U+2739  
19952 % U+273A SIXTEEN POINTED ASTERISK; \SixteenStarLight (bding)  
19953 \DeclareTextCommand{\textSixteenStarLight}{PU}{\9047\072}%\* U+273A  
19954 % U+273B TEARDROP-SPOKED ASTERISK; \SixFlowerPetalRemoved (bding)  
19955 \DeclareTextCommand{\textSixFlowerPetalRemoved}{PU}{\9047\073}%\* U+273B  
19956 % U+273C OPEN CENTRE TEARDROP-SPOKED ASTERISK;  
19957 % \SixFlowerOpenCenter (bding)  
19958 \DeclareTextCommand{\textSixFlowerOpenCenter}{PU}{\9047\074}%\* U+273C  
19959 % U+273D HEAVY TEARDROP-SPOKED ASTERISK; \Asterisk (bding)  
19960 \DeclareTextCommand{\textAsterisk}{PU}{\9047\075}%\* U+273D  
19961 % U+273E SIX PETALLED BLACK AND WHITE FLORETTE; \SixFlowerAlternate (bding)  
19962 \DeclareTextCommand{\textSixFlowerAlternate}{PU}{\9047\076}%\* U+273E  
19963 % U+273F BLACK FLORETTE; \FiveFlowerPetal (bding)  
19964 \DeclareTextCommand{\textFiveFlowerPetal}{PU}{\9047\077}%\* U+273F  
19965 % U+2740 WHITE FLORETTE; \FiveFlowerOpen (bding)  
19966 \DeclareTextCommand{\textFiveFlowerOpen}{PU}{\9047\100}%\* U+2740  
19967 % U+2741 EIGHT PETALLED OUTLINED BLACK FLORETTE; \EightFlowerPetal (bding)  
19968 \DeclareTextCommand{\textEightFlowerPetal}{PU}{\9047\101}%\* U+2741  
19969 % U+2742 CIRCLED OPEN CENTRE EIGHT POINTED STAR; \SunshineOpenCircled (bding)  
19970 \DeclareTextCommand{\textSunshineOpenCircled}{PU}{\9047\102}%\* U+2742  
19971 % U+2743 HEAVY TEARDROP-SPOKED PINWHEEL ASTERISK; \SixFlowerAltPetal (bding)  
19972 \DeclareTextCommand{\textSixFlowerAltPetal}{PU}{\9047\103}%\* U+2743  
19973 % U+2744 SNOWFLAKE; \SnowflakeChevron (bding)  
19974 \DeclareTextCommand{\textSnowflakeChevron}{PU}{\9047\104}%\* U+2744

19975 % U+2745 TIGHT TRIFOLIATE SNOWFLAKE; \Snowflake (bding)  
 19976 \DeclareTextCommand{\textSnowflake}{PU}{\9047\105}%\* U+2745  
 19977 % U+2746 HEAVY CHEVRON SNOWFLAKE; \SnowflakeChevronBold (bding)  
 19978 \DeclareTextCommand{\textSnowflakeChevronBold}{PU}{\9047\106}%\* U+2746  
 19979 % U+2747 SPARKLE; \Sparkle (bding)  
 19980 \DeclareTextCommand{\textSparkle}{PU}{\9047\107}%\* U+2747  
 19981 % U+2748 HEAVY SPARKLE; \SparkleBold (bding)  
 19982 \DeclareTextCommand{\textSparkleBold}{PU}{\9047\110}%\* U+2748  
 19983 % U+2749 BALLOON-SPOKED ASTERISK; \AsteriskRoundedEnds (bding)  
 19984 \DeclareTextCommand{\textAsteriskRoundedEnds}{PU}{\9047\111}%\* U+2749  
 19985 % U+274A EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
 19986 % \EightFlowerPetalRemoved (bding)  
 19987 \DeclareTextCommand{\textEightFlowerPetalRemoved}{PU}{\9047\112}%\* U+274A  
 19988 % U+274B HEAVY EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;  
 19989 % \EightAsterisk (bding)  
 19990 \DeclareTextCommand{\textEightAsterisk}{PU}{\9047\113}%\* U+274B  
 19991 % U+274D SHADOWED WHITE CIRCLE; \CircleShadow (bding)  
 19992 \DeclareTextCommand{\textCircleShadow}{PU}{\9047\115}%\* U+274D  
 19993 % U+274F LOWER RIGHT DROP-SHADOWED WHITE SQUARE;  
 19994 % \SquareShadowBottomRight (bding)  
 19995 \DeclareTextCommand{\textSquareShadowBottomRight}{PU}{\9047\117}%\* U+274F  
 19996 % U+2750 UPPER RIGHT DROP-SHADOWED WHITE SQUARE;  
 19997 % \SquareShadowTopRight (bding)  
 19998 \DeclareTextCommand{\textSquareTopRight}{PU}{\9047\120}%\* U+2750  
 19999 % U+2751 LOWER RIGHT SHADOWED WHITE SQUARE;  
 20000 % \SquareCastShadowBottomRight (bding)  
 20001 \DeclareTextCommand{\textSquareCastShadowBottomRight}{PU}{\9047\121}%\* U+2751  
 20002 % U+2752 UPPER RIGHT SHADOWED WHITE SQUARE;  
 20003 % \SquareCastShadowTopRight (bding)  
 20004 \DeclareTextCommand{\textSquareCastShadowTopRight}{PU}{\9047\122}%\* U+2752  
 20005 % U+2756 BLACK DIAMOND MINUS WHITE X; \OrnamentDiamandSolid (b-  
 ding)  
 20006 \DeclareTextCommand{\textDiamandSolid}{PU}{\9047\126}%\* U+2756  
 20007 % U+2758 LIGHT VERTICAL BAR; \RectangleThin (bding)  
 20008 \DeclareTextCommand{\textRectangleThin}{PU}{\9047\130}%\* U+2758  
 20009 % U+2759 MEDIUM VERTICAL BAR; \Rectangle (bding)  
 20010 \DeclareTextCommand{\textRectangle}{PU}{\9047\131}%\* U+2759  
 20011 % U+275A HEAVY VERTICAL BAR; \RectangleBold (bding)  
 20012 \DeclareTextCommand{\textRectangleBold}{PU}{\9047\132}%\* U+275A

### 51.2.31 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

20013 % U+27C2 PERPENDICULAR; perpendicular; \perp (LaTeX)  
 20014 \DeclareTextCommand{\textperp}{PU}{\9047\302}%\* U+27C2  
 20015 % \notperp (mathabx)  
 20016 \DeclareTextCommand{\textnotperp}{PU}{\9047\302\83\070}%\* U+27C2 U+0338  
 20017 % U+27C7 OR WITH DOT INSIDE; \veedot (MnSymbol)  
 20018 \DeclareTextCommand{\textveedot}{PU}{\9047\307}%\* U+27C7  
 20019 % U+27D1 AND WITH DOT; \wedgedot (MnSymbol)  
 20020 \DeclareTextCommand{\textwedgedot}{PU}{\9047\321}%\* U+27D1  
 20021 % U+27DC LEFT MULTIMAP; \leftspoon (MnSymbol)

20022 \DeclareTextCommand{\textleftspoon}{PU}{\9047\334}%\* U+27DC  
 20023 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET  
 20024 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}%\* U+27E6  
 20025 %\* \textlbrackdbl -> \lbracket (stmaryrd)  
 20026 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET  
 20027 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}%\* U+27E7  
 20028 %\* \textrbrackdbl -> \rrbracket (stmaryrd)

### 51.2.32 Supplemental Arrows-A: U+27F0 to U+27FF

20029 % U+27F2 ANTICLOCKWISE GAPPED CIRCLE ARROW;  
 20030 % \circlearrowleft (AmS)  
 20031 \DeclareTextCommand{\textcirclearrowleft}{PU}{\9047\362}%\* U+27F2  
 20032 % U+27F3 CLOCKWISE GAPPED CIRCLE ARROW; \circlearrowright (AmS)  
 20033 \DeclareTextCommand{\textcirclearrowright}{PU}{\9047\363}%\* U+27F3  
 20034 % U+27F5 LONG LEFTWARDS ARROW; \longleftarrow (AmS)  
 20035 \DeclareTextCommand{\textlongleftarrow}{PU}{\9047\365}%\* U+27F5  
 20036 % U+27F6 LONG RIGHTWARDS ARROW; \longrightarrow (AmS)  
 20037 \DeclareTextCommand{\textlongrightarrow}{PU}{\9047\366}%\* U+27F6  
 20038 % U+27F7 LONG LEFT RIGHT ARROW; \longlefttrightarrow (AmS)  
 20039 \DeclareTextCommand{\textlonglefttrightarrow}{PU}{\9047\367}%\* U+27F7  
 20040 % U+27F8 LONG LEFTWARDS DOUBLE ARROW; \Longleftarrow (AmS)  
 20041 \DeclareTextCommand{\textLongleftarrow}{PU}{\9047\370}%\* U+27F8  
 20042 % U+27F9 LONG RIGHTWARDS DOUBLE ARROW; \longrightarrow (AmS)  
 20043 \DeclareTextCommand{\textLongrightarrow}{PU}{\9047\371}%\* U+27F9  
 20044 % U+27FA LONG LEFT RIGHT DOUBLE ARROW; \Longlefttrightarrow (AmS)  
 20045 \DeclareTextCommand{\textLonglefttrightarrow}{PU}{\9047\372}%\* U+27FA  
 20046 % U+27FC LONG RIGHTWARDS ARROW FROM BAR; \longmapsto (AmS)  
 20047 \DeclareTextCommand{\textlongmapsto}{PU}{\9047\374}%\* U+27FC  
 20048 % U+27FD LONG LEFTWARDS DOUBLE ARROW FROM BAR; \Longmapsfrom (stmaryrd)  
 20049 \DeclareTextCommand{\textLongmapsfrom}{PU}{\9047\375}%\* U+27FD  
 20050 % U+27FE LONG RIGHTWARDS DOUBLE ARROW FROM BAR; \Longmapsto (stmaryrd)  
 20051 \DeclareTextCommand{\textLongmapsto}{PU}{\9047\376}%\* U+27FE

### 51.2.33 Supplemental Arrows-B: U+2900 to U+297F

20052 % U+2921 NORTH WEST AND SOUTH EAST ARROW; \nwsearrow (MnSymbol)  
 20053 \DeclareTextCommand{\textnwsearrow}{PU}{\9051\041}%\* U+2921  
 20054 % U+2922 NORTH EAST AND SOUTH WEST ARROW; \neswarrow (MnSymbol)  
 20055 \DeclareTextCommand{\textneswarrow}{PU}{\9051\042}%\* U+2922  
 20056 % U+2923 NORTH WEST ARROW WITH HOOK; \hooknwarrow (MnSymbol)  
 20057 \DeclareTextCommand{\textlhooknwarrow}{PU}{\9051\043}%\* U+2923  
 20058 % U+2924 NORTH EAST ARROW WITH HOOK; \rhooknearrow (MnSymbol)  
 20059 \DeclareTextCommand{\textrhooknearrow}{PU}{\9051\044}%\* U+2924  
 20060 % U+2925 SOUTH EAST ARROW WITH HOOK; \hooksearrow (MnSymbol)  
 20061 \DeclareTextCommand{\textlhooksearrow}{PU}{\9051\045}%\* U+2925  
 20062 % U+2926 SOUTH WEST ARROW WITH HOOK; \rhookswarrow (MnSymbol)  
 20063 \DeclareTextCommand{\textrhookswarrow}{PU}{\9051\046}%\* U+2926

20064 % U+2933 WAVE ARROW POINTING DIRECTLY RIGHT; \leadsto (wasysym)  
 20065 \DeclareTextCommand{\textleadsto}{PU}{\9051\063}%\* U+2933  
 20066 % U+2934 ARROW POINTING RIGHTWARDS THEN CURVING UPWARDS;  
 20067 % \rcurvearrowne (MnSymbol)  
 20068 \DeclareTextCommand{\textrcurvearrowne}{PU}{\9051\064}%\* U+2934  
 20069 % U+2935 ARROW POINTING RIGHTWARDS THEN CURVING DOWN-  
 WARDS;  
 20070 % \lcurvearrowse (MnSymbol)  
 20071 \DeclareTextCommand{\textlcurvearrowse}{PU}{\9051\065}%\* U+2935  
 20072 % U+2936 ARROW POINTING DOWNWARDS THEN CURVING LEFT-  
 WARDS;  
 20073 % \lcurvearrowsw (MnSymbol)  
 20074 \DeclareTextCommand{\textlcurvearrowsw}{PU}{\9051\066}%\* U+2936  
 20075 % U+2937 ARROW POINTING DOWNWARDS THEN CURVING RIGHT-  
 WARDS;  
 20076 % \rcurvearrowse (MnSymbol)  
 20077 \DeclareTextCommand{\textrcurvearrowse}{PU}{\9051\067}%\* U+2937  
 20078 % U+2938 RIGHT-SIDE ARC CLOCKWISE ARROW; \lcurvearrowdown (Mn-  
 Symbol)  
 20079 \DeclareTextCommand{\textlcurvearrowdown}{PU}{\9051\070}%\* U+2938  
 20080 %\* \textlcurvearrowdown -> \RightTorque (marvosym)  
 20081 %\* \textlcurvearrowdown -> \Righttorque (marvosym)  
 20082 % U+2939 LEFT-SIDE ARC ANTICLOCKWISE ARROW;  
 20083 % \rcurvearrowdown (MnSymbol)  
 20084 \DeclareTextCommand{\textrcurvearrowdown}{PU}{\9051\071}%\* U+2939  
 20085 %\* \textrcurvearrowdown -> \LeftTorque (marvosym)  
 20086 %\* \textrcurvearrowdown -> \Lefttorque (marvosym)  
 20087 % U+293A TOP ARC ANTICLOCKWISE ARROW; \rcurvearrowleft (MnSym-  
 bol)  
 20088 \DeclareTextCommand{\textrcurvearrowleft}{PU}{\9051\072}%\* U+293A  
 20089 % U+293B BOTTOM ARC ANTICLOCKWISE ARROW;  
 20090 % \rcurvearrowright (MnSymbol)  
 20091 \DeclareTextCommand{\textrcurvearrowright}{PU}{\9051\073}%\* U+293B  
 20092 % U+294A LEFT BARB UP RIGHT BARB DOWN HARPOON; \leftrighthar-  
 poon (mathabx)  
 20093 \DeclareTextCommand{\textleftrightharpoon}{PU}{\9051\112}%\* U+294A  
 20094 % U+294B LEFT BARB DOWN RIGHT BARB UP HARPOON; \rightlefthar-  
 poon (mathabx)  
 20095 \DeclareTextCommand{\textrightleftharpoon}{PU}{\9051\113}%\* U+294B  
 20096 % U+294C UP BARB RIGHT DOWN BARB LEFT HARPOON;  
 20097 % \updownharpoonrightleft (MnSymbol)  
 20098 \DeclareTextCommand{\textupdownharpoonrightleft}{PU}{\9051\114}%\* U+294C  
 20099 % U+294D UP BARB LEFT DOWN BARB RIGHT HARPOON;  
 20100 % \updownharpoonleftright (MnSymbol)  
 20101 \DeclareTextCommand{\textupdownharpoonleftright}{PU}{\9051\115}%\* U+294D  
 20102 % U+2962 LEFTWARDS HARPOON WITH BARB UP ABOVE LEFTWARDS  
 20103 % HARPOON WITH BARB DOWN; \leftleftharpoons (mathabx)  
 20104 \DeclareTextCommand{\textleftleftharpoons}{PU}{\9051\142}%\* U+2962  
 20105 % U+2963 UPWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS  
 20106 % HARPOON WITH BARB RIGHT; \upupharpoons (mathabx)

