

Hypertext marks in L^AT_EX

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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 EuroT_EX 1999.

Bookmark talk, paper The paper version of the talk.

Source code documentation:

📄 **hyperref.dtx** This is the source code documentation for hyperref (this file).

backref.dtx “Back referencing from bibliographical citations”

nameref.dtx “Section name references in L^AT_EX”

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3 File hycheck.tex

Many commands of L^AT_EX 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^AT_EX's `\CheckCommand`, because it takes `\DeclareRobustCommand` and optional parameters better into account.

```

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

```

`\checklatex` Optional argument: release date of L^AT_EX.

```

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^AT_EX 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^AT_EX's definitions is parsed.

```

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

```

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

```

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

```



```

82 \let\HyC@org@robustoptcmd\HyC@noValue
83 \HyC@next
84 }

```

`\HyC@noValue`

```

85 \def\HyC@noValue{NoValue}

```

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

```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

114 \def\HyC@DeclareRobustCommand{%
115 \edef\HyC@robustcmd{%

```

```

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

\HyC@def The parameter text of \def or \edef is stored in the token register \HyC@Toks.
\HyC@edef 125 \def\HyC@def#1#{%
126 \HyC@Toks={#1}%
127 \HyC@nc@noopt
128 }
129 \let\HyC@edef\HyC@def

\HyC@doCheck This command performs the checks and prints the result.
130 \def\HyC@doCheck{%
131 \typeout{* Checking ` \HyC@string\HyC@cmd':}%
132 \HyC@checkItem{cmd}%
133 \HyC@checkItem{robustcmd}%
134 \HyC@checkItem{optcmd}%
135 \HyC@checkItem{robustoptcmd}%
136 \endgroup
137 }

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

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

\HyC@checkOk The result, if the check succeeds.
154 \def\HyC@checkOk#1{%
155 \typeout{\space\space` \HyC@string#1' ok.}%
156 }

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

```

```

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

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

```

4 Package options and setup

4.1 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

change 2020-07-24: require newer pdftexcmds and remove fallback code for version older than 2010. change 2021-08-14: require expl3 change 2023-11-26: no longer require pdftexcmds change 2023-11-26: no longer require expl3, we assume kernel is new enough.

```

232 \RequirePackage{iftex}[2019/10/24]
233 \RequirePackage{infwarerr}[2010/04/08]
234 \RequirePackage{keyval}[1997/11/10]
235 \RequirePackage{kvsetkeys}[2007/09/29]
236 \RequirePackage{kvdefinekeys}[2011/04/07]
237 \RequirePackage{pdfescape}[2007/11/11]
238 \RequirePackage{hycolor}
239 \RequirePackage{letltxmacro}[2008/06/13]
240 \RequirePackage{auxhook}[2009/12/14]
241 \RequirePackage{nameref}[2012/07/28]
242 \RequirePackage{etoolbox}

```

```

243 \def\Hy@Error{\PackageError{hyperref}}
244 \def\Hy@Warning{\PackageWarning{hyperref}}
245 \def\Hy@WarningNoLine{\PackageWarningNoLine{hyperref}}
246 \def\Hy@Info{\PackageInfo{hyperref}}
247 \def\Hy@InfoNoLine#1{\PackageInfo{hyperref}{#1\@gobble}}
248 \def\Hy@Message#1{%
249   \GenericWarning{%
250     (hyperref)\@spaces\@spaces\@spaces\@spaces
251   }{%
252     Package hyperref Message: #1\@gobble
253   }%
254 }

```

4.2 Version check

\Hy@VersionChecked

```

255 \chardef\Hy@VersionChecked=0 %

```

\Hy@VersionCheck

```

256 \def\Hy@VersionCheck#1{%
257   \begingroup
258   \@ifundefined{ver@hyperref.sty}{%
259     \Hy@Error{%
260       This should not happen!\MessageBreak
261       Missing hyperref version%
262     }\@ehd
263   }{%
264     \@ifundefined{ver@#1}{%
265       \Hy@Error{%
266         This should not happen!\MessageBreak
267         Missing version of `#1'%
268       }\@ehd
269     }{%
270       \def\x##1##2##3{%
271         \expandafter\expandafter\expandafter\Hy@@VersionCheck
272         \expandafter\expandafter\expandafter##2%
273         \csname ver@##3\endcsname##1##1\@nil
274       }%
275       \x{ }\y{hyperref.sty}%
276       \x{ }\z{#1}%
277       \ifx\y\z
278         \else
279         \edef\a{#1}%
280         \edef\b{\HyOpt@CustomDriver.def}%
281         \ifx\a\b
282           \Hy@WarningNoLine{%
283             Version mismatch (custom driver)!\MessageBreak
284             * \y: hyperref.sty\MessageBreak
285             * \z: \a
286           }%
287         \else
288           \Hy@Error{%
289             Version mismatch!\MessageBreak
290             * \y: hyperref.sty\MessageBreak

```

```

291      * \z: \a
292    }\@ehd
293    \fi
294    \fi
295  }%
296 }%
297 \endgroup
298 \chardef\Hy@VersionChecked=1 %
299 }

```

\Hy@@VersionCheck

```

300 \def\Hy@@VersionCheck #1#2 #3 #4\@nil{%
301   \def#1{#2 #3}%
302 }

```

4.3 Checks with regular expressions

```

303 \edef\Hy@leftbracechar{\string{ }
304 \edef\Hy@rightbracechar{\string} }
305 \@ifundefined{pdfmatch}{%
306   \def\Hy@Match#1#2#3#4#5{%
307   }{%
308     \def\Hy@Match#1#2#3{%
309       \begingroup
310       \edef\~{\@backslashchar\string^}%
311       \edef\.\{\@backslashchar.}%
312       \edef\[\{\@backslashchar[% ]%
313       \edef\${\@backslashchar$}%
314       \edef\(\{\@backslashchar(%
315       \edef\)\{\@backslashchar)%
316       \edef\|{\@backslashchar|}%
317       \edef\*{\@backslashchar*}%
318       \edef\+{\@backslashchar+}%
319       \edef\?{\@backslashchar?}%
320       \edef\{\{\@backslashchar\Hy@leftbracechar}%
321       \edef\}\{\Hy@rightbracechar}%
322       \edef\\{\@backslashchar\@backslashchar}%
323       \let\ \Hy@space
324       \ifcase\pdfmatch#2{#3}{#1} %
325         \endgroup
326         \expandafter\@secondoftwo
327       \or
328         \endgroup
329         \expandafter\@firstoftwo
330       \else
331         \Hy@Warning{%
332           Internal error: Wrong pattern!\MessageBreak
333           --> #3 <--\MessageBreak
334           Pattern check ignored%
335         }%
336         \endgroup
337         \expandafter\@firstoftwo
338       \fi
339     }%

```

340 }

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 \LaTeX processing.

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

```
341 \@ifundefined{AfterBeginDocument}{%
342   \def\AfterBeginDocument{\AtBeginDocument}%
343 }{}%
```

`\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.

```
344 \ExplSyntaxOn
345 \let\Hy@LocalAppendToMacro\tl_put_right:Nn
346 \let\Hy@GlobalAppendToMacro\tl_gput_right:Nn
347 \let\Hy@ifempty\tl_if_empty:nTF
348 \ExplSyntaxOff
349 \def\Hy@AtBeginDocument{%
350   \Hy@LocalAppendToMacro\Hy@AtBeginDocumentHook
351 }
```

`\Hy@AtEndOfPackage`

```
352 \def\Hy@AtEndOfPackage{%
353   \Hy@LocalAppendToMacro\Hy@AtEndOfPackageHook
354 }
```

`\Hy@AtBeginDocumentHook`

```
355 \let\Hy@AtBeginDocumentHook\@empty
```

`\Hy@AtEndOfPackageHook`

```
356 \let\Hy@AtEndOfPackageHook\@empty
```

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

```
357 \AtEndOfPackage{%
358   \Hy@AtEndOfPackageHook
359   \let\Hy@AtEndOfPackageHook\@undefined
360   \AfterBeginDocument{%
361     \Hy@AtBeginDocumentHook}%
362   \let\Hy@AtBeginDocumentHook\@undefined
363 }%
364 }
```

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

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

4.5 Switches

```
366 \newif\ifHy@stoppedearly
367 \newif\ifHy@typexml
368 \newif\ifHy@activeanchor
369 \newif\ifHy@backref
370 \newif\ifHy@bookmarks
371 \newif\ifHy@bookmarksnumbered
372 \newif\ifHy@bookmarksopen
373 \newif\ifHy@breaklinks
374 \newif\ifHy@pdfcenterwindow
375 \newif\ifHy@CJKbookmarks
376 \newif\ifHy@colorlinks
377 \newif\ifHy@destlabel
378 \newif\ifHy@draft
379 \let\Hy@finaltrue\Hy@draftfalse
380 \let\Hy@finalfalse\Hy@drafttrue
381 \newif\ifHy@pdfescapeform
382 \newif\ifHy@hyperfigures
383 \newif\ifHy@pdffitwindow
384 \newif\ifHy@frenchlinks
385 \newif\ifHy@hyperfootnotes
386 \newif\ifHy@hyperindex
387 \newif\ifHy@hypertextnames
388 \newif\ifHy@implicit
389 \newif\ifHy@linktopage
390 \newif\ifHy@localanchorname
391 \newif\ifHy@pdfmenubar
392 \newif\ifHy@naturalnames
393 \newif\ifHy@nesting
394 \newif\ifHy@pdfnewwindowset
395 \newif\ifHy@pdfnewwindow
396 \newif\ifHy@ocgcolorlinks
397 \newif\ifHy@pageanchor
398 \newif\ifHy@pdfpagelabels
399 \newif\ifHy@pdfstring
400 \newif\ifHy@plainpages
401 \newif\ifHy@psize
402 \newif\ifHy@raiselinks
403 \newif\ifHy@seminarslides
404 \newif\ifHy@setpagesize
405 \newif\ifHy@texht
406 \newif\ifHy@psdextra
407 \newif\ifHy@pdftoolbar
408 \newif\ifHy@unicode
409 \newif\ifHy@pdfusetitle
410 \newif\ifHy@verbose
411 \let\Hy@debugtrue\Hy@verbosetrue
412 \let\Hy@debugfalse\Hy@verbosefalse
413 \newif\ifHy@pdfwindowui
414 \newif\ifHy@pdfdisplaydoctitle
415 \newif\ifHy@pdfa
```

Defaults for the switches are now set.