20107 \DeclareTextCommand{\textupharpoons}{PU}{\9051\143}%\* U+2963  
 20108 % U+2964 RIGHTWARDS HARPOON WITH BARB UP ABOVE RIGHT-  
 WARDS HARPOON  
 20109 % WITH BARB DOWN; \rightrightarpoons (mathabx)  
 20110 \DeclareTextCommand{\textrightarpoons}{PU}{\9051\144}%\* U+2964  
 20111 % U+2965 DOWNWARDS HARPOON WITH BARB LEFT BESIDE DOWN-  
 WARDS HARPOON  
 20112 % WITH BARB RIGHT; \downdownarpoons (mathabx)  
 20113 \DeclareTextCommand{\textdownarpoons}{PU}{\9051\145}%\* U+2965  
 20114 % U+296A LEFTWARDS HARPOON WITH BARB UP ABOVE LONG DASH;  
 20115 % \leftbarharpoon (mathabx)  
 20116 \DeclareTextCommand{\textleftbarharpoon}{PU}{\9051\152}%\* U+296A  
 20117 % U+296B LEFTWARDS HARPOON WITH BARB DOWN BELOW  
 20118 % LONG DASH; \barleftharpoon (mathabx)  
 20119 \DeclareTextCommand{\textbarleftharpoon}{PU}{\9051\153}%\* U+296B  
 20120 % U+296C RIGHTWARDS HARPOON WITH BARB UP ABOVE  
 20121 % LONG DASH; \rightbarharpoon (mathabx)  
 20122 \DeclareTextCommand{\textrightbarharpoon}{PU}{\9051\154}%\* U+296C  
 20123 % U+296D RIGHTWARDS HARPOON WITH BARB DOWN BELOW  
 20124 % LONG DASH; \barrightharpoon (mathabx)  
 20125 \DeclareTextCommand{\textbarrightharpoon}{PU}{\9051\155}%\* U+296D  
 20126 % U+296E UPWARDS HARPOON WITH BARB LEFT BESIDE DOWN-  
 WARDS HARPOON  
 20127 % WITH BARB RIGHT; \updownarpoons (mathabx)  
 20128 \DeclareTextCommand{\textupdownarpoons}{PU}{\9051\156}%\* U+296E  
 20129 % U+296F DOWNWARDS HARPOON WITH BARB LEFT BESIDE UP-  
 WARDS HARPOON  
 20130 % WITH BARB RIGHT; \downupharpoons (mathabx)  
 20131 \DeclareTextCommand{\textdownupharpoons}{PU}{\9051\157}%\* U+296F  
 20132 % U+297F DOWN FISH TAIL  
 20133 \DeclareTextCommand{\textmoo}{PU}{\9051\177\83\066}%\* U+297F U+0336

**51.2.34 Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF**

20134 % U+2987 Z NOTATION LEFT IMAGE BRACKET; \lparenthesis (stmaryrd)  
 20135 \DeclareTextCommand{\textlparenthesis}{PU}{\9051\207}%\* U+2987  
 20136 % U+2988 Z NOTATION RIGHT IMAGE BRACKET; \rrparenthesis (stmaryrd)  
 20137 \DeclareTextCommand{\textrrparenthesis}{PU}{\9051\210}%\* U+2988  
 20138 % U+29B0 REVERSED EMPTY SET; \invdiameter (wasysym)  
 20139 \DeclareTextCommand{\textinvdiameter}{PU}{\9051\260}%\* U+29B0  
 20140 % U+29B6 CIRCLED VERTICAL BAR; \obar (stmaryrd)  
 20141 \DeclareTextCommand{\textobar}{PU}{\9051\266}%\* U+29B6  
 20142 %\* \textobar -> \textvarobar (stmaryrd)  
 20143 % U+29B8 CIRCLED REVERSE SOLIDUS; \obslash (stmaryrd)  
 20144 \DeclareTextCommand{\textobslash}{PU}{\9051\270}%\* U+29B8  
 20145 %\* \textobslash -> \circledbslash (txfonts/pxfonts)  
 20146 %\* \textobslash -> \backslash (mathabx)  
 20147 %\* \textobslash -> \varobslash (stmaryrd)  
 20148 % U+29BA CIRCLE DIVIDED BY HORIZONTAL BAR AND TOP HALF  
 20149 % DIVIDED BY VERTICAL BAR; \obot (mathabx)  
 20150 \DeclareTextCommand{\textobot}{PU}{\9051\272}%\* U+29BA

20151 %\* \textobot -> \odplus (ulsy)  
 20152 % U+29BB CIRCLED WITH SUPERIMPOSED X; \NoChemicalCleaning (marvosym)  
 20153 \DeclareTextCommand{\textNoChemicalCleaning}{PU}{\9051\273}%\* U+29BB  
 20154 % U+29C0 CIRCLED LESS-THAN; \olessthan (stmaryrd)  
 20155 \DeclareTextCommand{\textolessthan}{PU}{\9051\300}%\* U+29C0  
 20156 %\* \textolessthan -> \varolessthan (stmaryrd)  
 20157 % U+29C1 CIRCLED GREATER-THAN; \ogreaterthan (stmaryrd)  
 20158 \DeclareTextCommand{\textogreaterthan}{PU}{\9051\301}%\* U+29C1  
 20159 %\* \textogreaterthan -> \varogreaterthan (stmaryrd)  
 20160 % U+29C4 SQUARED RISING DIAGONAL SLASH; \boxslash (mathabx, stmaryrd)  
 20161 \DeclareTextCommand{\textboxslash}{PU}{\9051\304}%\* U+29C4  
 20162 % U+29C5 SQUARED FALLING DIAGONAL SLASH; \boxbslash (stmaryrd)  
 20163 \DeclareTextCommand{\textboxbslash}{PU}{\9051\305}%\* U+29C5  
 20164 % U+29C6 SQUARED ASTERISK; \boxast (stmaryrd)  
 20165 \DeclareTextCommand{\textboxast}{PU}{\9051\306}%\* U+29C6  
 20166 % U+29C7 SQUARED SMALL CIRCLE; \boxcircle (stmaryrd)  
 20167 \DeclareTextCommand{\textboxcircle}{PU}{\9051\307}%\* U+29C7  
 20168 % U+29C8 SQUARED SQUARE; \boxbox (stmaryrd)  
 20169 \DeclareTextCommand{\textboxbox}{PU}{\9051\310}%\* U+29C8  
 20170 % U+29D3 BLACK BOWTIE; \Valve (marvosym)  
 20171 \DeclareTextCommand{\textValve}{PU}{\9051\323}%\* U+29D3  
 20172 % U+29DF DOUBLE-ENDED MULTIMAP; \multimapboth (txfonts/pxfonts)  
 20173 \DeclareTextCommand{\textmultimapboth}{PU}{\9051\337}%\* U+29DF  
 20174 % U+29E2 SHUFFLE PRODUCT; \shuffle (shuffle)  
 20175 \DeclareTextCommand{\textshuffle}{PU}{\9051\342}%\* U+29E2

### 51.2.35 Supplemental Mathematical Operators: U+2A00 to U+2AFF

20176 % U+2A04 N-ARY UNION OPERATOR WITH PLUS; \uplus (LaTeX)  
 20177 \DeclareTextCommand{\textuplus}{PU}{\9052\004}%\* U+2A04  
 20178 % U+2A07 TWO LOGICAL AND OPERATOR; \bigdoublewedge (MnSymbol)  
 20179 \DeclareTextCommand{\textbigdoublewedge}{PU}{\9052\007}%\* U+2A07  
 20180 % U+2A08 TWO LOGICAL OR OPERATOR; \bigdoublevee (MnSymbol)  
 20181 \DeclareTextCommand{\textbigdoublevee}{PU}{\9052\010}%\* U+2A08  
 20182 % U+2A1D JOIN; \Join (latexsym, amsfonts, amssymb, mathabx, txfonts,  
 20183 % pxfonts, wasysym)  
 20184 \DeclareTextCommand{\textJoin}{PU}{\9052\035}%\* U+2A1D  
 20185 % U+2A1F Z NOTATION SCHEMA COMPOSITION; \fatsemi (stmaryrd)  
 20186 \DeclareTextCommand{\textfatsemi}{PU}{\9052\037}%\* U+2A1F  
 20187 % U+2A22 PLUS SIGN WITH SMALL CIRCLE ABOVE; \circplus (mathabx)  
 20188 \DeclareTextCommand{\textcircplus}{PU}{\9052\042}%\* U+2A22  
 20189 % U+2A2A MINUS SIGN WITH DOT BELOW; \minusdot (MnSymbol)  
 20190 \DeclareTextCommand{\textminusdot}{PU}{\9052\052}%\* U+2A2A  
 20191 %\* \textminusdot -> \divdot (mathabx)  
 20192 % U+2A30 MULTIPLICATION SIGN WITH DOT ABOVE; \dottimes (mathabx)  
 20193 \DeclareTextCommand{\textdottimes}{PU}{\9052\060}%\* U+2A30  
 20194 % U+2A32 SEMIDIRECT PRODUCT WITH BOTTOM CLOSED;  
 20195 % \dtimes (mathdesign)  
 20196 \DeclareTextCommand{\textdtimes}{PU}{\9052\062}%\* U+2A32  
 20197 % U+2A38 CIRCLED DIVISION SIGN; \odiv (mathabx)

20198 \DeclareTextCommand{\textodiv}{PU}{\9052\070}%\* U+2A38  
20199 % U+2A3C INTERIOR PRODUCT; \invneg (MnSymbol)  
20200 \DeclareTextCommand{\textinvneg}{PU}{\9052\074}%\* U+2A3C  
20201 % U+2A4E DOUBLE SQUARE INTERSECTION; \sqdoublecap (mathabx)  
20202 \DeclareTextCommand{\textsqdoublecap}{PU}{\9052\116}%\* U+2A4E  
20203 %\* \textsqdoublecap -> \doublesqcap (MnSymbol)  
20204 % U+2A40 INTERSECTION WITH DOT; \capdot (MnSymbol)  
20205 \DeclareTextCommand{\textcapdot}{PU}{\9052\100}%\* U+2A40  
20206 % U+2A4F DOUBLE SQUARE UNION; \sqdoublecup (mathabx)  
20207 \DeclareTextCommand{\textsqdoublecup}{PU}{\9052\117}%\* U+2A4F  
20208 %\* \textsqdoublecup -> \doublesqcup (MnSymbol)  
20209 % U+2A55 TWO INTERSECTING LOGICAL AND; \doublewedge (MnSymbol)  
20210 \DeclareTextCommand{\textdoublewedge}{PU}{\9052\125}%\* U+2A55  
20211 % U+2A56 TWO INTERSECTING LOGICAL OR; \doublevee (MnSymbol)  
20212 \DeclareTextCommand{\textdoublevee}{PU}{\9052\126}%\* U+2A56  
20213 %\* \textdoublevee -> \merge (stmaryrd)  
20214 % U+2A5E LOGICAL AND WITH DOUBLE OVERBAR;  
20215 % \doublebarwedge (AmS)  
20216 \DeclareTextCommand{\textdoublebarwedge}{PU}{\9052\136}%\* U+2A5E  
20217 % U+2A63 LOGICAL OR WITH DOUBLE UNDERBAR;  
20218 % \veedoublebar (mahtabx)  
20219 \DeclareTextCommand{\textveedoublebar}{PU}{\9052\143}%\* U+2A63  
20220 % U+2A66 EQUALS SIGN WITH DOT BELOW; \eqdot (MnSymbol)  
20221 \DeclareTextCommand{\texteqdot}{PU}{\9052\146}%\* U+2A66  
20222 % \neqdot (MnSymbol)  
20223 \DeclareTextCommand{\textneqdot}{PU}{\9052\146\83\070}%\* U+2A66 U+0338  
20224 % U+2A74 DOUBLE COLON EQUAL; \coloncolonequals (colonequals)  
20225 \DeclareTextCommand{\textcoloncolonequals}{PU}{\9052\164}%\* U+2A74  
20226 % U+2A7D LESS-THAN OR SLANTED EQUAL TO; \leqslant (AmS)  
20227 \DeclareTextCommand{\textleqslant}{PU}{\9052\175}%\* U+2A7D  
20228 % \nleqslant (txfonts/pxfonts)  
20229 \DeclareTextCommand{\textnleqslant}{PU}{\9052\175\83\070}%\* U+2A7D U+0338  
20230 % U+2A7E GREATER-THAN OR SLANTED EQUAL TO; \geqslant (AmS)  
20231 \DeclareTextCommand{\textgeqslant}{PU}{\9052\176}%\* U+2A7E  
20232 % \ngeqslant (txfonts/pxfonts)  
20233 \DeclareTextCommand{\textngeqslant}{PU}{\9052\176\83\070}%\* U+2A7E U+0338  
20234 % U+2A85 LESS-THAN OR APPROXIMATE; \lessapprox (AmS)  
20235 \DeclareTextCommand{\textlessapprox}{PU}{\9052\205}%\* U+2A85  
20236 % \nlessapprox (txfonts/pxfonts)  
20237 \DeclareTextCommand{\textnlessapprox}{PU}{\9052\205\83\070}%\* U+2A85 U+0338  
20238 % U+2A86 GREATER-THAN OR APPROXIMATE; \gtrapprox (AmS)  
20239 \DeclareTextCommand{\textgtrapprox}{PU}{\9052\206}%\* U+2A86  
20240 % \ngtrapprox (txfonts/pxfonts)  
20241 \DeclareTextCommand{\textngtrapprox}{PU}{\9052\206\83\070}%\* U+2A86 U+0338  
20242 % U+2A87 LESS-THAN AND SINGLE-LINE NOT EQUAL TO; \lneq (AmS)  
20243 \DeclareTextCommand{\textlneq}{PU}{\9052\207}%\* U+2A87  
20244 % U+2A88 GREATER-THAN AND SINGLE-LINE NOT EQUAL TO;  
20245 % \gneq (AmS)  
20246 \DeclareTextCommand{\textgneq}{PU}{\9052\210}%\* U+2A88  
20247 % U+2A89 LESS-THAN AND NOT APPROXIMATE; \lnapprox (AmS)

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20248 \DeclareTextCommand{\textlnapprox}{PU}{\9052\211}%* U+2A89
20249 % U+2A8A GREATER-THAN AND NOT APPROXIMATE; \gnapprox (AmS)
20250 \DeclareTextCommand{\textgnapprox}{PU}{\9052\212}%* U+2A8A
20251 % U+2A8B LESS-THAN ABOVE DOUBLE-LINE EQUAL ABOVE GREATER-
      THAN;
20252 % \lesseqqgtr (AmS)
20253 \DeclareTextCommand{\textlesseqqgtr}{PU}{\9052\213}%* U+2A8B
20254 % U+2A8C GREATER-THAN ABOVE DOUBLE-LINE EQUAL ABOVE LESS-
      THAN;
20255 % \gtreqless (AmS)
20256 \DeclareTextCommand{\textgtreqless}{PU}{\9052\214}%* U+2A8C
20257 % U+2A95 SLANTED EQUAL TO OR LESS-THAN; \eqslantless (AmS)
20258 \DeclareTextCommand{\texteqslantless}{PU}{\9052\225}%* U+2A95
20259 % U+2A96 SLANTED EQUAL TO OR GREATER-THAN; \eqslantgtr (AmS)
20260 \DeclareTextCommand{\texteqslantgtr}{PU}{\9052\226}%* U+2A96
20261 % U+2AA6 LESS-THAN CLOSED BY CURVE; \leftslice (stmaryrd)
20262 \DeclareTextCommand{\textleftslice}{PU}{\9052\246}%* U+2AA6
20263 % U+2AA7 GREATER-THAN CLOSED BY CURVE; \rightslice (stmaryrd)
20264 \DeclareTextCommand{\textrightslice}{PU}{\9052\247}%* U+2AA7
20265 % U+2AAF PRECEDES ABOVE SINGLE-LINE EQUALS SIGN; \preceq (Mn-
      Symbol)
20266 \DeclareTextCommand{\textpreceq}{PU}{\9052\257}%* U+2AAF
20267 % \npreceq (txfonts/pxfonts)
20268 \DeclareTextCommand{\textnpreceq}{PU}{\9052\257\83\070}%* U+2AAF U+0338
20269 % U+2AB0 SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN; \succeq (Mn-
      Symbol)
20270 \DeclareTextCommand{\textsucceq}{PU}{\9052\260}%* U+2AB0
20271 % \nsucceq (txfonts/pxfonts)
20272 \DeclareTextCommand{\textnsucceq}{PU}{\9052\260\83\070}%* U+2AB0 U+0338
20273 % U+2AB1 PRECEDES ABOVE SINGLE-LINE NOT EQUAL TO; \prec-
      neq (mathabx)
20274 \DeclareTextCommand{\textprecneq}{PU}{\9052\261}%* U+2AB1
20275 % U+2AB2 SUCCEEDS ABOVE SINGLE-LINE NOT EQUAL TO; \succ-
      neq (mathabx)
20276 \DeclareTextCommand{\textsuccneq}{PU}{\9052\262}%* U+2AB2
20277 % U+2AB3 PRECEDES ABOVE EQUALS SIGN; \preceqq (txfonts/pxfonts)
20278 \DeclareTextCommand{\textpreceqq}{PU}{\9052\263}%* U+2AB3
20279 % \npreceqq (txfonts/pxfonts)
20280 \DeclareTextCommand{\textnpreceqq}{PU}{\9052\263\83\070}%* U+2AB3 U+0338
20281 % U+2AB4 SUCCEEDS ABOVE EQUALS SIGN; \succeqq (txfonts/pxfonts)
20282 \DeclareTextCommand{\textsucceqq}{PU}{\9052\264}%* U+2AB4
20283 % \nsucceqq (txfonts/pxfonts)
20284 \DeclareTextCommand{\textnsucceqq}{PU}{\9052\264\83\070}%* U+2AB4 U+0338
20285 % U+2AB5 PRECEDES ABOVE NOT EQUAL TO; \precneqq (txfonts/pxfonts)
20286 \DeclareTextCommand{\textprecneqq}{PU}{\9052\265}%* U+2AB5
20287 % U+2AB6 SUCCEEDS ABOVE NOT EQUAL TO; \succneqq (txfonts/pxfonts)
20288 \DeclareTextCommand{\textsuccneqq}{PU}{\9052\266}%* U+2AB6
20289 % U+2AB7 PRECEDES ABOVE ALMOST EQUAL TO; \preccapprox (AmS)
20290 \DeclareTextCommand{\textpreccapprox}{PU}{\9052\267}%* U+2AB7
20291 % \npreccapprox (txfonts/pxfonts)

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20292 \DeclareTextCommand{\textnprecapprox}{PU}{\9052\267\83\070}%* U+2AB7 U+0338
20293 % U+2AB8 SUCCEEDS ABOVE ALMOST EQUAL TO; \succapprox (AmS)
20294 \DeclareTextCommand{\textsuccapprox}{PU}{\9052\270}%* U+2AB8
20295 % \nsuccapprox (txfonts/pxfonts)
20296 \DeclareTextCommand{\textnsuccapprox}{PU}{\9052\270\83\070}%* U+2AB8 U+0338
20297 % U+2AB9 PRECEDES ABOVE NOT ALMOST EQUAL TO; \precnap-
      prox (AmS)
20298 \DeclareTextCommand{\textprecnapprox}{PU}{\9052\271}%* U+2AB9
20299 % U+2ABA SUCCEEDS ABOVE NOT ALMOST EQUAL TO; \succnap-
      prox (AmS)
20300 \DeclareTextCommand{\textsuccnapprox}{PU}{\9052\272}%* U+2ABA
20301 % U+2AC5 SUBSET OF ABOVE EQUALS SIGN; \subseteqq (AmS)
20302 \DeclareTextCommand{\textsubseteqq}{PU}{\9052\305}%* U+2AC5
20303 % \nsubseteqq (txfonts/pxfonts, mathabx)
20304 \DeclareTextCommand{\textnsubseteqq}{PU}{\9052\305\83\070}%* U+2AC5 U+0338
20305 % U+2AC6 SUPERSET OF ABOVE EQUALS SIGN; \supseteqq (AmS)
20306 \DeclareTextCommand{\textsupseteqq}{PU}{\9052\306}%* U+2AC6
20307 % \nsupseteqq (mathabx)
20308 \DeclareTextCommand{\textnsupseteqq}{PU}{\9052\306\83\070}%* U+2AC6 U+0338
20309 % U+2AE3 DOUBLE VERTICAL BAR LEFT TURNSTILE
20310 \DeclareTextCommand{\textdashV}{PU}{\9052\343}%* U+2AE3
20311 %* \textdashV -> \leftVdash (MnSymbol)
20312 % \ndashV (mathabx)
20313 \DeclareTextCommand{\textndashV}{PU}{\9052\343\83\070}%* U+2AE3 U+0338
20314 %* \textndashV -> \nleftVdash (MnSymbol)
20315 % U+2AE4 VERTICAL BAR DOUBLE LEFT TURNSTILE; \Dashv (mathabx)
20316 \DeclareTextCommand{\textDashv}{PU}{\9052\344}%* U+2AE4
20317 %* \textDashv -> \leftmodels (MnSymbol)
20318 % \nDashv (mathabx)
20319 \DeclareTextCommand{\textnDashv}{PU}{\9052\344\83\070}%* U+2AE4 U+0338
20320 %* \textnDashv -> \nleftmodels (MnSymbol)
20321 % U+2AE5 DOUBLE VERTICAL BAR DOUBLE LEFT TURNSTILE;
20322 % \DashV (mathabx)
20323 \DeclareTextCommand{\textDashV}{PU}{\9052\345}%* U+2AE5
20324 %* \textDashV -> \leftModels (MnSymbol)
20325 % \nDashV (mathabx)
20326 \DeclareTextCommand{\textnDashV}{PU}{\9052\345\83\070}%* U+2AE5 U+0338
20327 %* \textnDashV -> \nleftModels (MnSymbol)
20328 % U+2AEA DOUBLE DOWN TACK; \downmodels (MnSymbol)
20329 \DeclareTextCommand{\textdownmodels}{PU}{\9052\352}%* U+2AEA
20330 % \ndownmodels (MnSymbol)
20331 \DeclareTextCommand{\textndownmodels}{PU}{\9052\352\83\070}%* U+2AEA U+0338
20332 % U+2AEB DOUBLE UP TACK; \upmodels (MnSymbol)
20333 \DeclareTextCommand{\textupmodels}{PU}{\9052\353}%* U+2AEB
20334 % \nupmodels (MnSymbol)
20335 \DeclareTextCommand{\textnupmodels}{PU}{\9052\353\83\070}%* U+2AEB U+0338
20336 % U+2AEF VERTICAL LINE WITH CIRCLE ABOVE; \upspoon (MnSymbol)
20337 \DeclareTextCommand{\textupspoon}{PU}{\9052\357}%* U+2AEF
20338 % U+2AF4 TRIPLE VERTICAL BAR BINARY RELATION;
20339 % \interleave (stmaryrd)

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20340 \DeclareTextCommand{\textinterleave}{PU}{\9052\364}%\* U+2AF4  
 20341 % U+2AFD DOUBLE SOLIDUS OPERATOR; \sslash (stmaryrd)  
 20342 \DeclareTextCommand{\textsslash}{PU}{\9052\375}%\* U+2AFD  
 20343 %\* \textsslash -> \varparallel (txfonts\pxfonts)

### 51.2.36 Miscellaneous Symbols and Arrows: U+2B00 to U+2BFF

20344 % U+2B20 WHITE PENTAGON; \pentagon (wasysym)  
 20345 \DeclareTextCommand{\textpentagon}{PU}{\9053\040}%\* U+2B20  
 20346 % U+2B21 WHITE HEXAGON; \varhexagon (wasysym)  
 20347 \DeclareTextCommand{\textvarhexagon}{PU}{\9053\041}%\* U+2B21

### 51.2.37 Latin Extended-C: U+2C60 to U+2C7F

20348 % U+2C7C LATIN SUBSCRIPT SMALL LETTER J  
 20349 \DeclareTextCommand{\textjinferior}{PU}{\9054\174}%\* U+2C7C

### 51.2.38 Supplemental Punctuation: U+2E00 to U+2E7F

20350 % U+2E13 DOTTED OBELOS; \slashdiv (MnSymbol)  
 20351 \DeclareTextCommand{\textslashdiv}{PU}{\9056\023}%\* U+2E13  
 20352 % U+2E18 INVERTED INTERROBANG; \textinterrobangdown (textcomp)  
 20353 \DeclareTextCommand{\textinterrobangdown}{PU}{\9056\030}% U+2E18  
 20354 % U+2E2D FIVE DOT MARK; \fivedots (MnSymbol)  
 20355 \DeclareTextCommand{\textfivedots}{PU}{\9056\055}%\* U+2E2D

### 51.2.39 Modifier Tone Letters: U+A700 to U+A71F

20356 % U+A71B MODIFIER LETTER RAISED UP ARROW; \textupstep (tipa)  
 20357 \DeclareTextCommand{\textupstep}{PU}{\9247\033}% U+A71B  
 20358 % U+A71C MODIFIER LETTER RAISED DOWN ARROW;  
 20359 % \textdownstep (tipa)  
 20360 \DeclareTextCommand{\textdownstep}{PU}{\9247\034}% U+A71C

### 51.2.40 Latin Extended-D: U+A720 to U+A7FF

20361 % U+A727 LATIN SMALL LETTER HENG; \textheng (tipx)  
 20362 \DeclareTextCommand{\textPUheng}{PU}{\9247\047}% U+A727  
 20363 %\* \textPUheng -> \textheng (tipx)  
 20364 % U+A72C LATIN CAPITAL LETTER CUATRILLO; \textlhookfour (tipx)  
 20365 \DeclareTextCommand{\textPUIhookfour}{PU}{\9247\054}% U+A72C  
 20366 %\* \textPUIhookfour -> \textlhookfour (tipx)  
 20367 % U+A730 LATIN LETTER SMALL CAPITAL F; \textscf (tipx)  
 20368 \DeclareTextCommand{\textPUscf}{PU}{\9247\060}% U+A730  
 20369 %\* \textPUscf -> \textscf (tipx)  
 20370 % U+A735 LATIN SMALL LETTER AO; \textaoilig (tipx)  
 20371 \DeclareTextCommand{\textPUaolig}{PU}{\9247\065}% U+A735  
 20372 %\* \textPUaolig -> \textaoilig (tipx)  
 20373 % U+A74F LATIN SMALL LETTER OO; \oo (wsuipa)  
 20374 \DeclareTextCommand{\textoo}{PU}{\9247\117}%\* U+A74F  
 20375 % U+A788 MODIFIER LETTER LOW CIRCUMFLEX ACCENT  
 20376 \DeclareTextCommand{\textcircumlow}{PU}{\9247\210}% U+A788

### 51.2.41 Alphabetic Presentation Forms: U+FB00 to U+FB4F

20377 % U+FB01 LATIN SMALL LIGATURE FI; fi  
20378 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01  
20379 % U+FB02 LATIN SMALL LIGATURE FL; fl  
20380 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