```
416 \Hy@backreffalse
```



```

417 \Hy@bookmarksnumberedfalse
418 \Hy@bookmarksopenfalse
419 \Hy@bookmarkstrue
420 \Hy@breaklinksfalse
421 \Hy@pdfcenterwindowfalse
422 \Hy@CJKbookmarksfalse
423 \Hy@destlabelfalse
424 \Hy@pdfescapeformfalse
425 \Hy@hyperfiguresfalse
426 \Hy@pdffitwindowfalse
427 \Hy@hyperfootnotesttrue
428 \Hy@hyperindextrue
429 \Hy@hypertextnamestrue
430 \Hy@implicittrue
431 \Hy@linktopagefalse
432 \Hy@localanchornamefalse
433 \Hy@pdfmenubartrue
434 \Hy@naturalnamesfalse
435 \Hy@nestingfalse
436 \Hy@pdfnewwindowsetfalse
437 \Hy@pdfnewwindowfalse
438 \Hy@pageanchortrue
439 \Hy@pdfpagelabelstrue
440 \Hy@pdfstringfalse
441 \Hy@plainpagesfalse
442 \Hy@raiselinksfalse
443 \Hy@setpagesizetrue
444 \Hy@texhtfalse
445 \Hy@psdextrafalse
446 \Hy@pdftoolbartrue
447 \Hy@unicodetrue
448 \ifx\kanjiskip\@undefined
449 \else
450 \ifx\forcecjktoken\@undefined
451 \Hy@unicodefalse
452 \fi
453 \fi
454 \Hy@pdfusetitlefalse
455 \Hy@verbosefalse
456 \Hy@pdfwindowuitrue
457 \Hy@pdfdisplaydoctitlefalse
458 \Hy@pdfafalse

```

5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

461 \newdimen\@linkdim
462 \let\Hy@driver\@empty
463 \let\MaybeStopEarly\relax

```

```

464 \newcount\Hy@linkcounter
465 \newcount\Hy@pagecounter
466 \Hy@linkcounter0
467 \Hy@pagecounter0
468 \def\Hy@space{ }

```

5.1 Macros for recursions

```

469 \let\Hy@ReturnEnd\@empty
470 \long\def\Hy@ReturnAfterFi#1\fi{\fi#1}
471 \long\def\Hy@ReturnAfterElseFi#1\else#2\fi{\fi#1}
472 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
473 \long\def\Hy@ReturnAfterElseFiFiEnd#1\else#2\Hy@ReturnEnd{\fi\fi#1}

```

5.2 Babel's protection of shorthand characters

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

```

474 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
475 \def\Hy@safe@activesfalse{\csname @safe@activesfalse\endcsname}

```

5.3 Coordinate transformations

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

`\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 the now required e-TeX extensions an expandable implementation is very easy; `\hypercalsbp` can be used everywhere and is expanded at use.

Example (TeX):

```

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

```

`\hypercalsbp`

```

476 \def\hypercalsbp#1{%
477   \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
478 }%
479 \def\hypercalsbpdef{\def}%

```

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:
 - `\\` the backslash itself
 - `\), \((` unbalanced parentheses
 - `\n, \r, \t, \b, \f` special white space escape sequences
 - `\ddd` octal character code `ddd`
- 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.

`\MakeUppercase` and `\MakeLowercase` do not work by expansion in legacy code but if the `expl3` code is available we can handle them. If a current `babel` or `polyglossia` is used we can also make use of the language.

pppercaseUnsupportedInPdfStrings
owercaseUnsupportedInPdfStrings

```
480 \providecommand*\BCPdata[1]{}
481 \ExplSyntaxOn
482 \@ifundefined{text_uppercase:n}{}
483 {
484   \def\MakeUppercaseUnsupportedInPdfStrings#1
485     {\use:e
486       {\exp_args:Ne
487         \text_uppercase:nn{\BCPdata { casing }}{#1}
488       }
489     }
```

```

490 \def\MakeLowercaseUnsupportedInPdfStrings#1
491     {\use:e
492       {\exp_args:Ne
493         \text_lowercase:nn{\BCPdata { casing }}{#1}
494       }
495     }
496 }
497 \ExplSyntaxOff

```

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

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

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

```

498 \def\pdfstringdef#1#2{%

```

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

```

499 \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.

```

500 \escapechar`\%

```

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

```

501 \edef\0{\string\0}%
502 \edef\1{\string\1}%
503 \edef\2{\string\2}%
504 \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.

```

505 \ifHy@unicode
506 \edef\8{\string\8}%
507 \edef\9{\string\9}%
508 \fontencoding{PU}%
509 \HyPsd@UTFviii
510 \def\ifpdfstringunicode###1##2{##1}%
511 \else
512 \fontencoding{PD1}%
513 \def\ifpdfstringunicode###1##2{##2}%
514 \fi
515 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
516 \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).

```

517 \@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).

```

518 \let\@inmathwarn\HyPsd@inmathwarn

```

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

```

519 \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.

```

520 \let\{\textbraceleft
521 \let\}\textbraceright
522 \let\\\textbackslash
523 \let\#\textnumbersign
524 \let\$\textdollar
525 \let\%\textpercent
526 \let\&\textampersand
527 \% \let\~\textasciitilde
528 \let\_ \textunderscore

```

```

529 \let\P\textparagraph
530 \let\ldots\textellipsis
531 \let\dots\textellipsis
532 \@ifundefined{textEncodingNoboundary}%
533   {}{\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.

```

534 \def\\\{\pdfstringdefWarn\\}%
535 \def\newline{\pdfstringdefWarn\newline}%

```

Logos. Because the box shifting used in the $\text{T}_{\text{E}}\text{X}$ logo does not work while writing to a file, the standard $\text{T}_{\text{E}}\text{X}$ logos are redefined. We use the direct PU code to avoid problems if `\textepsilon` is not defined.

```

536 \def\TeX{\TeX}%
537 \def\LaTeX{La\TeX}%
538 \def\LaTeXe{%
539   \LaTeX2%
540   \ifHy@unicode\83\265\else e\fi
541 }%
542 \def\eTeX{%
543   \ifHy@unicode\83\265\else e\fi
544   -\TeX%
545 }%
546 \def\SliTeX{Sli\TeX}%
547 \def\MF{Metafont}%
548 \def\MP{Metapost}%

```

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

```

549 \let\fontencoding\@gobble
550 \let\fontfamily\@gobble
551 \let\fontseries\@gobble
552 \let\fontshape\@gobble
553 \let\fontsize\@gobbletwo
554 \let\selectfont\@empty
555 \let\usefont\@gobblefour
556 \let\emph\@firstofone
557 \let\textnormal\@firstofone
558 \let\textrm\@firstofone
559 \let\textsf\@firstofone
560 \let\texttt\@firstofone

```

```

561 \let\textbf\@firstofone
562 \let\textmd\@firstofone
563 \let\textit\@firstofone
564 \let\textsc\@firstofone
565 \let\textsl\@firstofone
566 \let\textup\@firstofone
567 \let\normalfont\@empty
568 \let\rmfamily\@empty
569 \let\sffamily\@empty
570 \let\ttfamily\@empty
571 \let\bfseries\@empty
572 \let\mdseries\@empty
573 \let\itshape\@empty
574 \let\scshape\@empty
575 \let\slshape\@empty
576 \let\upshape\@empty
577 \let\em\@empty
578 \let\rm\@empty
579 \let\Huge\@empty
580 \let\LARGE\@empty
581 \let\Large\@empty
582 \let\footnotesize\@empty
583 \let\huge\@empty
584 \let\large\@empty
585 \let\normalsize\@empty
586 \let\scriptsize\@empty
587 \let\small\@empty
588 \let\tiny\@empty
589 \let\mathversion\@gobble
590 \let\phantom\@gobble
591 \let\vphantom\@gobble
592 \let\hphantom\@gobble

```

Package pifont.

```

593 \let\ding\HyPsd@ding
594 \let\Cube\HyPsd@DieFace
595 %* \HyPsd@DieFace -> \epsdice (epsdice)
596 %* \HyPsd@DieFace -> \fcdice (hhcount)

```

Environments.

```

597 \def\begin##1{\csname##1\endcsname}%
598 \def\end##1{\csname end##1\endcsname}%

```

Package color.

```

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

```

Upper- and lowercase.

```

600 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
601 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

TextOrMath The `\TextOrMath` command is protected in a current \LaTeX and so can not be processed.

```
602 \def\TextOrMath{\ifmmode\expandafter\@secondoftwo\else\expandafter\@firstoftwo\fi}%
```

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

```
603 \ifHy@psdextra
604 \ifHy@unicode
605 \csname psdmapshortnames\endcsname
606 \csname psdaliasnames\endcsname
607 \fi
608 \fi
```

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

```
609 \let\foreignlanguage\@secondoftwo
610 \let\textlatin\@firstofone
611 \@ifundefined{language@group}{}{%
612 \let\bbl@info\@gobble
613 \csname HyPsd@babel@language@group\endcsname
614 }%
```

```
615 \let\@safe@activetrue\relax
616 \let\@safe@activesfalse\relax
```

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

```
617 \let\cyr\relax
```

Package german.