#### 51.2.42 Musical Symbols: U+1D100 to U+1D1FF

20381 % U+1D13B MUSICAL SYMBOL WHOLE REST; \GaPa (harmony)  
20382 \DeclareTextCommand{\textGaPa}{PU}{\9330\064\9335\073}%\* U+1D13B  
20383 % U+1D13C MUSICAL SYMBOL HALF REST; \HaPa (harmony)  
20384 \DeclareTextCommand{\textHaPa}{PU}{\9330\064\9335\074}%\* U+1D13C  
20385 % U+1D13D MUSICAL SYMBOL QUARTER REST; \ViPa (harmony)  
20386 \DeclareTextCommand{\textViPa}{PU}{\9330\064\9335\075}%\* U+1D13D  
20387 % U+1D13E MUSICAL SYMBOL EIGHTH REST; \AcPa (harmony)  
20388 \DeclareTextCommand{\textAcPa}{PU}{\9330\064\9335\076}%\* U+1D13E  
20389 % U+1D13F MUSICAL SYMBOL SIXTEENTH REST; \SePa (harmony)  
20390 \DeclareTextCommand{\textSePa}{PU}{\9330\064\9335\077}%\* U+1D13F  
20391 % U+1D140 MUSICAL SYMBOL THIRTY-SECOND REST; \ZwPa (harmony)  
20392 \DeclareTextCommand{\textZwPa}{PU}{\9330\064\9335\100}%\* U+1D140  
20393 % U+1D15D MUSICAL SYMBOL WHOLE NOTE; \fullnote (wasysym)  
20394 \DeclareTextCommand{\textfullnote}{PU}{\9330\064\9335\135}%\* U+1D15D  
20395 %\* \textfullnote -> \Ganz (harmony)  
20396 % U+1D15E MUSICAL SYMBOL HALF NOTE; \halfnote (wasysym)  
20397 \DeclareTextCommand{\texthalfnote}{PU}{\9330\064\9335\136}%\* U+1D15E  
20398 %\* \texthalfnote -> \Halb (harmony)  
20399 % U+1D15F MUSICAL SYMBOL QUARTER NOTE; \Vier (harmony)  
20400 \DeclareTextCommand{\textVier}{PU}{\9330\064\9335\137}%\* U+1D15F  
20401 % U+1D160 MUSICAL SYMBOL EIGHTH NOTE; \Acht (harmony)  
20402 \DeclareTextCommand{\textAcht}{PU}{\9330\064\9335\140}%\* U+1D160  
20403 % U+1D161 MUSICAL SYMBOL SIXTEENTH NOTE; \Sech (harmony)  
20404 \DeclareTextCommand{\textSech}{PU}{\9330\064\9335\141}%\* U+1D161  
20405 % U+1D162 MUSICAL SYMBOL THIRTY-SECOND NOTE; \Zwdr (harmony)  
20406 \DeclareTextCommand{\textZwdr}{PU}{\9330\064\9335\142}%\* U+1D162

#### 51.2.43 Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF

20407 % U+1F30D EARTH GLOBE EUROPE-AFRICA; \Mundus (marvosym)  
20408 \DeclareTextCommand{\textMundus}{PU}{\9330\074\9337\015}%\* U+1F30D  
20409 % U+1F319 CRESCENT MOON; \Moon (marvosym)  
20410 \DeclareTextCommand{\textMoon}{PU}{\9330\074\9337\031}%\* U+1F319  
20411 % U+1F468 MAN; \ManFace (marvosym)  
20412 \DeclareTextCommand{\textManFace}{PU}{\9330\075\9334\150}%\* U+1F468  
20413 % U+1F469 WOMAN; \WomanFace (marvosym)  
20414 \DeclareTextCommand{\textWomanFace}{PU}{\9330\075\9334\151}%\* U+1F469  
20415 %\* \textWomanFace -> \Womanface (marvosym)  
20416 % U+1F4E0 FAX MACHINE; \Fax (marvosym)  
20417 \DeclareTextCommand{\textFax}{PU}{\9330\075\9334\340}%\* U+1F4E0  
20418 %\* \textFax -> \Faxmachine (marvosym)  
20419 % U+1F525 FIRE; \Fire (ifsym)  
20420 \DeclareTextCommand{\textFire}{PU}{\9330\075\9335\045}%\* U+1F525

#### 51.2.44 Transport and Map Symbols: U+1F680 to U+1F6FF

20421 % U+1F6B2 BICYCLE; \Bicycle (marvosym)  
20422 \DeclareTextCommand{\textBicycle}{PU}{\9330\075\9336\262}%\* U+1F6B2  
20423 % U+1F6B9 MENS SYMBOL; \Gentsroom (marvosym)  
20424 \DeclareTextCommand{\textGentsroom}{PU}{\9330\075\9336\271}%\* U+1F6B9  
20425 % U+1F6BA WOMENS SYMBOL; \Ladiesroom (marvosym)  
20426 \DeclareTextCommand{\textLadiesroom}{PU}{\9330\075\9336\272}%\* U+1F6BA

### 51.2.45 Miscellaneous

20427 \DeclareTextCommand{\SS}{PU}{SS}%  
20428 % \textcopyleft (textcomp)  
20429 \DeclareTextCommand{\textcopyleft}{PU}{\9041\204\9040\335}% U+2184 U+20DD  
20430 % \ccnc (cclicens)  
20431 \DeclareTextCommand{\textccnc}{PU}{\80\044\9040\340}%\* U+0024 U+20E0  
20432 % \ccnd (cclicens)  
20433 \DeclareTextCommand{\textccnd}{PU}{=\9040\335}%\* U+003D U+20DD  
20434 % \ccsa (cclicens)  
20435 \DeclareTextCommand{\textccsa}{PU}{\9047\362\9040\335}%\* U+27F2 U+20DD  
20436 % \Info (marvosym, china2e)  
20437 \DeclareTextCommand{\textInfo}{PU}{\9330\065\9334\042\9040\336}%\* U+1D422 U+20DE  
20438 % \CESign (marvosym)  
20439 \DeclareTextCommand{\textCESign}{PU}{\80\103\80\105}%\* U+0043 U+0045  
20440 %\* \textCESign -> \CESign (marvosym)

### 51.2.46 Aliases

Aliases (german.sty)

20441 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}%  
20442 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}%  
20443 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}%  
20444 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}%  
20445 \DeclareTextCommand{\textflqq}{PU}{\guillemotleft}%  
20446 \DeclareTextCommand{\textfrqq}{PU}{\guillemotright}%  
20447 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}%  
20448 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}%

Aliases (math names)

20449 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}%\*  
20450 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}%\*  
20451 \DeclareTextCommand{\textdiv}{PU}{\textdivide}%\*  
20452 \DeclareTextCommand{\textpm}{PU}{\textplusminus}%\*  
20453 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}%\*  
20454 </puenc>

## 51.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

20455 <\*pvnenc>  
20456 \DeclareTextCommand{\abreve}{PU}{\81\003}% U+0103  
20457 \DeclareTextCommand{\acircumflex}{PU}{\80\342}% U+00E2

20458 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}% U+00EA  
20459 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}% U+00F4  
20460 \DeclareTextCommand{\ohorn}{PU}{\81\241}% U+01A1  
20461 \DeclareTextCommand{\uhorn}{PU}{\81\260}% U+01B0  
20462 \DeclareTextCommand{\ABREVE}{PU}{\81\002}% U+0102  
20463 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}% U+00C2  
20464 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}% U+00CA  
20465 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}% U+00D4  
20466 \DeclareTextCommand{\OHORN}{PU}{\81\240}% U+01A0  
20467 \DeclareTextCommand{\UHORN}{PU}{\81\257}% U+01AF  
  
20468 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1  
20469 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1  
20470 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0  
20471 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}% U+1EA3  
20472 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3  
20473 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}% U+1EAF  
20474 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}% U+1EB7  
20475 \DeclareTextCompositeCommand{\`}{PU}{\abreve}{\9036\261}% U+1EB1  
20476 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}% U+1EB3  
20477 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}% U+1EB5  
20478 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}% U+1EA5  
20479 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}% U+1EAD  
20480 \DeclareTextCompositeCommand{\`}{PU}{\acircumflex}{\9036\247}% U+1EA7  
20481 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}% U+1EA9  
20482 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}% U+1EAB  
20483 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9  
20484 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9  
20485 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8  
20486 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}% U+1EBB  
20487 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD  
20488 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}% U+1EBF  
20489 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}% U+1EC7  
20490 \DeclareTextCompositeCommand{\`}{PU}{\ecircumflex}{\9036\301}% U+1EC1  
20491 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}% U+1EC3  
20492 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}% U+1EC5  
20493 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED  
20494 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB  
20495 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC  
20496 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}% U+1EC9  
20497 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129  
20498 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3  
20499 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD  
20500 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2  
20501 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}% U+1ECF  
20502 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5  
20503 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}% U+1ED1  
20504 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}% U+1ED9  
20505 \DeclareTextCompositeCommand{\`}{PU}{\ocircumflex}{\9036\323}% U+1ED3  
20506 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}% U+1ED5

20507 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}% U+1ED7  
20508 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}% U+1EDB  
20509 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}% U+1EE3  
20510 \DeclareTextCompositeCommand{\`}{PU}{\ohorn}{\9036\335}% U+1EDD  
20511 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}% U+1EDF  
20512 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}% U+1EE1  
20513 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA  
20514 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5  
20515 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9  
20516 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}% U+1EE7  
20517 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169  
20518 \DeclareTextCompositeCommand{\'}{PU}{uhorn}{\9036\351}% U+1EE9  
20519 \DeclareTextCompositeCommand{\d}{PU}{uhorn}{\9036\361}% U+1EF1  
20520 \DeclareTextCompositeCommand{\`}{PU}{uhorn}{\9036\353}% U+1EEB  
20521 \DeclareTextCompositeCommand{\h}{PU}{uhorn}{\9036\355}% U+1EED  
20522 \DeclareTextCompositeCommand{\~}{PU}{uhorn}{\9036\357}% U+1EEF  
20523 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD  
20524 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5  
20525 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3  
20526 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}% U+1EF7  
20527 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9  
20528 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1  
20529 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0  
20530 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0  
20531 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}% U+1EA2  
20532 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3  
20533 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}% U+1EAE  
20534 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}% U+1EB6  
20535 \DeclareTextCompositeCommand{\`}{PU}{\ABREVE}{\9036\260}% U+1EB0  
20536 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}% U+1EB2  
20537 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}% U+1EB4  
20538 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}% U+1EA4  
20539 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}% U+1EAC  
20540 \DeclareTextCompositeCommand{\`}{PU}{\ACIRCUMFLEX}{\9036\246}% U+1EA6  
20541 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}% U+1EA8  
20542 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}% U+1EAA  
20543 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9  
20544 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8  
20545 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8  
20546 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}% U+1EBA  
20547 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC  
20548 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}% U+1EBE  
20549 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}% U+1EC6  
20550 \DeclareTextCompositeCommand{\`}{PU}{\ECIRCUMFLEX}{\9036\300}% U+1EC0  
20551 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}% U+1EC2  
20552 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}% U+1EC4  
20553 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD  
20554 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA  
20555 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC  
20556 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}% U+1EC8

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20557 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
20558 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
20559 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC
20560 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
20561 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}% U+1ECE
20562 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
20563 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}% U+1ED0
20564 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}% U+1ED8
20565 \DeclareTextCompositeCommand{\`}{PU}{\OCIRCUMFLEX}{\9036\322}% U+1ED2
20566 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}% U+1ED4
20567 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}% U+1ED6
20568 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}% U+1EDA
20569 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}% U+1EE2
20570 \DeclareTextCompositeCommand{\`}{PU}{\OHORN}{\9036\334}% U+1EDC
20571 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}% U+1EDE
20572 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}% U+1EE0
20573 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
20574 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4
20575 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
20576 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}% U+1EE6
20577 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
20578 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}% U+1EE8
20579 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}% U+1EF0
20580 \DeclareTextCompositeCommand{\`}{PU}{\UHORN}{\9036\352}% U+1EEA
20581 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}% U+1EEC
20582 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}% U+1EEE
20583 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
20584 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4
20585 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
20586 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}% U+1EF6
20587 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
20588 </puvnenc>

```

## 51.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

20589 <*puarenc>
20590 % U+0621;afii57409;ARABIC LETTER HAMZA
20591 \DeclareTextCommand{\hamza}{PU}{\86\041}% U+0621
20592 % U+0622;afii57410;ARABIC LETTER ALEF WITH MADDA ABOVE
20593 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% U+0622
20594 % U+0623;afii57411;ARABIC LETTER ALEF WITH HAMZA ABOVE
20595 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% U+0623
20596 % U+0624;afii57412;ARABIC LETTER WAW WITH HAMZA ABOVE
20597 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% U+0624
20598 % U+0625;afii57413;ARABIC LETTER ALEF WITH HAMZA BELOW
20599 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% U+0625
20600 % U+0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE

```

20601 \DeclareTextCommand{\yahamza}{PU}{\86\046}% U+0626  
20602 % U+0627;afii57415;ARABIC LETTER ALEF  
20603 \DeclareTextCommand{\alef}{PU}{\86\047}% U+0627  
20604 % U+0628;afii57416;ARABIC LETTER BEH  
20605 \DeclareTextCommand{\baa}{PU}{\86\050}% U+0628  
20606 % U+0629;afii57417;ARABIC LETTER TEH MARBUTA  
20607 \DeclareTextCommand{\T}{PU}{\86\051}% U+0629  
20608 % U+062A;afii57418;ARABIC LETTER TEH  
20609 \DeclareTextCommand{\taa}{PU}{\86\052}% U+062A  
20610 % U+062B;afii57419;ARABIC LETTER THEH  
20611 \DeclareTextCommand{\thaa}{PU}{\86\053}% U+062B  
20612 % U+062C;afii57420;ARABIC LETTER JEEM  
20613 \DeclareTextCommand{\jeem}{PU}{\86\054}% U+062C  
20614 % U+062D;afii57421;ARABIC LETTER HAH  
20615 \DeclareTextCommand{\Haa}{PU}{\86\055}% U+062D  
20616 % U+062E;afii57422;ARABIC LETTER KHAH  
20617 \DeclareTextCommand{\kha}{PU}{\86\056}% U+062E  
20618 % U+062F;afii57423;ARABIC LETTER DAL  
20619 \DeclareTextCommand{\dal}{PU}{\86\057}% U+062F  
20620 % U+0630;afii57424;ARABIC LETTER THAL  
20621 \DeclareTextCommand{\dhal}{PU}{\86\060}% U+0630  
20622 % U+0631;afii57425;ARABIC LETTER REH  
20623 \DeclareTextCommand{\ra}{PU}{\86\061}% U+0631  
20624 % U+0632;afii57426;ARABIC LETTER ZAIN  
20625 \DeclareTextCommand{\zay}{PU}{\86\062}% U+0632  
20626 % U+0633;afii57427;ARABIC LETTER SEEN  
20627 \DeclareTextCommand{\seen}{PU}{\86\063}% U+0633  
20628 % U+0634;afii57428;ARABIC LETTER SHEEN  
20629 \DeclareTextCommand{\sheen}{PU}{\86\064}% U+0634  
20630 % U+0635;afii57429;ARABIC LETTER SAD  
20631 \DeclareTextCommand{\sad}{PU}{\86\065}% U+0635  
20632 % U+0636;afii57430;ARABIC LETTER DAD  
20633 \DeclareTextCommand{\dad}{PU}{\86\066}% U+0636  
20634 % U+0637;afii57431;ARABIC LETTER TAH  
20635 \DeclareTextCommand{\Ta}{PU}{\86\067}% U+0637  
20636 % U+0638;afii57432;ARABIC LETTER ZAH  
20637 \DeclareTextCommand{\za}{PU}{\86\070}% U+0638  
20638 % U+0639;afii57433;ARABIC LETTER AIN  
20639 \DeclareTextCommand{\ayn}{PU}{\86\071}% U+0639  
20640 % U+063A;afii57434;ARABIC LETTER GHAIN  
20641 \DeclareTextCommand{\ghayn}{PU}{\86\072}% U+063A  
20642 % U+0640;afii57440;ARABIC TATWEEL  
20643 \DeclareTextCommand{\tatweel}{PU}{\86\100}% U+0640  
20644 % U+0641;afii57441;ARABIC LETTER FEH  
20645 \DeclareTextCommand{\fa}{PU}{\86\101}% U+0641  
20646 % U+0642;afii57442;ARABIC LETTER QAF  
20647 \DeclareTextCommand{\qaf}{PU}{\86\102}% U+0642  
20648 % U+0643;afii57443;ARABIC LETTER KAF  
20649 \DeclareTextCommand{\kaf}{PU}{\86\103}% U+0643  
20650 % U+0644;afii57444;ARABIC LETTER LAM

20651 \DeclareTextCommand{\lam}{PU}{\86\104}% U+0644  
 20652 % U+0645;afii57445;ARABIC LETTER MEEM  
 20653 \DeclareTextCommand{\meem}{PU}{\86\105}% U+0645  
 20654 % U+0646;afii57446;ARABIC LETTER NOON  
 20655 \DeclareTextCommand{\nun}{PU}{\86\106}% U+0646  
 20656 % U+0647;afii57470;ARABIC LETTER HEH  
 20657 \DeclareTextCommand{\ha}{PU}{\86\107}% U+0647  
 20658 % U+0648;afii57448;ARABIC LETTER WAW  
 20659 \DeclareTextCommand{\waw}{PU}{\86\110}% U+0648  
 20660 % U+0649;afii57449;ARABIC LETTER ALEF MAKSURA  
 20661 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% U+0649  
 20662 % U+064A;afii57450;ARABIC LETTER YEH  
 20663 \DeclareTextCommand{\ya}{PU}{\86\112}% U+064A  
  
 20664 % U+064B;afii57451;ARABIC FATHATAN  
 20665 \DeclareTextCommand{\nasb}{PU}{\86\113}% U+064B  
 20666 % U+064C;afii57452;ARABIC DAMMATAN  
 20667 \DeclareTextCommand{\raff}{PU}{\86\114}% U+064C  
 20668 % U+064D;afii57453;ARABIC KASRATAN  
 20669 \DeclareTextCommand{\jarr}{PU}{\86\115}% U+064D  
 20670 % U+064E;afii57454;ARABIC FATHA  
 20671 \DeclareTextCommand{\fatha}{PU}{\86\116}% U+064E  
 20672 % U+064F;afii57455;ARABIC DAMMA  
 20673 \DeclareTextCommand{\damma}{PU}{\86\117}% U+064F  
 20674 % U+0650;afii57456;ARABIC KASRA  
 20675 \DeclareTextCommand{\kasra}{PU}{\86\120}% U+0650  
 20676 % U+0651;afii57457;ARABIC SHADDA  
 20677 \DeclareTextCommand{\shadda}{PU}{\86\121}% U+0651  
 20678 % U+0652;afii57458;ARABIC SUKUN  
 20679 \DeclareTextCommand{\sukun}{PU}{\86\122}% U+0652  
  
 Farsi  
 20680 % U+067E ARABIC LETTER PEH; afii57506  
 20681 \DeclareTextCommand{\peh}{PU}{\86\176}% U+067E  
 20682 % U+0686 ARABIC LETTER TCHEH; afii57507  
 20683 \DeclareTextCommand{\tcheh}{PU}{\86\206}% U+0686  
 20684 % U+0698 ARABIC LETTER JEH; afii57508  
 20685 \DeclareTextCommand{\jeh}{PU}{\86\230}% U+0698  
 20686 % U+06A9 ARABIC LETTER KEHEH  
 20687 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% U+06A9  
 20688 % U+06AF ARABIC LETTER GAF; afii57509  
 20689 \DeclareTextCommand{\gaf}{PU}{\86\257}% U+06AF  
 20690 % U+06CC ARABIC LETTER FARSI YEH  
 20691 \DeclareTextCommand{\farsiya}{PU}{\86\314}% U+06CC  
  
 20692 % U+200C ZERO WIDTH NON-JOINER; afii61664  
 20693 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% U+200C  
 20694 % U+200D ZERO WIDTH JOINER; afii301  
 20695 \DeclareTextCommand{\textEncodingNoboundary}{PU}{\9040\015}% U+200D  
 20696 </puarenc>

20697  $\langle *psdextra \rangle$   
 20698  $\backslash Hy@VersionCheck\{psdextra.def\}$   
 20699  $\backslash newcommand*{\psdmapshortnames}\{%$   
 20700  $\backslash let\ MVPlus\ textMVPlus$   
 20701  $\backslash let\ MVComma\ textMVComma$   
 20702  $\backslash let\ MVMinus\ textMVMinus$   
 20703  $\backslash let\ MVPeriod\ textMVPeriod$   
 20704  $\backslash let\ MVDivision\ textMVDivision$   
 20705  $\backslash let\ MVZero\ textMVZero$   
 20706  $\backslash let\ MVOne\ textMVOne$   
 20707  $\backslash let\ MVTwo\ textMVTwo$   
 20708  $\backslash let\ MVThree\ textMVThree$   
 20709  $\backslash let\ MVFour\ textMVFour$   
 20710  $\backslash let\ MVFive\ textMVFive$   
 20711  $\backslash let\ MVSix\ textMVSix$   
 20712  $\backslash let\ MVSeven\ textMVSeven$   
 20713  $\backslash let\ MVEight\ textMVEight$   
 20714  $\backslash let\ MVNine\ textMVNine$   
 20715  $\backslash let\ MVAt\ textMVAt$   
 20716  $\backslash let\ copyright\ textcopyright$   
 20717  $\backslash let\ twosuperior\ texttwosuperior$   
 20718  $\backslash let\ threesuperior\ textthreesuperior$   
 20719  $\backslash let\ onesuperior\ textonesuperior$   
 20720  $\backslash let\ Thorn\ textThorn$   
 20721  $\backslash let\ thorn\ textthorn$   
 20722  $\backslash let\ hbar\ texthbar$   
 20723  $\backslash let\ hausaB\ texthausaB$   
 20724  $\backslash let\ hausaD\ texthausaD$   
 20725  $\backslash let\ hausaK\ texthausaK$   
 20726  $\backslash let\ barl\ textbarl$   
 20727  $\backslash let\ inve\ textinve$   
 20728  $\backslash let\ slashc\ textslashc$   
 20729  $\backslash let\ scripta\ textscripta$   
 20730  $\backslash let\ openo\ textopeno$   
 20731  $\backslash let\ rtaild\ textrtaild$   
 20732  $\backslash let\ reve\ textreve$   
 20733  $\backslash let\ schwa\ textschwa$   
 20734  $\backslash let\ niepsilon\ textniepsilon$   
 20735  $\backslash let\ revepsilon\ textrevepsilon$   
 20736  $\backslash let\ rhoockrevepsilon\ textrhoockrevepsilon$   
 20737  $\backslash let\ scriptg\ textscriptg$   
 20738  $\backslash let\ scg\ textscg$   
 20739  $\backslash let\ ipagamma\ textipagamma$   
 20740  $\backslash let\ babygamma\ textbabygamma$   
 20741  $\backslash let\ bari\ textbari$   
 20742  $\backslash let\ niota\ textniota$   
 20743  $\backslash let\ sci\ textsci$   
 20744  $\backslash let\ scn\ textscn$   
 20745  $\backslash let\ niphi\ textniphi$   
 20746  $\backslash let\ longlegr\ textlonglegr$

20747 \let\scr\textscr  
 20748 \let\invscr\textinvscr  
 20749 \let\esh\textesh  
 20750 \let\baru\textbaru  
 20751 \let\niupsilon\textniupsilon  
 20752 \let\scriptv\textscriptv  
 20753 \let\turnv\textturnv  
 20754 \let\turnw\textturnw  
 20755 \let\turny\textturny  
 20756 \let\scy\textscy  
 20757 \let\yogh\textyogh  
 20758 \let\glotstop\textglotstop  
 20759 \let\revglotstop\textrevglotstop  
 20760 \let\invglotstop\textinvglotstop  
 20761 \let\Gamma\textGamma  
 20762 \let\Delta\textDelta  
 20763 \let\Theta\textTheta  
 20764 \let\Lambda\textLambda  
 20765 \let\Xi\textXi  
 20766 \let\Pi\textPi  
 20767 \let\Sigma\textSigma  
 20768 \let\Upsilon\textUpsilon  
 20769 \let\Phi\textPhi  
 20770 \let\Psi\textPsi  
 20771 \let\Omega\textOmega  
 20772 \let\alpha\textalpha  
 20773 \let\beta\textbeta  
 20774 \let\gamma\textgamma  
 20775 \let\delta\textdelta  
 20776 \let\epsilon\textepsilon  
 20777 \let\zeta\textzeta  
 20778 \let\eta\texteta  
 20779 \let\theta\texttheta  
 20780 \let\iota\textiota  
 20781 \let\kappa\textkappa  
 20782 \let\lambda\textlambda  
 20783 \let\mu\textmu  
 20784 \let\mugreek\textmugreek  
 20785 \let\nu\textnu  
 20786 \let\xi\textxi  
 20787 \let\pi\textpi  
 20788 \let\rho\textrho  
 20789 \let\varsigma\textvarsigma  
 20790 \let\sigma\textsigma  
 20791 \let\tau\texttau  
 20792 \let\upsilon\textupsilon  
 20793 \let\phi\textphi  
 20794 \let\chi\textchi  
 20795 \let\psi\textpsi  
 20796 \let\omega\textomega

20797 \let\scd\textscd  
20798 \let\scu\textscu  
20799 \let\iinferior\textiinferior  
20800 \let\rinferior\textrinferior  
20801 \let\uinferior\textuinferior  
20802 \let\vinferior\textvinferior  
20803 \let\betainferior\textbetainferior  
20804 \let\gammainferior\textgammainferior  
20805 \let\rhoinferior\textrhoinferior  
20806 \let\phiinferior\textphiinferior  
20807 \let\chiinferior\textchiinferior  
20808 \let\barsci\textbarsci  
20809 \let\barp\textbarp  
20810 \let\barscu\textbarscu  
20811 \let\hrtaild\texthrtaild  
20812 \let\dagger\textdagger  
20813 \let\bullet\textbullet  
20814 \let\hdotfor\texthdotfor  
20815 \let\prime\textprime  
20816 \let\second\textsecond  
20817 \let\third\textthird  
20818 \let\backprime\textbackprime  
20819 \let\lefttherefore\textlefttherefore  
20820 \let\fourth\textfourth  
20821 \let\diamonddots\textdiamonddots  
20822 \let\zerosuperior\textzerosuperior  
20823 \let\isuperior\textisuperior  
20824 \let\foursuperior\textfoursuperior  
20825 \let\fivesuperior\textfivesuperior  
20826 \let\sixsuperior\textsixsuperior  
20827 \let\sevensuperior\textsevensuperior  
20828 \let\eightsuperior\texteightsuperior  
20829 \let\minesuperior\textminesuperior  
20830 \let\plussuperior\textplussuperior  
20831 \let\minussuperior\textminussuperior  
20832 \let>equalsuperior\textequalsuperior  
20833 \let\parenleftsuperior\textparenleftsuperior  
20834 \let\parenrightsuperior\textparenrightsuperior  
20835 \let\nsuperior\textnsuperior  
20836 \let\zeroinferior\textzeroinferior  
20837 \let\oneinferior\textoneinferior  
20838 \let\twoinferior\texttwoinferior  
20839 \let\threeinferior\textthreeinferior  
20840 \let\fourinferior\textfourinferior  
20841 \let\fiveinferior\textfiveinferior  
20842 \let\sixinferior\textsixinferior  
20843 \let\seveninferior\textseveninferior  
20844 \let\eightinferior\texteightinferior  
20845 \let\nineinferior\textnineinferior  
20846 \let\plusinferior\textplusinferior

20847 \let\minusinferior\textminusinferior  
 20848 \let\equalsinferior\textequalsinferior  
 20849 \let\parenleftinferior\textparenleftinferior  
 20850 \let\parenrightinferior\textparenrightinferior  
 20851 \let\ainferior\textainferior  
 20852 \let\einferior\texteinferior  
 20853 \let\oinferior\textoinferior  
 20854 \let\xinferior\textxinferior  
 20855 \let\schwainferior\textschwainferior  
 20856 \let\hinferior\texthinferior  
 20857 \let\kinferior\textkinferior  
 20858 \let\linferior\textlinferior  
 20859 \let\minferior\textminferior  
 20860 \let\ninferior\textninferior  
 20861 \let\pinferior\textpinferior  
 20862 \let\sinferior\textsinferior  
 20863 \let\tinferior\texttinferior  
 20864 \let\Deleatur\textDeleatur  
 20865 \let\hslash\texthslash  
 20866 \let\Im\textIm  
 20867 \let\ell\textell  
 20868 \let\wp\textwp  
 20869 \let\Re\textRe  
 20870 \let\mho\textmho  
 20871 \let\riota\textriota  
 20872 \let\Finv\textFinv  
 20873 \let\aleph\textaleph  
 20874 \let\beth\textbeth  
 20875 \let\gimel\textgimel  
 20876 \let\daleth\textdaleth  
 20877 \let\xfax\textfax  
 20878 \let\Game\textGame  
 20879 \let\leftarrow\textleftarrow  
 20880 \let\uparrow\textuparrow  
 20881 \let\rightarrow\textrightarrow  
 20882 \let\downarrow\textdownarrow  
 20883 \let\leftrightarrow\textleftrightarrow  
 20884 \let\updownarrow\textupdownarrow  
 20885 \let\nwarrow\textnwarrow  
 20886 \let\nearrow\textnearrow  
 20887 \let\searrow\textsearrow  
 20888 \let\swarrow\textswarrow  
 20889 \let\nleftarrow\textnleftarrow  
 20890 \let\nrightarrow\textnrightarrow  
 20891 \let\twoheadleftarrow\texttwoheadleftarrow  
 20892 \let\ntwoheadleftarrow\textntwoheadleftarrow  
 20893 \let\twoheaduparrow\texttwoheaduparrow  
 20894 \let\twoheadrightarrow\texttwoheadrightarrow  
 20895 \let\ntwoheadrightarrow\textntwoheadrightarrow  
 20896 \let\twoheaddownarrow\texttwoheaddownarrow