```
618 \let\glqq\textglqq
619 \let\grqq\textgrqq
620 \let\glq\textglq
621 \let\grq\textgrq
622 \let\flqq\textflqq
623 \let\frqq\textfrqq
624 \let\flq\textflq
625 \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}
```

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

AMS classes.

```
627 \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.

```
628 \let\hspace\HyPsd@hspace
```

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

```
629 \let\label\@gobble
630 \let\index\@gobble
631 \let\glossary\@gobble
632 \let\href\HyPsd@href
633 \let\@mkboth\@gobbletwo
```

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

```
634 \let\ref\HyPsd@ref
635 \let\pageref\HyPsd@pageref
636 \let\nameref\HyPsd@nameref
637 \let\autoref\HyPsd@autoref
```

Miscellaneous commands.

```
638 \let\leavevmode\@empty
639 \let\mbox\@empty
```

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

```
640 \def\halign{\pdfstringdefWarn\halign\@gobble}%
641 \let\ignorespaces\HyPsd@ignorespaces
642 \let\Hy@SectionAnchorHref\@gobble
643 \let\ensuremath\@firstofone
```

Patch for `cjk` bookmarks.

```
644 \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`).

```
645 \Hy@pdfstringtrue
646 \pdfstringdefPreHook
```

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

```
647 \HyPsd@LetUnexpandableSpace\space
648 \HyPsd@LetUnexpandableSpace\ %
649 \HyPsd@LetUnexpandableSpace~%
650 \HyPsd@LetUnexpandableSpace\nobreakspace
```

Package xspace.

```
651 \ifundefined{xspace}{%
652 \let\xspace\HyPsd@ITALCORR
653 }{%
654 \let\xspace\HyPsd@XSPACE
655 }%
656 \let\/\HyPsd@ITALCORR
657 \let\bgroup\/%
658 \let\egroup\/%
```

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
659 \let\discretionary\@gobbletwo
```

\@ifstar is defined in L^AT_EX as follows:

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

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

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

```
660 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
661 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
662 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
663 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

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

6.2.2 Expansion

There are several possibilities to expand tokens within L^AT_EX:

\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_EX 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_EX 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^AT_EX'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^AT_EX 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_EX, 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).

```
665 \begingroup
666 \let\GenericError\@gobblefour
667 \let\GenericWarning\@gobbletwo
668 \let\GenericInfo\@gobbletwo
```

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

```
669 \ifx\nofrenchguillemets\@undefined
670 \else
671 \nofrenchguillemets
672 \fi
```

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

```
673 \let\Hy@temp\xdef
674 \let\def\HyPsd@DefCommand
675 \let\gdef\HyPsd@DefCommand
676 \let\edef\HyPsd@DefCommand
677 \let\xdef\HyPsd@DefCommand
678 \let\futurelet\HyPsd@LetCommand
679 \let\let\HyPsd@LetCommand
680 \Hy@temp#1{#2}%
681 \endgroup
```

6.2.3 Postprocessing

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

```
682 \ifx#1\@empty
683 \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.

```

684 \HyPsd@ProtectSpaces#1%
685 \let\HyPsd@String\@empty
686 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
687 \global\let#1\HyPsd@String

```

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

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

After $\text{\HyPsd@CheckCatcodes}$ 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 $\text{\HyPsd@CheckCatcodes}$ is called.

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

```

688 \let\HyPsd@SPACEOPTI\relax
689 {%
690 \let\HyPsd@String\@empty
691 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
692 \global\let#1\HyPsd@String
693 }%
694 \expandafter\HyPsd@RemoveMask\expandafter
695 |\expandafter\@empty#1\HyPsd@End#1%

```

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

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

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

```
696 \expandafter
697 \HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
698 \let\HyPsd@String\@empty
699 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
700 \global\let#1\HyPsd@String
```

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

```
701 \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 `\guillemetright`, because `\lastskip` and `\unskip` do not work. Therefore it is removed here.

```
702 \ifHy@unicode
703 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
704 \HyPsd@SPACEOPTI#1%
705 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
706 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
707 {\HyPsd@SPACEOPTI\80\273}#1%
708 \else
709 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
710 \expandafter\HyPsd@Subst\expandafter{%
711 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
712 \string\273}\HyPsd@SPACEOPTI\273}#1%
713 \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.

```
714 \ifHy@unicode
715 \HyPsd@StringSubst{\)}{\80\051}#1%
716 \HyPsd@Subst){\80\051}#1%
```

```

717 \let\HyPsd@empty\relax
718 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
719 {\HyPsd@empty\80\051}#1%
720 \else
721 \HyPsd@StringSubst{\}){\051}#1%
722 \HyPsd@Subst){\051}#1%
723 \let\HyPsd@empty\relax
724 \HyPsd@StringSubst{051}{\HyPsd@empty\string\}){\051}#1%
725 \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`.

```

726 \expandafter\HyPsd@Subst\expandafter{\}/\HyPsd@empty#1%
727 \@ifundefined{@xspace}{%
728 }{%
729 \let\HyPsd@xspace\relax
730 \expandafter\HyPsd@Subst\expandafter
731 {\HyPsd@XSPACE}\HyPsd@xspace#1%
732 \let\HyPsd@xspace\HyPsd@doxspace
733 }%
734 \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.

```

735 \HyPsd@Subst{---}\textemdash#1%
736 \HyPsd@Subst{--}\textendash#1%
737 % \HyPsd@Subst{fi}\textfi#1%
738 % \HyPsd@Subst{fl}\textfl#1%
739 \HyPsd@Subst{!}\textexclamdown#1%
740 \HyPsd@Subst{?}\textquestiondown#1%

```

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

```
741 \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.

```
742 \ifHy@unicode
743 \HyPsd@StringSubst\(\textparenleft#1%
744 \HyPsd@Subst(\textparenleft#1%
745 \else
746 \HyPsd@StringSubst\({\050}#1%
747 \HyPsd@Subst({\050}#1%
748 \HyPsd@StringSubst{\050}{\string\}#1%
749 \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.

```
750 \ifHy@unicode
751 \edef\HyPsd@SPACEOPTI{\80\040}%
752 \else
753 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
754 \fi
755 \xdef#1{#1\@empty}%
756 \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.

```
757 \endgroup
758 \begingroup
759 \ifHy@unicode
760 \HyPsd@ConvertToUnicode#1%
```

Try conversion back to PDFDocEncoding.

```
761 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
762 \@ifundefined{StringEncodingConvertTest}{%
763 }{%
764 \EdefUnescapeString\HyPsd@temp#1%
765 \iftutex
766 \let\HyPsd@UnescapedString\HyPsd@temp
767 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
768 {utf16be}{ascii-print}{%
769 \EdefEscapeString\HyPsd@temp\HyPsd@temp
770 \global\let#1\HyPsd@temp
771 \HyPsd@EscapeTeX#1%
772 \Hy@unicodedefalse
773 }{%
```

```

774     \HyPsd@EscapeTeX#1%
775   }%
776   \else
777     \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
778         {utf16be}{pdfdoc}{%
779     \EdefEscapeString\HyPsd@temp\HyPsd@temp
780     \global\let#1\HyPsd@temp
781     \HyPsd@EscapeTeX#1%
782     \Hy@unicodedefalse
783   }{}%
784   \fi
785 }%
786 \fi
787 \fi

```

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

```

788   \pdfstringdefPostHook#1%
789 \endgroup
790 }

```

`\Hy@pdfstringdef`

```

791 \def\Hy@pdfstringdef#1#2{%
792   \pdfstringdef\Hy@gtemp{#2}%
793   \let#1\Hy@gtemp
794 }

```

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

```

795 \@ifpackageloaded{linguex}{%
796   \let\HyLinguex@OrgB\b
797   \let\HyLinguex@OrgC\c
798   \let\HyLinguex@OrgD\d
799   \def\HyLinguex@Restore{%
800     \let\b\HyLinguex@OrgB
801     \let\c\HyLinguex@OrgC
802     \let\d\HyLinguex@OrgD
803   }%
804   \Hy@AtEndOfPackage{%
805     \pdfstringdefDisableCommands{%
806       \@ifundefined{oldb}{\let\b\oldb}%
807       \@ifundefined{oldc}{\let\c\oldc}%
808       \@ifundefined{oldd}{\let\d\oldd}%
809     }%
810   }%
811 }%

```



```

812 \let\HyLinguex@Restore\relax
813 }%

```

6.3.3 Catcodes saving and restoring for .def files

\Hy@SaveCatcodeSettings

```

814 \def\Hy@SaveCatcodeSettings#1{%
815 \expandafter\edef\csname Hy@cat@#1\endcsname{%
816 \endlinechar=\the\endlinechar\relax
817 \catcode32 \the\catcode32\relax % (space)
818 \catcode34 \the\catcode34\relax % "
819 \catcode35 \the\catcode35\relax % #
820 \catcode37 \the\catcode37\relax % (percent)
821 \catcode40 \the\catcode40\relax % (
822 \catcode41 \the\catcode41\relax % )
823 \catcode42 \the\catcode42\relax % *
824 \catcode46 \the\catcode46\relax % .
825 \catcode58 \the\catcode58\relax % :
826 \catcode60 \the\catcode60\relax % <
827 \catcode61 \the\catcode61\relax % =
828 \catcode62 \the\catcode62\relax % >
829 \catcode64 \the\catcode64\relax % @
830 \catcode91 \the\catcode91\relax % [
831 \catcode92 \the\catcode92\relax % (backslash)
832 \catcode93 \the\catcode93\relax % ]
833 \catcode123 \the\catcode123\relax % {
834 \catcode124 \the\catcode124\relax % |
835 \catcode125 \the\catcode125\relax % }
836 }%
837 \endlinechar=-1 %
838 \catcode32 10 % (space)
839 \catcode34 12 % "
840 \catcode35 6 % #
841 \catcode37 14 % (percent)
842 \catcode40 12 % (
843 \catcode41 12 % )
844 \catcode42 12 % *
845 \catcode46 12 % .
846 \catcode58 12 % :
847 \catcode60 12 % <
848 \catcode61 12 % =
849 \catcode62 12 % >
850 \catcode91 12 % [
851 \catcode92 0 % (backslash)
852 \catcode93 12 % ]
853 \catcode123 1 % {
854 \catcode124 12 % |
855 \catcode125 2 % }
856 \makeatletter
857 }

```

\Hy@RestoreCatcodeSettings

```

858 \def\Hy@RestoreCatcodeSettings#1{%
859 \csname Hy@cat@#1\endcsname
860 \expandafter\let\csname Hy@cat@#1\endcsname\relax

```

861 }

6.3.4 PD1 encoding

The PD1 encoding implements the PDFDocEncoding for use with L^AT_EX 2_ε's NFSS. Because the informational strings are not set by T_EX'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_EX does not process it anyway. So use CM.