20897 `\let\leftarrowtail\textleftarrowtail`  
20898 `\let\rightarrowtail\textrightarrowtail`  
20899 `\let\mapsto\textmapsto`  
20900 `\let\hookleftarrow\texthookleftarrow`  
20901 `\let\hookrightarrow\texthookrightarrow`  
20902 `\let\looparrowleft\textlooparrowleft`  
20903 `\let\looparrowright\textlooparrowright`  
20904 `\let\leftrightharpoonarrow\textleftrightharpoonarrow`  
20905 `\let\lightning\textlightning`  
20906 `\let\dsh\textdsh`  
20907 `\let\curvearrowleft\textcurvearrowleft`  
20908 `\let\curvearrowright\textcurvearrowright`  
20909 `\let\leftharpoonup\textleftharpoonup`  
20910 `\let\leftharpoondown\textleftharpoondown`  
20911 `\let\upharpoonright\textupharpoonright`  
20912 `\let\upharpoonleft\textupharpoonleft`  
20913 `\let\rightharpoonup\text\rightharpoonup`  
20914 `\let\rightharpoondown\text\rightharpoondown`  
20915 `\let\downharpoonright\textdownharpoonright`  
20916 `\let\downharpoonleft\textdownharpoonleft`  
20917 `\let\rightleftarrows\textrightleftarrows`  
20918 `\let\updownarrows\textupdownarrows`  
20919 `\let\leftrightarrows\textleftrightarrows`  
20920 `\let\leftleftarrows\textleftleftarrows`  
20921 `\let\upuparrows\textupuparrows`  
20922 `\let\righttrightarrows\textrighttrightarrows`  
20923 `\let\downdownarrows\textdowndownarrows`  
20924 `\let\leftrightharpoons\textleftrightharpoons`  
20925 `\let\rightleftharpoons\textrightleftharpoons`  
20926 `\let\leftleftarrows\textleftleftarrows`  
20927 `\let\leftleftrightharpoons\textleftleftrightharpoons`  
20928 `\let\leftrightarrows\textleftrightarrows`  
20929 `\let\Leftarrow\textLeftarrow`  
20930 `\let\Uparrow\textUparrow`  
20931 `\let\Rightarrow\textRightarrow`  
20932 `\let\Downarrow\textDownarrow`  
20933 `\let\Leftfrown\textLeftfrown`  
20934 `\let\Updownarrow\textUpdownarrow`  
20935 `\let\Nwarrow\textNwarrow`  
20936 `\let\Nearrow\textNearrow`  
20937 `\let\Searrow\textSearrow`  
20938 `\let\Swarrow\textSwarrow`  
20939 `\let\lleftarrow\textlleftarrow`  
20940 `\let\rrightarrow\text\rrightarrow`  
20941 `\let\leftsquigarrow\textleftsquigarrow`  
20942 `\let\rightsquigarrow\textrightsquigarrow`  
20943 `\let\dashleftarrow\textdashleftarrow`  
20944 `\let\dasheduparrow\textdasheduparrow`  
20945 `\let\dashrightarrow\textdashrightarrow`  
20946 `\let\dasheddownarrow\textdasheddownarrow`

20947 \let\pointer\textpointer  
20948 \let\downuparrows\textdownuparrows  
20949 \let\leftarrowtriangle\textleftarrowtriangle  
20950 \let\rightarrowtriangle\textrightarrowtriangle  
20951 \let\leftrightarrowtriangle\textleftrightarrowtriangle  
20952 \let\forall\textforall  
20953 \let\complement\textcomplement  
20954 \let\partial\textpartial  
20955 \let\exists\textexists  
20956 \let\nexists\textnexists  
20957 \let\emptyset\textemptyset  
20958 \let\triangle\texttriangle  
20959 \let\nabla\textnabla  
20960 \let\in\textin  
20961 \let\notin\textnotin  
20962 \let\smallin\textsmallin  
20963 \let\ni\textni  
20964 \let\notowner\textnotowner  
20965 \let\smallowns\textsmallowns  
20966 \let\prod\textprod  
20967 \let\amalg\textamalg  
20968 \let\sum\textsum  
20969 \let\mp\textmp  
20970 \let\dotplus\textdotplus  
20971 \let\Divides\textDivides  
20972 \let\DividesNot\textDividesNot  
20973 \let\setminus\textsetminus  
20974 \let\ast\textast  
20975 \let\circ\textcirc  
20976 \let\surd\textsurd  
20977 \let\propto\textpropto  
20978 \let\infty\textinfty  
20979 \let\angle\textangle  
20980 \let\measuredangle\textmeasuredangle  
20981 \let\sphericalangle\textsphericalangle  
20982 \let\mid\textmid  
20983 \let\nmid\textnmid  
20984 \let\parallel\textparallel  
20985 \let\nparallel\textnparallel  
20986 \let\wedge\textwedge  
20987 \let\owedge\textowedge  
20988 \let\vee\textvee  
20989 \let\ovee\textovee  
20990 \let\cap\textcap  
20991 \let\cup\textcup  
20992 \let\int\textint  
20993 \let\iint\textiint  
20994 \let\iiint\textiiint  
20995 \let\oint\textoint  
20996 \let\oiint\textoiint

20997 \let\ointclockwise\textointclockwise  
20998 \let\ointctrlockwise\textointctrlockwise  
20999 \let\therefore\texttherefore  
21000 \let\because\textbecause  
21001 \let\vdotdot\textvdotdot  
21002 \let\squaredots\textsquaredots  
21003 \let\dotminus\textdotminus  
21004 \let\eqcolon\texteqcolon  
21005 \let\sim\textsim  
21006 \let\backsim\textbacksim  
21007 \let\nbacksim\textnbacksim  
21008 \let\wr\textwr  
21009 \let\nsim\textnsim  
21010 \let\eqsim\texteqsim  
21011 \let\neqsim\textneqsim  
21012 \let\simeq\textsimeq  
21013 \let\nsimeq\textnsimeq  
21014 \let\cong\textcong  
21015 \let\ncong\textncong  
21016 \let\approx\textapprox  
21017 \let\napprox\textnapprox  
21018 \let\approxeq\textapproxeq  
21019 \let\napproxeq\textnapproxeq  
21020 \let\triplesim\texttriplesim  
21021 \let\ntriplesim\textntriplesim  
21022 \let\backcong\textbackcong  
21023 \let\nbackcong\textnbackcong  
21024 \let\asympt\textasympt  
21025 \let\nasympt\textnasympt  
21026 \let\Bumpeq\textBumpeq  
21027 \let\nBumpeq\textnBumpeq  
21028 \let\bumpeq\textbumpeq  
21029 \let\nbumpeq\textnbumpeq  
21030 \let\doteq\textdoteq  
21031 \let\ndoteq\textndoteq  
21032 \let\doteqdot\textdoteqdot  
21033 \let\ndoteq\textndoteq  
21034 \let\fallingdoteq\textfallingdoteq  
21035 \let\nfallingdoteq\textnfallingdoteq  
21036 \let\risingdoteq\textrisingdoteq  
21037 \let\nrisingdoteq\textnrisingdoteq  
21038 \let\colonequals\textcolonequals  
21039 \let\equalscolon\textequalscolon  
21040 \let\eqcirc\texteqcirc  
21041 \let\neqcirc\textneqcirc  
21042 \let\circeq\textcirceq  
21043 \let\ncirceq\textncirceq  
21044 \let\hateq\texthateq  
21045 \let\nhateq\textnhateq  
21046 \let\triangleq\texttriangleq

21047 \let\neq\textneq  
21048 \let\ne\textne  
21049 \let\equiv\textequiv  
21050 \let\nequiv\textnequiv  
21051 \let\leq\textleq  
21052 \let\le\textle  
21053 \let\geq\textgeq  
21054 \let\ge\textge  
21055 \let\leqq\textleqq  
21056 \let\lneqq\textlneqq  
21057 \let\geqq\textgeqq  
21058 \let\ngeqq\textngeqq  
21059 \let\lneq\textlneq  
21060 \let\gneqq\textgneqq  
21061 \let\ll\textll  
21062 \let\nll\textnll  
21063 \let\gg\textgg  
21064 \let\ngg\textngg  
21065 \let\between\textbetween  
21066 \let\nless\textnless  
21067 \let\ngtr\textngtr  
21068 \let\lneq\textlneq  
21069 \let\ngeq\textngeq  
21070 \let\lesssim\textlessim  
21071 \let\gtrsim\textgtrsim  
21072 \let\nlessim\textnlessim  
21073 \let\ngtrsim\textngtrsim  
21074 \let\lessgtr\textlessgtr  
21075 \let\gtrless\textgtrless  
21076 \let\ngtrless\textngtrless  
21077 \let\nlessgtr\textnlessgtr  
21078 \let\prec\textprec  
21079 \let\succ\textsucc  
21080 \let\preccurlyeq\textpreccurlyeq  
21081 \let\succcurlyeq\textsucccurlyeq  
21082 \let\precsim\textprecsim  
21083 \let\nprecsim\textnprecsim  
21084 \let\succsim\textsuccsim  
21085 \let\nsuccsim\textnsuccsim  
21086 \let\nprec\textnprec  
21087 \let\nsucc\textnsucc  
21088 \let\subset\textsubset  
21089 \let\supset\textsupset  
21090 \let\nsubset\textnsubset  
21091 \let\nsupset\textnsupset  
21092 \let\subseteq\textsubseteq  
21093 \let\supseteq\textsupseteq  
21094 \let\nsubseteq\textnsubseteq  
21095 \let\nsupseteq\textnsupseteq  
21096 \let\subsetneq\textsubsetneq

21097 `\let\supsetneq\textsupsetneq`  
21098 `\let\cupdot\textcupdot`  
21099 `\let\cupplus\textcupplus`  
21100 `\let\sqssubset\textsqssubset`  
21101 `\let\nsqsubset\textnsqsubset`  
21102 `\let\sqsupset\textsqsupset`  
21103 `\let\nsqsupset\textnsqsupset`  
21104 `\let\sqssubseteq\textsqssubseteq`  
21105 `\let\nsqssubseteq\textnsqssubseteq`  
21106 `\let\sqsupseteq\textsqsupseteq`  
21107 `\let\nsqsupseteq\textnsqsupseteq`  
21108 `\let\sqcap\textsqcap`  
21109 `\let\sqcup\textsqcup`  
21110 `\let\oplus\textoplus`  
21111 `\let\ominus\textominus`  
21112 `\let\otimes\textotimes`  
21113 `\let\oslash\textoslash`  
21114 `\let\odot\textodot`  
21115 `\let\circledcirc\textcircledcirc`  
21116 `\let\circledast\textcircledast`  
21117 `\let\circleddash\textcircleddash`  
21118 `\let\boxplus\textboxplus`  
21119 `\let\boxminus\textboxminus`  
21120 `\let\boxtimes\textboxtimes`  
21121 `\let\boxdot\textboxdot`  
21122 `\let\vdash\textvdash`  
21123 `\let\dashv\textdashv`  
21124 `\let\ndashv\textndashv`  
21125 `\let\top\texttop`  
21126 `\let\ndownvdash\textndownvdash`  
21127 `\let\bot\textbot`  
21128 `\let\nupvdash\textnupvdash`  
21129 `\let\VDash\textVDash`  
21130 `\let\Vdash\textVdash`  
21131 `\let\Vvdash\textVvdash`  
21132 `\let\NVdash\textNVdash`  
21133 `\let\VDash\textVDash`  
21134 `\let\Nvdash\textNvdash`  
21135 `\let\NVDash\textNVDash`  
21136 `\let\NVdash\textNVdash`  
21137 `\let\NVDash\textNVDash`  
21138 `\let\lhd\textlhd`  
21139 `\let\rhd\textrhd`  
21140 `\let\unlhd\textunlhd`  
21141 `\let\unrhd\textunrhd`  
21142 `\let\multimapdotbothA\textmultimapdotbothA`  
21143 `\let\multimapdotbothB\textmultimapdotbothB`  
21144 `\let\multimap\textmultimap`  
21145 `\let\veebar\textveebar`  
21146 `\let\barwedge\textbarwedge`

21147 `\let\star\textstar`  
21148 `\let\divideontimes\textdivideontimes`  
21149 `\let\bowtie\textbowtie`  
21150 `\let\ltimes\textltimes`  
21151 `\let\rtimes\textrtimes`  
21152 `\let\leftthreetimes\textleftthreetimes`  
21153 `\let\rightthreetimes\textrightthreetimes`  
21154 `\let\backsimeq\textbacksimeq`  
21155 `\let\nbacksimeq\textnbacksimeq`  
21156 `\let\curlyvee\textcurlyvee`  
21157 `\let\curlywedge\textcurlywedge`  
21158 `\let\Subset\textSubset`  
21159 `\let\nSubset\textnSubset`  
21160 `\let\Supset\textSupset`  
21161 `\let\nSupset\textnSupset`  
21162 `\let\Cap\textCap`  
21163 `\let\Cup\textCup`  
21164 `\let\pitchfork\textpitchfork`  
21165 `\let\lessdot\textlessdot`  
21166 `\let\gtrdot\textgtrdot`  
21167 `\let\lll\textlll`  
21168 `\let\ggg\textggg`  
21169 `\let\lesseqgtr\textlesseqgtr`  
21170 `\let\gtreqless\textgtreqless`  
21171 `\let\curlyeqprec\textcurlyeqprec`  
21172 `\let\ncurlyeqprec\textncurlyeqprec`  
21173 `\let\curlyeqsucc\textcurlyeqsucc`  
21174 `\let\ncurlyeqsucc\textncurlyeqsucc`  
21175 `\let\npreccurlyeq\textnpreccurlyeq`  
21176 `\let\nsucccurlyeq\textnsucccurlyeq`  
21177 `\let\nqsubseteq\textnqsubseteq`  
21178 `\let\nqsupseteq\textnqsupseteq`  
21179 `\let\sqsubsetneq\textsqsubsetneq`  
21180 `\let\sqsupsetneq\textsqsupsetneq`  
21181 `\let\lnsim\textlnsim`  
21182 `\let\gnsim\textgnsim`  
21183 `\let\precnsim\textprecnsim`  
21184 `\let\succnsim\textsuccnsim`  
21185 `\let\ntriangleleft\textntriangleleft`  
21186 `\let\ntriangleright\textntriangleright`  
21187 `\let\ntrianglelefteq\textntrianglelefteq`  
21188 `\let\ntrianglerighteq\textntrianglerighteq`  
21189 `\let\vdots\textvdots`  
21190 `\let\cdots\textcdots`  
21191 `\let\udots\textudots`  
21192 `\let\ddots\textddots`  
21193 `\let\barin\textbarin`  
21194 `\let\diameter\textdiameter`  
21195 `\let\backneg\textbackneg`  
21196 `\let\wasylozenge\textwasylozenge`