```
862 \@ifundefined{T@PD1}{%
863   \Hy@SaveCatcodeSettings{pd1}%
864   \input{pd1enc.def}%
865   \Hy@RestoreCatcodeSettings{pd1}%
866   \HyLinguex@Restore
867 }{}
868 \DeclareFontFamily{PD1}{pdf}{}
869 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
870 \DeclareFontSubstitution{PD1}{pdf}{m}{n}
```

6.3.5 PU encoding

The PU encoding implements the Unicode encoding for use with L^AT_EX's NFSS. Because of large memory requirements the encoding file for Unicode support is only loaded, if option `unicode` is specified as package option. change 2020-08-14: Starting with version v7.00f the file is always loaded and unicode is the default 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`.

```
871 \def\HyPsd@LoadUnicode{%
872   \@ifundefined{T@PU}{%
873     \Hy@SaveCatcodeSettings{pu}%
874     \input{puenc.def}%
875     \Hy@RestoreCatcodeSettings{pu}%
876     \HyLinguex@Restore
877   }{}%
878   \DeclareFontFamily{PU}{pdf}{}%
879   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
880   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
881   \HyPsd@LoadExtra
882   \let\HyPsd@LoadUnicode\relax
883 }
```

`\HyPsd@LoadExtra`

```
884 \def\Hy@iffileloaded#1{%
885   \@ifundefined{ver@#1}\@secondoftwo\@firstoftwo
886 }
887 \def\HyPsd@LoadExtra{%
888   \ifHy@psdextra
889     \Hy@iffileloaded{puenc.def}{%
890       \Hy@SaveCatcodeSettings{psdextra}%
891     }
```

```

891 \input{psdextra.def}%
892 \Hy@RestoreCatcodeSettings{psdextra}%
893 \let\HyPsd@LoadExtra\relax
894 }{}%
895 \fi
896 }

```

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 T_EX's stomach, the second contains the replacement for PDF strings.

```

897 \def\texorpdfstring{%
898   \ifHy@pdfstring
899     \expandafter\@secondoftwo
900   \else
901     \expandafter\@firstoftwo
902   \fi
903 }

```

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`.

```

904 \@ifundefined{pdfstringdefPreHook}{%
905   \let\pdfstringdefPreHook\@empty
906 }{}
907 \@ifundefined{pdfstringdefPostHook}{%
908   \let\pdfstringdefPostHook\@gobble
909 }{}

```

`\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^AT_EX commands like `\@gobble` or `\@firstofone`.

```

910 \def\pdfstringdefDisableCommands{%
911   \begingroup

```

```

912 \makeatletter
913 \HyPsd@DisableCommands
914 }

```

`\HyPsd@DisableCommands`

```

915 \long\def\HyPsd@DisableCommands#1{%
916   \Hy@GlobalAppendToMacro\pdfstringdefPreHook{#1}%
917   \endgroup
918 }

```

`\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`.

```

919 \def\pdfstringdefWarn#1{%
920   \expandafter\noexpand\csname<>-string#1\endcsname
921 }

```

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.

```

922 \begingroup
923 \catcode0=12 %
924 \def\x{\endgroup
925   \def\HyPsd@ignorespaces{%
926     \romannumeral\expandafter`\expandafter^^@%
927     \romannumeral`^^@%
928   }%
929 }%
930 \x

```

6.5.2 Babel languages

change 2020-10-10: moved language patches to its own file as a first step toward removing them completely.

```

931 \newif\ifHy@next
932 </package>

```

Since version 2008/03/16 v3.8j babel used inside `\AtBeginDocument`:

```

\pdfstringdefDisableCommands{%
  \languageshorthands{system}%
}

```

As consequence the shorthands were shown in the bookmarks, and required a hyperref patch. In version 3.48 babel removed this unneeded code and so the patch could be removed.

Nothing to do for english. change 2020/07/16: removed patch for french. No longer needed. change 2020/07/21: removed patches for german, ngerman. Will be done by the language package. <https://github.com/jspitz/babel-german/issues/4> change 2020/10/10: removed patches for danish, dutch, finnish, portugues, swedish, usorbian, slovene see <https://github.com/latex3/babel/issues/84> change 2020/10/10: removed patch for macedonian, ukrainian; maintainers notified. change 2020/10/11: removed patch for russian, has been merged into babel-russian see <https://github.com/kia999/babel-russian/pull/3> change 2021/02/04: removed patches for greek numerals, code is now in babel-greek. spanish: Nested quoting environments are not supported (<<, >>). change 2021/07/19: removed patches for spanish, code is now in babel-spanish.

```
933 <*package>
```

6.5.3 CJK patch

```
934 \RequirePackage{intcalc}[2007/09/27]
```

\HyPsd@CJKhook

```
935 \def\HyPsd@CJKhook{%
936   \@ifpackageloaded{CJK}{%
937     \let\CJK@kern\relax
938     \let\CJKkern\relax
939     \let\CJK@CJK\relax
940     \ifHy@CJKbookmarks
941       \HyPsd@CJKhook@bookmarks
942     \fi
943     \HyPsd@CJKhook@unicode
944   }{}%
945 }
```

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 ($\geq 0x40$).

```
946 \begingroup
947 \catcode"7F=\active
948 \toks@{%
949   \let\CJK@ignorespaces\empty
950   \def\CJK@char#1{\@gobbletwo}%
951   \let\CJK@charx\@gobblefour
952   \let\CJK@punctchar\@gobblefour
953   \def\CJK@punctcharx#1{\@gobblefour}%

```

```

954 \catcode"7F=\active
955 \def^^7f#1^^7f#2^^7f{%
956 \string #1\HyPsd@DecimalToOctal{#2}%
957 }%
958 % ... ?
959 \ifHy@unicode
960 \def\Hy@cjkpu{\80}%
961 \else
962 \let\Hy@cjkpu\@empty
963 \fi
964 \HyPsd@CJKActiveChars
965 }%
966 \count@=127 %
967 \@whilenum\count@<255 \do{%
968 \advance\count@ by 1 %
969 \lccode`~=\count@
970 \lowercase{%
971 \toks@\expandafter{\the\toks@ ~}%
972 }%
973 }%
974 \toks@\expandafter{\the\toks@ !}%
975 \xdef\HyPsd@CJKhook@bookmarks{%
976 \the\toks@
977 }%
978 \endgroup

```

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

```

979 \def\HyPsd@CJKActiveChars#1{%
980 \ifx#1!%
981 \let\HyPsd@CJKActiveChars\relax
982 \else
983 \edef#1{\noexpand\Hy@cjkpu\string#1}%
984 \fi
985 \HyPsd@CJKActiveChars
986 }

```

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

```

987 \def\HyPsd@DecimalToOctal#1{%
988 \ifcase #1 %
989 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
990 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
991 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
992 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
993 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
994 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
995 \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
996 \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
997 \or @\or A\or B\or C\or D\or E\or F\or G%
998 \or H\or I\or J\or K\or L\or M\or N\or O%
999 \or P\or Q\or R\or S\or T\or U\or V\or W%
1000 \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1001 \or \140\or a\or b\or c\or d\or e\or f\or g%
1002 \or h\or i\or j\or k\or l\or m\or n\or o%

```

```

1003 \or p\or q\or r\or s\or t\or u\or v\or w%
1004 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1005 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1006 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1007 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1008 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1009 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1010 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1011 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1012 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1013 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1014 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1015 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1016 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1017 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1018 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1019 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1020 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1021 \fi
1022 }

```

6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1023 \def\HyPsd@CJKhook@unicode{%
1024 \let\Unicode\HyPsd@CJK@Unicode
1025 \let\CJKnumber\HyPsd@CJKnumber
1026 \let\CJKdigits\HyPsd@CJKdigits
1027 }

```

\HyPsd@CJK@Unicode

```

1028 \def\HyPsd@CJK@Unicode#1#2{%
1029 \ifnum#1<256 %
1030 \HyPsd@DecimalToOctalFirst{#1}%
1031 \HyPsd@DecimalToOctalSecond{#2}%
1032 \else
1033 \933%
1034 \expandafter\expandafter\expandafter\HyPsd@HighA
1035 \intcalcDiv{#1}{4}!%
1036 \933%
1037 \ifcase\intcalcMod{#1}{4} %
1038 4\or 5\or 6\or 7%
1039 \fi
1040 \HyPsd@DecimalToOctalSecond{#2}%
1041 \fi
1042 }

1043 \def\HyPsd@HighA#1!{%
1044 \expandafter\expandafter\expandafter\HyPsd@HighB
1045 \IntCalcDiv#1!64!!%
1046 \expandafter\expandafter\expandafter\HyPsd@HighD
1047 \IntCalcMod#1!64!!%
1048 }
1049 \def\HyPsd@HighB#1!{%

```

```

1050 \expandafter\expandafter\expandafter\HyPsd@HighC
1051 \IntCalcDec#1!!%
1052 }
1053 \def\HyPsd@HighC#1!{%
1054 \IntCalcDiv#1!4!%
1055 \@backslashchar
1056 \IntCalcMod#1!4!%
1057 }
1058 \def\HyPsd@HighD#1!{%
1059 \ifcase\IntCalcDiv#1!8! %
1060 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1061 \fi
1062 \ifcase\IntCalcMod#1!8! %
1063 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1064 \fi
1065 }
1066 \def\HyPsd@DecimalToOctalFirst#1{%
1067 \9%
1068 \ifcase#1 %
1069 000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1070 \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1071 \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1072 \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1073 \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1074 \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1075 \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1076 \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1077 \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1078 \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1079 \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1080 \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1081 \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1082 \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1083 \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1084 \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1085 \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1086 \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1087 \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1088 \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1089 \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1090 \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1091 \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1092 \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1093 \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1094 \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1095 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1096 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1097 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1098 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1099 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1100 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1101 \fi
1102 }
1103 \def\HyPsd@DecimalToOctalSecond#1{%

```



```

1104 \ifcase #1 %
1105     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1106     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1107     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1108     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1109     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1110     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1111     \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1112     \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1113     \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1114     \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1115     \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1116     \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1117     \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1118     \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1119     \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1120     \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1121     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1122     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1123     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1124     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1125     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1126     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1127     \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1128     \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1129     \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1130     \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1131     \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1132     \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1133     \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1134     \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1135     \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1136     \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1137 \fi
1138 }

1139 \def\HyPsd@CJKnumber#1{%
1140     \ifnum#1<\z@
1141         \CJK@minus
1142         \expandafter\HyPsd@@CJKnumber\expandafter{\number-\number#1}%
1143     \else
1144         \expandafter\HyPsd@@CJKnumber\expandafter{\number#1}%
1145     \fi
1146 }

1147 \def\HyPsd@@CJKnumber#1{%
1148     \ifcase#1 %
1149         \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1150         \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1151         \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or
1152         \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1153         \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1154         \CJK@ten\CJK@nine
1155     \else
1156         \ifnum#1<10000 %
1157             \HyPsd@CJKnumberFour#1!\@empty{20}%

```

```

1158 \empty
1159 \else
1160 \ifnum#1<100000000 %
1161 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1162 \IntCalcDiv#1!10000!%
1163 !\{20}%
1164 \CJK@tenthousand
1165 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1166 \IntCalcMod#1!10000!%
1167 !\CJK@zero{10}%
1168 \empty
1169 \else
1170 \expandafter\HyPsd@CJKnumberLarge
1171 \number\IntCalcDiv#1!100000000!\expandafter!%
1172 \number\IntCalcMod#1!100000000!!%
1173 \fi
1174 \fi
1175 \fi
1176 }
1177 \def\HyPsd@CJKnumberLarge#1!#2!{%
1178 \HyPsd@CJKnumberFour#1!\{20}%
1179 \CJK@hundredmillion
1180 \ifnum#2=\z@
1181 \else
1182 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1183 \IntCalcDiv#2!10000!%
1184 !\CJK@zero{10}%
1185 \CJK@tenthousand
1186 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1187 \IntCalcMod#2!10000!%
1188 !\CJK@zero{10}%
1189 \empty
1190 \fi
1191 }
1192 \def\HyPsd@CJKnumberFour#1!#2#3{%
1193 \ifnum#1=\z@
1194 \expandafter\@gobble
1195 \else
1196 \ifnum#1<1000 %
1197 #2%
1198 \HyPsd@CJKnumberThree#1!\{3}%
1199 \else
1200 \HyPsd@@@CJKnumber{\IntCalcDiv#1!1000!}%
1201 \CJK@thousand
1202 \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1203 \IntCalcMod#1!1000!%
1204 !\CJK@zero{10}%
1205 \fi
1206 \fi
1207 }
1208 \def\HyPsd@CJKnumberThree#1!#2#3{%
1209 \ifnum#1=\z@
1210 \else
1211 \ifnum#1<100 %

```

```

1212     #2%
1213     \HyPsd@CJKnumberTwo#1!#{#3}%
1214 \else
1215     \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1216     \CJK@hundred
1217     \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1218         \IntCalcMod#1!100!%
1219     !\CJK@zero{10}%
1220 \fi
1221 \fi
1222 }
1223 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1224 \ifnum#1=\z@
1225 \else
1226     \ifnum#1<#3 %
1227         #2%
1228         \HyPsd@@CJKnumber{#1}%
1229     \else
1230         \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1231         \CJK@ten
1232         \ifnum\IntCalcMod#1!10!=\z@
1233         \else
1234             \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1235         \fi
1236     \fi
1237 \fi
1238 }
1239 \def\HyPsd@CJKdigits#1{%
1240 \ifx*#1\relax
1241     \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1242 \else
1243     \HyPsd@@CJKdigits\CJK@null{#1}%
1244 \fi
1245 }
1246 \def\HyPsd@@CJKdigits#1#2{%
1247 \ifx\#2\%
1248 \else
1249     \HyPsd@@@CJKdigits#1#2\@nil
1250 \fi
1251 }%
1252 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1253 \HyPsd@CJKdigit#1{#2}%
1254 \ifx\#3\%
1255     \expandafter\@gobble
1256 \else
1257     \expandafter\@firstofone
1258 \fi
1259 {%
1260     \HyPsd@@@CJKdigits#1#3\@nil
1261 }%
1262 }
1263 \def\HyPsd@CJKdigit#1#2{%
1264 \ifcase#2 %
1265     #1\or

```

```

1266 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1267 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1268 \fi
1269 }

```

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 \LaTeX 2_ε 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 (\LaTeX 2_ε release [1998/12/01]). In the normal case \pdfstringdef is executed in a context where \protect has the meaning of \@typeset-protect (= \relax).

```

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

1270 \def\HyPsd@inmathwarn#1#2{%
1271   \ifx#2\expandafter
1272     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1273       \HyPsd@GLYPHERR

```

```

1274 \expandafter\@gobble\string#1%
1275 >%
1276 \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1277 \else
1278 \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1279 \fi
1280 \else
1281 \expandafter#2%
1282 \fi
1283 }
1284 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1285 \def\HyPsd@EndWithElse#1\else\else{}

```

\HyPsd@add@accent

```

1286 \def\HyPsd@add@accent#1#2{%
1287 \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1288 #2%
1289 }%

```

6.5.7 Unexpandable spaces

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

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

These properties are used in \HyPsd@CheckCatcodes.

```

1290 \def\HyPsd@LetUnexpandableSpace#1{%
1291 \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1292 }

```

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

```

1293 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

6.5.8 Marker for commands

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

```

1294 \edef\HyPsd@XSPACE{\string#\string X}
1295 \edef\HyPsd@ITALCORR{\string#\string I}
1296 \edef\HyPsd@GLYPHERR{\string#\string G}

```

6.5.9 \hspace fix

\HyPsd@hspace

```

1297 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}

```

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

```
1298 \def\HyPsd@@hspace#1*#2\END{%
1299   \ifx\#2\%
1300     \HyPsd@hspacetest{#1}%
1301   \else
1302     \expandafter\HyPsd@hspacetest
1303   \fi
1304 }
```

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

```
1305 \def\HyPsd@hspacetest#1{\ifdim\dimexpr#1\relax>\z@\space\fi}
```

6.5.10 Fix for AMS classes

```
1306 \@ifundefined{tocsection}{%
1307   \let\HyPsd@AMSclassfix\relax
1308 }{%
1309   \def\HyPsd@AMSclassfix{%
1310     \let\tocpart\HyPsd@tocsection
1311     \let\tocchapter\HyPsd@tocsection
1312     \let\tocappendix\HyPsd@tocsection
1313     \let\tocsection\HyPsd@tocsection
1314     \let\tocsubsection\HyPsd@tocsection
1315     \let\tocsubsubsection\HyPsd@tocsection
1316     \let\tocparagraph\HyPsd@tocsection
1317   }%
1318   \def\HyPsd@tocsection#1#2#3{%
1319     \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
1320     #3%
1321   }%
1322 }
```

6.5.11 Reference commands

`\HyPsd@href`

```
1323 \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.

```
1324 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1325 \def\HyPsd@@ref#1*#2\END{%
1326   \ifx\#2\%
1327     \HyPsd@@@ref{#1}%
1328   \else
1329     \expandafter\HyPsd@@@ref
1330   \fi
1331 }
```

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

```
1332 \def\HyPsd@@@ref#1{%
1333   \expandafter\ifx\csname r@#1\endcsname\relax
```

```

1334   ??%
1335   \else
1336     \expandafter\expandafter\expandafter
1337     \@car\csname r@#1\endcsname\@nil
1338   \fi
1339 }

```

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

```

1340 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*END}

```

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

```

1341 \def\HyPsd@@pageref#1*#2END{%
1342   \ifx\#2\%
1343     \HyPsd@@@pageref{#1}%
1344   \else
1345     \expandafter\HyPsd@@@pageref
1346   \fi
1347 }

```

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

```

1348 \def\HyPsd@@@pageref#1{%
1349   \expandafter\ifx\csname r@#1\endcsname\relax
1350     ??%
1351   \else
1352     \expandafter\expandafter\expandafter\expandafter
1353     \expandafter\expandafter\expandafter\@car
1354     \expandafter\expandafter\expandafter\@gobble
1355     \csname r@#1\endcsname{}\@nil
1356   \fi
1357 }