21197 \let\invbackneg\textinvbackneg  
21198 \let\clock\textclock  
21199 \let\ulcorner\textulcorner  
21200 \let\urcorner\texturcorner  
21201 \let\llcorner\textllcorner  
21202 \let\lrcorner\textlrcorner  
21203 \let\frown\textfrown  
21204 \let\smile\textsmile  
21205 \let\Keyboard\textKeyboard  
21206 \let\langle\textlangle  
21207 \let\rangle\textrangle  
21208 \let\APLinv\textAPLinv  
21209 \let\Tumbler\textTumbler  
21210 \let\notslash\textnotslash  
21211 \let\notbackslash\textnotbackslash  
21212 \let\boxbackslash\textboxbackslash  
21213 \let\APLleftarrowbox\textAPLleftarrowbox  
21214 \let\APLrightarrowbox\textAPLrightarrowbox  
21215 \let\APLuparrowbox\textAPLuparrowbox  
21216 \let\APLdownarrowbox\textAPLdownarrowbox  
21217 \let\APLinput\textAPLinput  
21218 \let\Request\textRequest  
21219 \let\Beam\textBeam  
21220 \let\hexagon\texthexagon  
21221 \let\APLbox\textAPLbox  
21222 \let\ForwardToIndex\textForwardToIndex  
21223 \let\RewindToIndex\textRewindToIndex  
21224 \let\bbslash\textbbslash  
21225 \let\CircledA\textCircledA  
21226 \let\CleaningF\textCleaningF  
21227 \let\CleaningFF\textCleaningFF  
21228 \let\CleaningP\textCleaningP  
21229 \let\CleaningPP\textCleaningPP  
21230 \let\CuttingLine\textCuttingLine  
21231 \let\UParrow\textUParrow  
21232 \let\bigtriangleup\textbigtriangleup  
21233 \let\Forward\textForward  
21234 \let\triangleright\texttriangleright  
21235 \let\RHD\textRHD  
21236 \let\DOWNarrow\textDOWNarrow  
21237 \let\bigtriangledown\textbigtriangledown  
21238 \let\Rewind\textRewind  
21239 \let\triangleleft\texttriangleleft  
21240 \let\LHD\textLHD  
21241 \let\diamond\textdiamond  
21242 \let\lozenge\textlozenge  
21243 \let\LEFTCIRCLE\textLEFTCIRCLE  
21244 \let\RIGHTCIRCLE\textRIGHTCIRCLE  
21245 \let\openbullet\textopenbullet  
21246 \let\boxbar\textboxbar

21247 \let\bigcircle\textbigcircle  
21248 \let\Cloud\textCloud  
21249 \let\FiveStar\textFiveStar  
21250 \let\FiveStarOpen\textFiveStarOpen  
21251 \let\Phone\textPhone  
21252 \let\boxempty\textboxempty  
21253 \let\Checkedbox\textCheckedbox  
21254 \let\Crossedbox\textCrossedbox  
21255 \let\Coffeecup\textCoffeecup  
21256 \let\HandCuffLeft\textHandCuffLeft  
21257 \let\HandCuffRight\textHandCuffRight  
21258 \let\HandLeft\textHandLeft  
21259 \let\HandRight\textHandRight  
21260 \let\Radioactivity\textRadioactivity  
21261 \let\Biohazard\textBiohazard  
21262 \let\Ankh\textAnkh  
21263 \let\YinYang\textYinYang  
21264 \let\frownie\textfrownie  
21265 \let\smiley\textsmiley  
21266 \let\blacksmiley\textblacksmiley  
21267 \let\sun\textsun  
21268 \let\leftmoon\textleftmoon  
21269 \let\rightmoon\textrightmoon  
21270 \let\mercury\textmercury  
21271 \let\earth\textearth  
21272 \let\male\textmale  
21273 \let\jupiter\textjupiter  
21274 \let\saturn\textsaturn  
21275 \let\uranus\texturanus  
21276 \let\neptune\textneptune  
21277 \let\pluto\textpluto  
21278 \let\aries\textaries  
21279 \let\taurus\texttaurus  
21280 \let\gemini\textgemini  
21281 \let\cancer\textcancer  
21282 \let\leo\textleo  
21283 \let\virgo\textvirgo  
21284 \let\libra\textlibra  
21285 \let\scorpio\textscorpio  
21286 \let\sagittarius\textsagittarius  
21287 \let\capricornus\textcapricornus  
21288 \let\aquarius\textaquarius  
21289 \let\pisces\textpisces  
21290 \let\quarternote\textquarternote  
21291 \let\twonotes\texttwonotes  
21292 \let\sixteenthnote\textsixteenthnote  
21293 \let\flat\textflat  
21294 \let\natural\textnatural  
21295 \let\sharp\textsharp  
21296 \let\recycle\textrecycle

21297 \let\Wheelchair\textWheelchair  
21298 \let\Flag\textFlag  
21299 \let\MineSign\textMineSign  
21300 \let\ds\textds  
21301 \let\dsmedical\textdsmedical  
21302 \let\dsjuridical\textdsjuridical  
21303 \let\dschemical\textdschemical  
21304 \let\dsbiological\textdsbiological  
21305 \let\dscommercial\textdscommercial  
21306 \let\manstar\textmanstar  
21307 \let\danger\textdanger  
21308 \let\FemaleFemale\textFemaleFemale  
21309 \let\MaleMale\textMaleMale  
21310 \let\FemaleMale\textFemaleMale  
21311 \let\Hermaphrodite\textHermaphrodite  
21312 \let\Neutral\textNeutral  
21313 \let\hexstar\texthexstar  
21314 \let\SunCloud\textSunCloud  
21315 \let\Rain\textRain  
21316 \let\noway\textnoway  
21317 \let\Mountain\textMountain  
21318 \let\Tent\textTent  
21319 \let\ScissorRight\textScissorRight  
21320 \let\ScissorRightBrokenTop\textScissorRightBrokenTop  
21321 \let\ScissorHollowRight\textScissorHollowRight  
21322 \let\PhoneHandset\textPhoneHandset  
21323 \let\Tape\textTape  
21324 \let\Plane\textPlane  
21325 \let\Envelope\textEnvelope  
21326 \let\Peace\textPeace  
21327 \let\WritingHand\textWritingHand  
21328 \let\PencilRightDown\textPencilRightDown  
21329 \let\PencilRight\textPencilRight  
21330 \let\PencilRightUp\textPencilRightUp  
21331 \let\NibRight\textNibRight  
21332 \let\NibSolidRight\textNibSolidRight  
21333 \let\Checkmark\textCheckmark  
21334 \let\CheckmarkBold\textCheckmarkBold  
21335 \let\XSolid\textXSolid  
21336 \let\XSolidBold\textXSolidBold  
21337 \let\XSolidBrush\textXSolidBrush  
21338 \let\PlusOutline\textPlusOutline  
21339 \let\Plus\textPlus  
21340 \let\PlusThinCenterOpen\textPlusThinCenterOpen  
21341 \let\PlusCenterOpen\textPlusCenterOpen  
21342 \let\Cross\textCross  
21343 \let\CrossOpenShadow\textCrossOpenShadow  
21344 \let\CrossOutline\textCrossOutline  
21345 \let\CrossMaltese\textCrossMaltese  
21346 \let\DavidStar\textDavidStar

21347 \let\FourAsterisk\textFourAsterisk  
21348 \let\JackStar\textJackStar  
21349 \let\JackStarBold\textJackStarBold  
21350 \let\CloverTips\textCloverTips  
21351 \let\FourStar\textFourStar  
21352 \let\FourStarOpen\textFourStarOpen  
21353 \let\FiveStarOpenCircled\textFiveStarOpenCircled  
21354 \let\FiveStarCenterOpen\textFiveStarCenterOpen  
21355 \let\FiveStarOpenDotted\textFiveStarOpenDotted  
21356 \let\FiveStarOutline\textFiveStarOutline  
21357 \let\FiveStarOutlineHeavy\textFiveStarOutlineHeavy  
21358 \let\FiveStarConvex\textFiveStarConvex  
21359 \let\FiveStarShadow\textFiveStarShadow  
21360 \let\AsteriskBold\textAsteriskBold  
21361 \let\AsteriskCenterOpen\textAsteriskCenterOpen  
21362 \let\EightStarTaper\textEightStarTaper  
21363 \let\EightStarConvex\textEightStarConvex  
21364 \let\SixStar\textSixStar  
21365 \let\EightStar\textEightStar  
21366 \let\EightStarBold\textEightStarBold  
21367 \let\TwelveStar\textTwelveStar  
21368 \let\SixteenStarLight\textSixteenStarLight  
21369 \let\SixFlowerPetalRemoved\textSixFlowerPetalRemoved  
21370 \let\SixFlowerOpenCenter\textSixFlowerOpenCenter  
21371 \let\Asterisk\textAsterisk  
21372 \let\SixFlowerAlternate\textSixFlowerAlternate  
21373 \let\FiveFlowerPetal\textFiveFlowerPetal  
21374 \let\FiveFlowerOpen\textFiveFlowerOpen  
21375 \let\EightFlowerPetal\textEightFlowerPetal  
21376 \let\SunshineOpenCircled\textSunshineOpenCircled  
21377 \let\SixFlowerAltPetal\textSixFlowerAltPetal  
21378 \let\SnowflakeChevron\textSnowflakeChevron  
21379 \let\Snowflake\textSnowflake  
21380 \let\SnowflakeChevronBold\textSnowflakeChevronBold  
21381 \let\Sparkle\textSparkle  
21382 \let\SparkleBold\textSparkleBold  
21383 \let\AsteriskRoundedEnds\textAsteriskRoundedEnds  
21384 \let\EightFlowerPetalRemoved\textEightFlowerPetalRemoved  
21385 \let\EightAsterisk\textEightAsterisk  
21386 \let\CircleShadow\textCircleShadow  
21387 \let\SquareShadowBottomRight\textSquareShadowBottomRight  
21388 \let\SquareTopRight\textSquareTopRight  
21389 \let\SquareCastShadowBottomRight\textSquareCastShadowBottomRight  
21390 \let\SquareCastShadowTopRight\textSquareCastShadowTopRight  
21391 \let\DiamandSolid\textDiamandSolid  
21392 \let\RectangleThin\textRectangleThin  
21393 \let\Rectangle\textRectangle  
21394 \let\RectangleBold\textRectangleBold  
21395 \let\perp\textperp  
21396 \let\notperp\textnotperp

21397 `\let\veedot\textveedot`  
21398 `\let\wedgedot\textwedgedot`  
21399 `\let\leftspoon\textleftspoon`  
21400 `\let\lbrackdbl\textlbrackdbl`  
21401 `\let\rbrackdbl\textrbrackdbl`  
21402 `\let\circlearrowleft\textcirclearrowleft`  
21403 `\let\circlearrowright\textcirclearrowright`  
21404 `\let\longleftarrow\textlongleftarrow`  
21405 `\let\longrightarrow\textlongrightarrow`  
21406 `\let\longleftarrowright\textlongleftarrowright`  
21407 `\let\Longleftarrow\textLongleftarrow`  
21408 `\let\Longrightarrow\textLongrightarrow`  
21409 `\let\Longleftarrowright\textLongleftarrowright`  
21410 `\let\longmapsto\textlongmapsto`  
21411 `\let\Longmapsfrom\textLongmapsfrom`  
21412 `\let\Longmapsto\textLongmapsto`  
21413 `\let\nwsearrow\textnwsearrow`  
21414 `\let\neswarrow\textneswarrow`  
21415 `\let\lhooknwarrow\textlhooknwarrow`  
21416 `\let\rhooknarrow\texthooknarrow`  
21417 `\let\lhooksearrow\textlhooksearrow`  
21418 `\let\rhookswarrow\texthookswarrow`  
21419 `\let\leadsto\textleadsto`  
21420 `\let\rcurvearrowne\textrcurvearrowne`  
21421 `\let\lcurvearrowse\textlcurvearrowse`  
21422 `\let\lcurvearrowsw\textlcurvearrowsw`  
21423 `\let\rcurvearrowse\textrcurvearrowse`  
21424 `\let\lcurvearrowdown\textlcurvearrowdown`  
21425 `\let\rcurvearrowdown\textrcurvearrowdown`  
21426 `\let\rcurvearrowleft\textrcurvearrowleft`  
21427 `\let\rcurvearrowright\textrcurvearrowright`  
21428 `\let\leftrightharpoon\textleftrightharpoon`  
21429 `\let\rightleftharpoon\textrightleftharpoon`  
21430 `\let\updownharpoonrightleft\textupdownharpoonrightleft`  
21431 `\let\updownharpoonleftright\textupdownharpoonleftright`  
21432 `\let\leftleftharpoons\textleftleftharpoons`  
21433 `\let\upupharpoons\textupupharpoons`  
21434 `\let\righttrightharpoons\textrighttrightharpoons`  
21435 `\let\downdownharpoons\textdowndownharpoons`  
21436 `\let\leftbarharpoon\textleftbarharpoon`  
21437 `\let\barleftharpoon\textbarleftharpoon`  
21438 `\let\rightbarharpoon\textrightbarharpoon`  
21439 `\let\barriightharpoon\textbarriightharpoon`  
21440 `\let\updownharpoons\textupdownharpoons`  
21441 `\let\downupharpoons\textdownupharpoons`  
21442 `\let\moo\textmoo`  
21443 `\let\llparenthesis\textllparenthesis`  
21444 `\let\rrparenthesis\textrrparenthesis`  
21445 `\let\invdiameter\textinvdiameter`  
21446 `\let\obar\textobar`

21447 \let\obslash\textobslash  
21448 \let\obot\textobot  
21449 \let\NoChemicalCleaning\textNoChemicalCleaning  
21450 \let\olessthan\textolessthan  
21451 \let\ogreaterthan\textogreaterthan  
21452 \let\boxslash\textboxslash  
21453 \let\boxbslash\textboxbslash  
21454 \let\boxast\textboxast  
21455 \let\boxcircle\textboxcircle  
21456 \let\boxbox\textboxbox  
21457 \let\Valve\textValve  
21458 \let\multimapboth\textmultimapboth  
21459 \let\shuffle\textshuffle  
21460 \let\uplus\textuplus  
21461 \let\bigdoublewedge\textbigdoublewedge  
21462 \let\bigdoublevee\textbigdoublevee  
21463 \let\Join\textJoin  
21464 \let\fatsemi\textfatsemi  
21465 \let\circlplus\textcirclplus  
21466 \let\minusdot\textminusdot  
21467 \let\dottimes\textdottimes  
21468 \let\dtimes\textdtimes  
21469 \let\odiv\textodiv  
21470 \let\invneg\textinvneg  
21471 \let\squdoublecap\textsqudoublecap  
21472 \let\capdot\textcapdot  
21473 \let\squdoublecup\textsqudoublecup  
21474 \let\doublewedge\textdoublewedge  
21475 \let\doublevee\textdoublevee  
21476 \let\doublebarwedge\textdoublebarwedge  
21477 \let\veedoublebar\textveedoublebar  
21478 \let\eqdot\texteqdot  
21479 \let\neqdot\textneqdot  
21480 \let\coloncolonequals\textcoloncolonequals  
21481 \let\leqslant\textleqslant  
21482 \let\neqslant\textneqslant  
21483 \let\geqslant\textgeqslant  
21484 \let\ngeqslant\textngeqslant  
21485 \let\lessapprox\textlessapprox  
21486 \let\nlessapprox\textnlessapprox  
21487 \let\gtrapprox\textgtrapprox  
21488 \let\ngtrapprox\textngtrapprox  
21489 \let\lneq\textlneq  
21490 \let\gneq\textgneq  
21491 \let\lnapprox\textlnapprox  
21492 \let\gnapprox\textgnapprox  
21493 \let\lesseqgtr\textlesseqgtr  
21494 \let\gtreqless\textgtreqless  
21495 \let\eqslantless\texteqslantless  
21496 \let\eqslantgtr\texteqslantgtr