```

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

```

1358 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*END}

```

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

```

1359 \def\HyPsd@@nameref#1*#2END{%
1360   \ifx\#2\%
1361     \HyPsd@@@nameref{#1}%
1362   \else
1363     \expandafter\HyPsd@@@nameref
1364   \fi
1365 }

```

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

```

1366 \def\HyPsd@@@nameref#1{%
1367   \expandafter\ifx\csname r@#1\endcsname\relax
1368     ??%
1369   \else
1370     \expandafter\expandafter\expandafter\expandafter
1371     \expandafter\expandafter\expandafter\@car
1372     \expandafter\expandafter\expandafter\@gobbletwo

```

```

1373 \csname r@#1\endcsname{}\}\@nil
1374 \fi
1375 }

```

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

```

1376 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1377 \def\HyPsd@@autoref#1*#2\END{%
1378 \ifx\#2\%
1379 \HyPsd@@@autoref{#1}%
1380 \else
1381 \expandafter\HyPsd@@@autoref
1382 \fi
1383 }

```

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

```

1384 \def\HyPsd@@@autoref#1{%
1385 \expandafter\ifx\csname r@#1\endcsname\relax
1386 ??%
1387 \else
1388 \expandafter\expandafter\expandafter\HyPsd@autorefname
1389 \csname r@#1\endcsname{}\}\}\@nil
1390 \expandafter\expandafter\expandafter
1391 \@car\csname r@#1\endcsname\@nil
1392 \fi
1393 }

```

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

```

1394 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1395 \ifx\#4\%
1396 \else
1397 \HyPsd@@autorefname#4.\@nil
1398 \fi
1399 }

```

`\HyPsd@@autorefname`

```

1400 \def\HyPsd@@autorefname#1.#2\@nil{%
1401 \@ifundefined{#1autorefname}{%
1402 \@ifundefined{#1name}{%
1403 }{%
1404 \csname#1name\endcsname\space
1405 }%
1406 }{%
1407 \csname#1autorefname\endcsname\space
1408 }%
1409 }

```

6.5.12 Redefining the defining commands

Definitions aren't allowed, because they aren't executed in an only expanding context. So the command to be defined isn't defined and can perhaps be undefined.

This would causes TeX to stop with an error message. With a deep trick it is possible to define commands in such a context: `\csname` does the job, it defines the command to be `\relax`, if it has no meaning.

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

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

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

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

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

```

\HyPsd@DefCommand
\HyPsd@LetCommand 1410 \begingroup
1411   \def\x#1#2{%
1412     \endgroup
1413     \let#1\def
1414     \def\HyPsd@DefCommand##1##2###{%
1415       #1%
1416       \expandafter\noexpand
1417       \csname\expandafter\@gobble\string##1\@empty\endcsname
1418       \@gobble
1419     }%
1420     \let#2\let
1421     \def\HyPsd@@LetCommand##1{%
1422       \expandafter\ifx\csname##1\expandafter\endcsname
1423         \csname iftrue\endcsname
1424       \pdfstringdefWarn\let
1425       \expandafter\@gobble
1426     \else
1427       \expandafter\ifx\csname##1\expandafter\endcsname
1428         \csname iffalse\endcsname
1429       \pdfstringdefWarn\let
1430       \expandafter\expandafter\expandafter\@gobble
1431     \else
1432       #2%
1433       \expandafter\noexpand
1434       \csname##1\expandafter\expandafter\expandafter\endcsname
1435     \fi

```

```

1436     \fi
1437   }%
1438 }%
1439 \expandafter\x\csname <def>-command\expandafter\endcsname
1440     \csname <let>-command\endcsname
1441 \def\HyPsd@LetCommand#1{%
1442   \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1443   \expandafter\expandafter\expandafter{%
1444     \expandafter\@gobble\string#1\@empty
1445   }%
1446 }

```

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).

```

1447 \def\HyPsd@ifnextchar#1{%
1448   \pdfstringdefWarn#1%
1449   \expandafter\@gobbletwo\@gobble
1450 }

```

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`.

```

1451 \def\HyPsd@protected@testopt#1{%
1452   \pdfstringdefWarn#1%
1453   \@gobbletwo
1454 }

```

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:

```

1455 \def\HyPsd@Warning#1{%
1456   \begingroup
1457   \let\space\Hy@space
1458   \Hy@Warning{#1}%

```

```

1459 \endgroup
1460 }

```

6.6.2 Protecting spaces

`\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`.

```

1461 \let\HyPsd@fi\fi
1462 \def\HyPsd@ProtectSpaces#1{%
1463   \xdef#1{%
1464     \iftrue
1465       \expandafter\HyPsd@@ProtectSpacesFi
1466       \expandafter|\expandafter\@empty#1| %
1467       \HyPsd@fi
1468   }%
1469   \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1470 }%

```

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

```

1471 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1472   \fi
1473   \unexpanded{#1}%
1474   \ifx\scrollmode#2\scrollmode
1475   \else
1476     \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1477   \HyPsd@fi
1478 }%

```

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.

```

1479 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1480   \xdef#2{\unexpanded\expandafter{#1}}%
1481 }%

```

6.6.3 Remove grouping braces

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

```

1482 \def\HyPsd@RemoveBraces#1{%
1483   \ifx\scrollmode#1\scrollmode
1484   \else
1485     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1486   \fi
1487 }

```

`\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 `\Hy@ReturnAfterFi`.

```

1488 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1489   \fi
1490   \def\Hy@temp@A{#1#2}%
1491   \def\Hy@temp@B{#3}%
1492   \ifx\Hy@temp@A\Hy@temp@B
1493     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1494       \HyPsd@String#1%
1495     }%
1496     \ifx\scrollmode#2\scrollmode
1497       \else
1498         \Hy@ReturnAfterFiFiEnd{%
1499           \HyPsd@RemoveBraces{#2}%
1500         }%
1501       \fi
1502     \else
1503       \def\Hy@temp@A{#1}%
1504       \HyPsd@AppendItalcorr\HyPsd@String
1505       \ifx\Hy@temp@A\@empty
1506         \Hy@ReturnAfterElseFiFiEnd{%
1507           \HyPsd@RemoveBraces{#2}%
1508         }%
1509       \else
1510         \HyPsd@ProtectSpaces\Hy@temp@A
1511         \HyPsd@AppendItalcorr\Hy@temp@A
1512         \Hy@ReturnAfterFiFiEnd{%
1513           \expandafter\HyPsd@RemoveBraces\expandafter
1514             {\Hy@temp@A#2}%
1515         }%
1516       \fi
1517     \fi
1518   \Hy@ReturnEnd
1519 }
```

`\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`.

```

1520 \def\HyPsd@AppendItalcorr#1{%
1521   \expandafter\HyPsd@@AppendItalcorr\expandafter{\/#1%
1522 }
1523 \def\HyPsd@@AppendItalcorr#1#2{%
1524   \expandafter\def\expandafter#2\expandafter{#2#1}%
1525 }
```

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>.

```
1526 \@ifundefined{directlua}{%
1527 }{%
1528   \expandafter\ifx\csname\endcsname\relax\fi
1529 }
```

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`.

```
1530 \begingroup
1531   \catcode`\Q=\active
1532   \let Q\@empty
1533   \gdef\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1534     \global\let\HyPsd@Rest\relax
1535     \ifcat\relax\noexpand#1\relax
1536       \ifx#1\protect
1537       \else
1538         \ifx#1\penalty
1539           \setbox\z@=\hbox{%
1540             \afterassignment\HyPsd@AfterCountRemove
1541             \count@=#2\HyPsd@End
1542           }%
1543         \else
1544           \ifx#1\kern
1545             \setbox\z@=\hbox{%
1546               \afterassignment\HyPsd@AfterDimenRemove
1547               \dimen@=#2\HyPsd@End
1548             }%
1549           \else
1550             \ifx#1\hskip
1551               \setbox\z@=\hbox{%
1552                 \afterassignment\HyPsd@AfterSkipRemove
1553                 \skip@=#2\HyPsd@End
1554               }%
1555             \else
1556               \HyPsd@CatcodeWarning{#1}%
1557             \fi
1558           \fi
```

```

1559     \fi
1560     \fi
1561   \else
1562     \ifcat\noexpand#1\noexpandQ% active character
1563     \expandafter\expandafter\expandafter\def
1564     \expandafter\expandafter\expandafter\HyPsd@String
1565     \expandafter\expandafter\expandafter{%
1566     \expandafter\HyPsd@String\string#1%
1567     }%
1568   \else
1569     \ifcat#1A% letter
1570     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1571     \HyPsd@String#1%
1572     }%
1573   \else
1574     \ifcat#1 % SPACE
1575     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1576     \HyPsd@String\HyPsd@SPACEOPTI
1577     }%
1578   \else
1579     \ifcat$#1%
1580     \HyPsd@CatcodeWarning{math shift}%
1581   \else
1582     \ifcat&#1%
1583     \HyPsd@CatcodeWarning{alignment tab}%
1584   \else
1585     \ifcat^#1%
1586     \HyPsd@CatcodeWarning{superscript}%
1587   \else
1588     \ifcat_#1%
1589     \HyPsd@CatcodeWarning{subscript}%
1590   \else
1591     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1592     \HyPsd@String#1%
1593     }%
1594     \fi
1595     \fi
1596     \fi
1597     \fi
1598     \fi
1599     \fi
1600     \fi
1601   \fi
1602   \ifx\HyPsd@Rest\relax
1603     \ifx\scrollmode#2\scrollmode
1604     \else
1605       \Hy@ReturnAfterFiFiEnd{%
1606       \HyPsd@CheckCatcodes#2\HyPsd@End
1607       }%
1608     \fi
1609   \else
1610     \ifx\HyPsd@Rest\@empty
1611     \else
1612       \Hy@ReturnAfterFiFiEnd{%

```

```

1613      \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1614    }%
1615  \fi
1616 \fi
1617 \Hy@ReturnEnd
1618 }%
1619 \endgroup

```

Remove counts, dimens, skips.

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

```

1620 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1621   \gdef\HyPsd@Rest{#1}%
1622 }

```

`\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.

```

1623 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1624   \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1625     \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1626     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1627   \else
1628     \ifdim\dimen@=\z@
1629     \else
1630       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1631     \fi
1632     \gdef\HyPsd@Rest{#1}%
1633   \fi
1634 }

```

`\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).

```

1635 \def\HyPsd@AfterSkipRemove#1\HyPsd@End{%
1636   \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
1637     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1638     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1639   \else
1640     \ifdim\skip@=\z@
1641     \else
1642       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1643     \fi
1644     \gdef\HyPsd@Rest{#1}%
1645   \fi
1646 }

```

Catcode warnings.

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

```

1647 \def\HyPsd@CatcodeWarning#1{%
1648   \HyPsd@Warning{%
1649     Token not allowed in a PDF string (%

```

```

1650 \ifHy@unicode
1651   Unicode%
1652 \else
1653   PDFDocEncoding%
1654 \fi
1655 ):%
1656 \MessageBreak removing `\'HyPsd@RemoveCmdPrefix#1'%
1657 }%
1658 }
1659 \begingroup
1660 \catcode`\|=0 %
1661 \catcode`\|=12 %
1662 |gdef|HyPsd@RemoveCmdPrefix#1{%
1663   |expandafter|HyPsd@@RemoveCmdPrefix
1664   |string#1|@empty\<>-|@empty|@empty
1665 }%
1666 |gdef|HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1667 |endgroup

```

\HyPsd@RemoveSpaceWarning

```

1668 \def\HyPsd@RemoveSpaceWarning#1{%
1669   \HyPsd@Warning{%
1670     Token not allowed in a PDF string (%)
1671     \ifHy@unicode
1672       Unicode%
1673     \else
1674       PDFDocEncoding%
1675     \fi
1676     ):%
1677     \MessageBreak #1\MessageBreak
1678     removed%
1679   }%
1680 }

```

\HyPsd@ReplaceSpaceWarning

```

1681 \def\HyPsd@ReplaceSpaceWarning#1{%
1682   \HyPsd@Warning{%
1683     Token not allowed in a PDF string (%)
1684     \ifHy@unicode
1685       Unicode%
1686     \else
1687       PDFDocEncoding%
1688     \fi
1689     ):%
1690     \MessageBreak #1\MessageBreak
1691     replaced by space%
1692   }%
1693 }

```

6.6.5 Check for wrong glyphs

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


```

1694 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1695   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1696     \HyPsd@String#1%
1697   }%
1698   \ifx\\#2\\%
1699   \else
1700     \Hy@ReturnAfterFi{%
1701       \HyPsd@GlyphProcessWarning#2\@empty
1702     }%
1703   \fi
1704 }
1705 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1706   \HyPsd@@GlyphProcessWarning#1++>%
1707   \HyPsd@GlyphProcess#2\@empty
1708 }
1709 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
1710   \ifx\\#2\\%
1711     \HyPsd@Warning{%
1712       Glyph not defined in %
1713       P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1714       removing `\'@backslashchar#1'%
1715     }%
1716   \else
1717     \HyPsd@Warning{%
1718       Composite letter `\'@backslashchar#1+#2'\MessageBreak
1719       not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1720       \MessageBreak
1721       removing `\'@backslashchar#1'%
1722     }%
1723   \fi
1724 }

```

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`.

```

1725 \def\HyPsd@spaceopti#1{ % first space
1726   \ifx\HyPsd@spaceopti#1%
1727     \040%
1728   \else
1729     #1%
1730   \fi
1731 }%

```

6.6.6 Replacing tokens

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

```

#1    Exact the tokens that should be replaced.
#2    The replacement (don't need to be expanded).
#3    Command with the string.
1732 \def\HyPsd@Subst#1#2#3{%
1733   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1734     \fi
1735     ##1%
1736     \ifx\scrollmode##2\scrollmode
1737     \else
1738       #2%
1739     \HyPsd@@@ReplaceFi##2\END
1740   \fi
1741 }%
1742 \xdef#3{%
1743   \iftrue
1744     \expandafter\HyPsd@@@ReplaceFi#3#1\END
1745   \fi
1746 }%
1747 }

```

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

```

1748 \def\HyPsd@StringSubst#1{%
1749   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1750 }

```

`\HyPsd@EscapeTeX`

```

1751 \begingroup
1752 \lccode`\!=`\%%
1753 \lccode`\|=`\%%
1754 \lccode`\(=\{\%
1755 \lccode`\)=`\}%
1756 \lccode`0=\z@
1757 \lccode`1=\z@
1758 \lccode`3=\z@
1759 \lccode`4=\z@
1760 \lccode`5=\z@
1761 \lccode`7=\z@
1762 \lowercase{\endgroup
1763 \def\HyPsd@EscapeTeX#1{%
1764   \HyPsd@Subst!{|045}#1%
1765   \HyPsd@Subst({|173}#1%
1766   \HyPsd@Subst){|175}#1%
1767 }%
1768 }

```

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.

```

1769 \def\HyPsd@doxspace#1{%

```

```

1770 \ifx#1\relax\else
1771 \ifx#1.\else
1772 \ifx#1:\else
1773 \ifx#1,\else
1774 \ifx#1;\else
1775 \ifx#1!\else
1776 \ifx#1?\else
1777 \ifx#1/\else
1778 \ifx#1-\else
1779 \ifx#1'\else
1780 \HyPsd@SPACEOPTI
1781 \fi
1782 \fi
1783 \fi
1784 \fi
1785 \fi
1786 \fi
1787 \fi
1788 \fi
1789 \fi
1790 \fi
1791 #1%
1792 }%

```

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.

```

1793 \begingroup
1794 \catcode`\|=0 %
1795 \catcode`\|=12 %

```

\HyPsd@ConvertToUnicode

```

1796 |gdef|HyPsd@ConvertToUnicode#1{%
1797 |xdef#1{%
1798 |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1799 }%
1800 |ifx#1|@empty
1801 |else
1802 |xdef#1{%
1803 \376\377%
1804 #1%
1805 }%
1806 |fi
1807 }%

```

\HyPsd@DoConvert

```

1808 |gdef|HyPsd@DoConvert#1{%
1809 |ifx#1|@empty
1810 |else
1811 |Hy@ReturnAfterFi{%
1812 |ifx#1\%%

```

```

1813      \%%
1814      |expandafter|HyPsd@DoEscape
1815      |else
1816      |HyPsd@Char{#1}%
1817      |expandafter|HyPsd@DoConvert
1818      |fi
1819    }%
1820  |fi
1821 }%

```

\HyPsd@DoEscape

```

1822 |gdef|HyPsd@DoEscape#1{%
1823   |ifx#19%
1824   |expandafter|HyPsd@GetTwoBytes
1825   |else
1826   |Hy@ReturnAfterFi{%
1827   |ifx#18%
1828   00%
1829   |expandafter|HyPsd@GetTwoBytes
1830   |else
1831   #1%
1832   |expandafter|HyPsd@GetOneByte
1833   |fi
1834   }%
1835 |fi
1836 }%

```

\HyPsd@GetTwoBytes

```

1837 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1838   #1\#2#3#4%
1839   |HyPsd@DoConvert
1840 }%

```

\HyPsd@GetOneByte

```

1841 |gdef|HyPsd@GetOneByte#1#2{%
1842   #1#2%
1843   |HyPsd@DoConvert
1844   }%
1845 |endgroup

```

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

```

1846 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1847   \xdef#4{#4#1#2}%
1848   \HyPsd@@ConvertToUnicode#3\END#4%
1849 }

```

\HyPsd@Char

```

1850 \begingroup
1851 \catcode0=9 %
1852 \catcode`\^=7 %
1853 \catcode`\^^=12 %
1854 \def\x{^^^0000}%

```

```

1855 \expandafter\endgroup
1856 \ifx\x\@empty
1857 \def\HyPsd@Char#1{%
1858 \ifnum`#1<128 %
1859 \@backslashchar 000#1%
1860 \else
1861 \ifnum`#1<65536 %
1862 \expandafter\HyPsd@CharTwoByte\number`#1%
1863 \else
1864 \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
1865 \intcalcSub{`#1}{65536}!%
1866 \fi
1867 \fi
1868 }%
1869 \def\HyPsd@CharTwoByte#1!{%
1870 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1871 \IntCalcDiv#1!256!!%
1872 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1873 \IntCalcMod#1!256!!%
1874 }%
1875 \def\HyPsd@CharOctByte#1!{%
1876 \@backslashchar
1877 \IntCalcDiv#1!64!%
1878 \intcalcDiv{\IntCalcMod#1!64!}{8}%
1879 \IntCalcMod#1!8!%
1880 }%
1881 \def\HyPsd@CharSurrogate#1!{%
1882 \@backslashchar 33%
1883 \IntCalcDiv#1!262144!%
1884 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1885 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
1886 \@backslashchar 33%
1887 \expandafter\expandafter\expandafter\IntCalcAdd
1888 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
1889 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1890 \IntCalcMod#1!256!!%
1891 }%
1892 \else
1893 \def\HyPsd@Char#1{%
1894 \@backslashchar 000#1%
1895 }%
1896 \fi