21497 \let\leftslice\textleftslice  
21498 \let\rightslice\textrightslice  
21499 \let\preceq\textpreceq  
21500 \let\npreceq\textnpreceq  
21501 \let\succeq\textsucceq  
21502 \let\nsucceq\textnsucceq  
21503 \let\precneq\textprecneq  
21504 \let\succneq\textsuccneq  
21505 \let\preceqq\textpreceqq  
21506 \let\npreceqq\textnpreceqq  
21507 \let\succeqq\textsucceqq  
21508 \let\nsucceqq\textnsucceqq  
21509 \let\precneqq\textprecneqq  
21510 \let\succneqq\textsuccneqq  
21511 \let\precapprox\textprecapprox  
21512 \let\nprecapprox\textnprecapprox  
21513 \let\succapprox\textsuccapprox  
21514 \let\nsuccapprox\textnsuccapprox  
21515 \let\precnapprox\textprecnapprox  
21516 \let\succnapprox\textsuccnapprox  
21517 \let\subseteqq\textsubseteqq  
21518 \let\nsubseteqq\textnsubseteqq  
21519 \let\supseteqq\textsupseteqq  
21520 \let\nsupseteqq\textnsupseteqq  
21521 \let\dashV\textdashV  
21522 \let\ndashV\textndashV  
21523 \let\Dashv\textDashv  
21524 \let\nDashv\textnDashv  
21525 \let\DashV\textDashV  
21526 \let\nDashV\textnDashV  
21527 \let\downmodels\textdownmodels  
21528 \let\ndownmodels\textndownmodels  
21529 \let\upmodels\textupmodels  
21530 \let\nupmodels\textnupmodels  
21531 \let\upspoon\textupspoon  
21532 \let\interleave\textinterleave  
21533 \let\slash\textslash  
21534 \let\pentagon\textpentagon  
21535 \let\varhexagon\textvarhexagon  
21536 \let\jinferior\textjinferior  
21537 \let\slashdiv\textslashdiv  
21538 \let\fivedots\textfivedots  
21539 \let\oo\textoo  
21540 \let\GaPa\textGaPa  
21541 \let\HaPa\textHaPa  
21542 \let\ViPa\textViPa  
21543 \let\AcPa\textAcPa  
21544 \let\SePa\textSePa  
21545 \let\ZwPa\textZwPa  
21546 \let\fullnote\textfullnote

21547 \let\halfnote\texthalfnote  
21548 \let\Vier\textVier  
21549 \let\Acht\textAcht  
21550 \let\Sech\textSech  
21551 \let\Zwdr\textZwdr  
21552 \let\Mundus\textMundus  
21553 \let\Moon\textMoon  
21554 \let\ManFace\textManFace  
21555 \let\WomanFace\textWomanFace  
21556 \let\Fax\textFax  
21557 \let\Fire\textFire  
21558 \let\Bicycle\textBicycle  
21559 \let\Gentsroom\textGentsroom  
21560 \let\Ladiesroom\textLadiesroom  
21561 \let\ccnc\textccnc  
21562 \let\ccsa\textccsa  
21563 \let\Info\textInfo  
21564 \let\CESign\textCESign  
21565 \let\neg\textneg  
21566 \let\times\texttimes  
21567 \let\div\textdiv  
21568 \let\pm\textpm  
21569 \let\cdot\textcdot  
21570 }% \psdmapshortnames  
21571 \newcommand\*{\psdaliasnames}{%  
21572 \let\epsdice\HyPsd@DieFace  
21573 \let\fcdice\HyPsd@DieFace  
21574 \let\MoonPha\HyPsd@MoonPha  
21575 \let\mathdollar\textdollar  
21576 \let\EyesDollar\textdollar  
21577 \let\binampersand\textampersand  
21578 \let\with\textampersand  
21579 \let\mathunderscore\textunderscore  
21580 \let\textvertline\textbar  
21581 \let\mathsterling\textsterling  
21582 \let\pounds\textsterling  
21583 \let\brokenvert\textbrokenbar  
21584 \let\mathsection\textsection  
21585 \let\S\textsection  
21586 \let\mathparagraph\textparagraph  
21587 \let\MultiplicationDot\textperiodcentered  
21588 \let\Squaredot\textperiodcentered  
21589 \let\vartimes\textmultiply  
21590 \let\MVMultiplication\textmultiply  
21591 \let\eth\dh  
21592 \let\crossd\textcrd  
21593 \let\textbard\textcrd  
21594 \let\bard\textcrd  
21595 \let\textcrh\texthbar  
21596 \let\crossh\texthbar

21597 \let\planck\texthbar  
21598 \let\eng\ng  
21599 \let\engma\ng  
21600 \let\crossb\textcrb  
21601 \let\textbarb\textcrb  
21602 \let\barb\textcrb  
21603 \let\Florin\textflorin  
21604 \let\hv\texthvlig  
21605 \let\hausak\texthtk  
21606 \let\crossnilambda\textcrlambda  
21607 \let\barlambda\textcrlambda  
21608 \let\lambdabar\textcrlambda  
21609 \let\lambdaslash\textcrlambda  
21610 \let\textnrleg\textPUnrleg  
21611 \let\textpipevar\textpipe  
21612 \let\textdoublepipevar\textdoublepipe  
21613 \let\textdoublebarpipevar\textdoublebarpipe  
21614 \let\textcrg\textgslash  
21615 \let\textdblig\textPUdblig  
21616 \let\textqplig\textPUqplig  
21617 \let\textcentoldstyle\textslashc  
21618 \let\textbarc\textslashc  
21619 \let\inva\textturna  
21620 \let\vara\textscripta  
21621 \let\invscripta\textturnscripta  
21622 \let\rotvara\textturnscripta  
21623 \let\hookb\texthtb  
21624 \let\hausab\texthtb  
21625 \let\varopeno\textopeno  
21626 \let\curlyc\textctc  
21627 \let\taild\textrtaild  
21628 \let\hookd\texthtd  
21629 \let\hausad\texthtd  
21630 \let\er\textrhookschwa  
21631 \let\epsi\textniepsilon  
21632 \let\hookrepsilon\textrhookrepsilon  
21633 \let\closedrepsilon\textcloserepsilon  
21634 \let\barj\textbardotlessj  
21635 \let\hookg\texthtg  
21636 \let\varg\textscriptg  
21637 \let\vod\textipagamma  
21638 \let\invh\textturnh  
21639 \let\udesc\textturnh  
21640 \let\hookh\texthth  
21641 \let\voicedh\texthth  
21642 \let\hookheng\texththeng  
21643 \let\ibar\textbari  
21644 \let\vari\textniiota  
21645 \let\tildel\textltilde  
21646 \let\latfric\textbeltl

21647 \let\taill\textrtail  
21648 \let\lz\textlyoghlig  
21649 \let\invm\textturnm  
21650 \let\rotm\textturnm  
21651 \let\legm\textturnmrlleg  
21652 \let\labdentainas\textltailm  
21653 \let\emgma\textltailm  
21654 \let\nj\textltain  
21655 \let\enya\textltain  
21656 \let\tailn\textrtain  
21657 \let\closedniomega\textcloseomega  
21658 \let\varomega\textcloseomega  
21659 \let\invr\textturnr  
21660 \let\rotr\textturnr  
21661 \let\invlegr\textturnlonglegr  
21662 \let\tailinvr\textturnrrtail  
21663 \let\legr\textlonglegr  
21664 \let\tailr\textrtailr  
21665 \let\flapr\textfishhookr  
21666 \let\flap\textfishhookr  
21667 \let\tails\textrtails  
21668 \let\curlyesh\textctesh  
21669 \let\clickt\textturnt  
21670 \let\tailt\textrtailt  
21671 \let\ubar\textbaru  
21672 \let\rotOmega\textniupsilon  
21673 \let\invv\textturnv  
21674 \let\pwedge\textturnv  
21675 \let\invw\textturnw  
21676 \let\rotw\textturnw  
21677 \let\invy\textturny  
21678 \let\roty\textturny  
21679 \let\tailz\textrtailz  
21680 \let\curlyz\textctz  
21681 \let\curlyyogh\textctyogh  
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21683 \let\glottal\textglotstop  
21684 \let\reveject\textrevglotstop  
21685 \let\clickc\textstretchc  
21686 \let\textstretchcvar\textstretchc  
21687 \let\clickb\textbullseye  
21688 \let\textObullseye\textbullseye  
21689 \let\textctjvar\textctj  
21690 \let\textturnsck\textturnk  
21691 \let\dz\textdzlig  
21692 \let\tesh\textteshlig  
21693 \let\digamma\textdigammagreek  
21694 \let\hardsign\cyrhrdsn  
21695 \let\softsign\cyrsoftsn  
21696 \let\hebsin\hebshin

21697 \let\textsc\textPUsck  
21698 \let\textscm\textPUscm  
21699 \let\textscp\textPUscp  
21700 \let\textrevscr\textPÜrevscr  
21701 \let\textrhooka\textPURhooka  
21702 \let\textrhooke\textPURhooke  
21703 \let\textrhookepsilon\textPURhookepsilon  
21704 \let\textrhookopeno\textPURhookopeno  
21705 \let\textdoublevertline\textbardbl  
21706 \let\dag\textdagger  
21707 \let\ddagger\textdaggerdbl  
21708 \let\ddag\textdaggerdbl  
21709 \let\mathellipsis\textellipsis  
21710 \let\EurDig\texteuro  
21711 \let\EURdig\texteuro  
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21713 \let\EURhv\texteuro  
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21719 \let\Denarius\textDeleatur  
21720 \let\agemO\textmho  
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21735 \let\varnothing\textemptyset  
21736 \let\owns\textni  
21737 \let\notni\textnotowner  
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21739 \let\varangle\textsphericalangle  
21740 \let\Anglesign\textsphericalangle  
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21742 \let\notdivides\textnmid  
21743 \let\varowedge\textowedge  
21744 \let\varovee\textovee  
21745 \let\varint\textint  
21746 \let\varoint\textoint

21747 \let\downtherefore\textbecause  
21748 \let\textdotdiv\textdotminus  
21749 \let\AC\textsim  
21750 \let\wreath\textwr  
21751 \let\nthickapprox\textnapprox  
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21762 \let\LargerOrEqual\textgeq  
21763 \let\apprle\textlessim  
21764 \let\apprge\textgtrsim  
21765 \let\varoplus\textoplus  
21766 \let\varominus\textominus  
21767 \let\varotimes\textotimes  
21768 \let\varoslash\textoslash  
21769 \let\varodot\textodot  
21770 \let\ocirc\textcircledcirc  
21771 \let\varocircle\textcircledcirc  
21772 \let\varoast\textcircledast  
21773 \let\oasterisk\textcircledast  
21774 \let\rightvdash\textvdash  
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21776 \let\nleftvdash\textndashv  
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21786 \let\nmodels\textnvDash  
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21790 \let\gtrclosed\textrhd  
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21797 \let\varcurlywedge\textcurlywedge  
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21799 \let\doublecup\textCup  
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21801 \let\varsqsupsetneq\textsqsupsetneq  
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21805 \let\ClockLogo\textclock  
21806 \let\baro\textstmaryrdbaro  
21807 \let\varparallelinv\textbbslash  
21808 \let\CleaningA\textCircledA  
21809 \let\Kutline\textCuttingLine  
21810 \let\CutLine\textCuttingLine  
21811 \let\Cutline\textCuttingLine  
21812 \let\MoveUp\textUParrow  
21813 \let\APLup\textbigtriangleup  
21814 \let\Bleech\textbigtriangleup  
21815 \let\MoveDown\textDOWNarrow  
21816 \let\APLdown\textbigtriangledown  
21817 \let\Diamond\textdiamond  
21818 \let\varbigcirc\textbigcircle  
21819 \let\Telefon\textPhone  
21820 \let\Box\textboxempty  
21821 \let\CheckedBox\textCheckedbox  
21822 \let\XBox\textCrossedbox  
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21824 \let\rightpointleft\textHandLeft  
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21829 \let\Yinyang\textYinYang  
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21834 \let\Sun\textsun  
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21836 \let\textfemale\textPUfemale  
21837 \let\female\textPUfemale  
21838 \let\venus\textPUfemale  
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21863 \let\Heart\textheartsuitwhite  
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21867 \let\ eighthnote\textmusicalnote  
21868 \let\Recycling\textrecycle  
21869 \let\VarFlag\textFlag  
21870 \let\textxswup\textdsmilitary  
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21873 \let\CutLeft\textScissorRightBrokenBottom  
21874 \let\Cutright\textScissorRightBrokenBottom  
21875 \let\RightScissors\textScissorRight  
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21877 \let\Letter\textEnvelope  
21878 \let\Writinghand\textWritingHand  
21879 \let\checkmark\textCheckmark  
21880 \let\davidstar\textDavidStar  
21881 \let\llbracket\textlbrackdbl  
21882 \let\rrbracket\textrbrackdbl  
21883 \let\RightTorque\textlcurvearrowdown  
21884 \let\Righttorque\textlcurvearrowdown  
21885 \let\LeftTorque\textrcurvearrowdown  
21886 \let\Lefttorque\textrcurvearrowdown  
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21888 \let\circledbslash\textobslash  
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21893 \let\varogreaterthan\textogreaterthan  
21894 \let\divdot\textminusdot  
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21898 \let\leftVdash\textdashV
21899 \let\nleftVdash\textndashV
21900 \let\leftmodels\textDashv
21901 \let\nleftmodels\textnDashv
21902 \let\leftModels\textDashV
21903 \let\nleftModels\textnDashV
21904 \let\varparallel\textsslash
21905 \let\textheng\textPUheng
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21907 \let\textscf\textPUscf
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21910 \let\Halb\texthalfnote
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21913 \let\CEsign\textCESign
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21915 </psdextra>
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21917 \typeout{}
21918 \begin{document}
21919 \end{document}
21920 </check>
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