```

change 2022-02-21 For the case that utf8 chars are protected we need to expand them. This works only is \UTFviii@loop is not defined in a group, which will be the case in the new latex code, so we test for it.

```

1897 \ifcsname UTFviii@loop\endcsname
1898 \def\HyPsd@expand@utfviii {%
1899 \count@"C2
1900 \@tempcnta"F5
1901 \def\UTFviii@tmp{\expandafter\def\expandafter~\expandafter{~}}%
1902 \UTFviii@loop
1903 }
1904 \else

```

```

1905 \def\HyPsd@expand@utfviii {}
1906 \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`

```

1907 \begingroup
1908   \lccode`~=\f4\relax
1909 \lowercase{\endgroup
1910   \def\HyPsd@UTFviii{%
1911     \HyPsd@expand@utfviii
1912     \let\UTFviii@two@octets\HyPsd@UTFviii@two
1913     \let\UTFviii@three@octets\HyPsd@UTFviii@three
1914     \let\UTFviii@four@octets\HyPsd@UTFviii@four
1915     \ifx~\HyPsd@UTFviii@ccxliv@undef
1916       \let~\HyPsd@UTFviii@ccxliv@def
1917     \fi
1918     \let\unichar\HyPsd@unichar
1919   }%
1920 }%
1921 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
1922 \edef\HyPsd@UTFviii@ccxliv@def{%
1923   \noexpand\UTFviii@four@octets\string ~\f4%
1924 }%

```

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

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

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

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

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

$$(5)$$

```

1925 \def\HyPsd@UTFviii@two#1#2{%
1926   \expandafter\HyPsd@UTFviii@@two
1927   \number\dimexpr.25\dimexpr`#1sp\expandafter\relax\expandafter| %
1928   \number`#1\expandafter| %
1929   \number\dimexpr.125\dimexpr`#2sp\expandafter\relax\expandafter| %
1930   \number`#2 \@nil
1931 }%
1932 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%

```

```

1933 \expandafter\8%
1934 \number\numexpr #1-48\expandafter\relax
1935 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1936 \number\numexpr #3-8*%
1937 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1938 \number\numexpr #4-8*#3\relax
1939 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

1940 \def\HyPsd@UTFviii@three#1#2#3{%
1941 \expandafter\HyPsd@UTFviii@@three
1942 \number\dimexpr.25\dimexpr`#1sp\expandafter\relax\expandafter|%
1943 \number`#1\expandafter|%
1944 \number\ifnum\numexpr`#2-128\relax <32 0\else 1\fi\expandafter|%
1945 \number\dimexpr.25\dimexpr`#2sp\expandafter\relax\expandafter|%
1946 \number`#2\expandafter|%
1947 \number\dimexpr.125\dimexpr`#3sp\expandafter\relax\expandafter|%
1948 \number`#3 \@nil
1949 }%
1950 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1951 \expandafter\9%
1952 \number\numexpr #1-56\expandafter\relax
1953 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
1954 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1955 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
1956 \number\numexpr #6-16\expandafter\relax
1957 \number\numexpr #7-8*#6\relax
1958 }%

```

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

```

```

1959 \def\HyPsd@UTFviii@four#1#2{%
1960 \expandafter\HyPsd@@UTFviii@four\number
1961 \numexpr-1+(\`#1-240)*4+\dimexpr.0625\dimexpr`#2sp-128sp%
1962 \expandafter|\number
1963 \numexpr`#2-16*\dimexpr.0625\dimexpr`#2sp|%
1964 }%
1965 \def\HyPsd@@UTFviii@four#1|#2|#3{%

```

```

1966 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
1967 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1968 \ifodd#2 %
1969 \number\numexpr(#2-1)/2\relax
1970 \else
1971 \number\numexpr#2/2\relax
1972 \fi
1973 \number\numexpr\ifodd#2 4+\fi
1974 \dimexpr.0625\dimexpr`#3sp-128sp\relax\relax\relax
1975 \933%
1976 \expandafter\HyPsd@@@UTFviii@four\number
1977 \numexpr`#3-16*\dimexpr.0625\dimexpr`#3sp| %
1978 }%
1979 \def\HyPsd@@@UTFviii@four#1|#2{%
1980 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1981 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1982 \number\dimexpr.125\dimexpr`#2sp-128sp\relax\relax
1983 \number\numexpr`#2-8*\dimexpr.125\dimexpr`#2sp\relax\relax\relax
1984 }%

```

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

```

1985 \def\HyPsd@unichar#1{%
1986 \ifHy@unicode
1987 \ifnum#1>"10FFFF %
1988 \HyPsd@UnicodeReplacementCharacter % illegal
1989 \else
1990 \ifnum#1>"FFFF %

```

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

```

1991 \expandafter\HyPsd@unichar\expandafter{%
1992 \number\numexpr 55296+%
1993 \dimexpr.0009765625\dimexpr\number#1sp-\p@
1994 \relax\relax\relax
1995 }%

```

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

```

1996 \expandafter\HyPsd@unichar\expandafter{%
1997 \number\numexpr#1-9216%
1998 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1999 \relax\relax\relax
2000 }%
2001 \else
2002 \ifnum#1>"7FFF %
2003 \9%
2004 \expandafter\HyPsd@unichar@first@byte\expandafter{%
2005 \number
2006 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2007 }%
2008 \else
2009 \8%
2010 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2011 \fi
2012 \expandafter\HyPsd@unichar@second@byte\expandafter{%
2013 \number

```



```

2014      \numexpr#1-256*\number
2015      \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2016    }%
2017    \fi
2018  \fi
2019  \else
2020    .% unsupported (Unicode -> PDF Doc Encoding)
2021  \fi
2022 }%
2023 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2024 \def\HyPsd@unichar@first@byte#1{%
2025   \number\dimexpr.015625\dimexpr#1sp\relax\relax
2026   \expandafter\HyPsd@unichar@octtwo\expandafter{%
2027     \number
2028     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2029     \relax\relax\relax
2030   }%
2031 }%
2032 \def\HyPsd@unichar@second@byte#1{%
2033   \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2034   \expandafter\HyPsd@unichar@octtwo\expandafter{%
2035     \number
2036     \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2037     \relax\relax\relax
2038   }%
2039 }%
2040 \def\HyPsd@unichar@octtwo#1{%
2041   \number\dimexpr.125\dimexpr#1sp\relax\relax
2042   \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2043   \relax\relax\relax
2044 }%

```

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

```

2045 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2046   \ifx\@gobble#1%
2047   \else
2048     [Please insert \textbackslash PrerenderUnicode%
2049     \textbraceleft#1\textbraceright\space
2050     into preamble]%
2051   \fi
2052 }%

```

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`.

```

2053 \def\HyPsd@DieFace#1{%
2054   \ifHy@unicode
2055     \ifnum#1<1 %
2056       \HyPsd@UnicodeReplacementCharacter
2057     \else
2058       \ifnum#1>6 %
2059         \9046\205%
2060         \expandafter\expandafter\expandafter
2061         \HyPsd@DieFaceLarge\intcalcSub{#1}{6}!%
2062       \else
2063         \9046\20\intcalcDec{#1}%
2064       \fi
2065     \fi
2066   \else
2067     .% Die faces are not part of PDFDocEncoding
2068   \fi
2069 }

```

\HyPsd@DieFaceLarge

```

2070 \def\HyPsd@DieFaceLarge#1!{%
2071   \ifnum#1>6 %
2072     \expandafter\@firstoftwo
2073   \else
2074     \expandafter\@secondoftwo
2075   \fi
2076   {%
2077     \9046\205%
2078     \expandafter\expandafter\expandafter
2079     \HyPsd@DieFaceLarge\IntCalcSub#1!6!!%
2080   }{%
2081     \9046\20\IntCalcDec#1!%
2082   }%
2083 }

```

6.6.11 Support for moon phases of package china2e

```

2084 \def\HyPsd@MoonPha#1{%
2085   \ifcase\intcalcNum{#1} %
2086     \HyPsd@UnicodeReplacementCharacter
2087   \or % 1
2088   % U+1F31A NEW MOON WITH FACE; \MoonPha{1} (china2e)
2089   \9330\074\9337\032%
2090   \or % 2
2091   \HyPsd@UnicodeReplacementCharacter
2092   \or % 3
2093   % U+1F31D FULL MOON WITH FACE; \MoonPha{3} (china2e)
2094   \9330\074\9337\035%
2095   \or % 4
2096   % U+1F31C LAST QUARTER MOON WITH FACE; \MoonPha{4} (china2e)
2097   \9330\074\9337\034%
2098   \else
2099     \HyPsd@UnicodeReplacementCharacter
2100   \fi
2101 }

```

2102 %* \HyPsd@MoonPha -> \MoonPha

6.6.12 Support for package pifont

\HyPsd@ding

```

2103 \def\HyPsd@ding#1{%
2104   \ifHy@unicode
2105     \ifnum#1<32 %
2106       \HyPsd@UnicodeReplacementCharacter
2107     \else
2108       \ifnum#1>254 %
2109         \HyPsd@UnicodeReplacementCharacter
2110       \else
2111         \ifnum#1<127 %
2112           \expandafter\expandafter\expandafter
2113             \HyPsd@@ding\intcalcNum{#1}!%
2114         \else
2115           \ifnum#1>160 %
2116             \expandafter\expandafter\expandafter
2117               \HyPsd@@ding\intcalcNum{#1}!%
2118           \else
2119             \HyPsd@UnicodeReplacementCharacter
2120           \fi
2121         \fi
2122       \fi
2123     \fi
2124   \else
2125     .% Dingbats are not part of PDFDocEncoding
2126   \fi
2127 }
```

\HyPsd@@ding

```

2128 \def\HyPsd@@ding#1!{%
2129   \@ifundefined{HyPsd@ding@#1}{%
2130     \ifnum#1<127 %
2131       \9047%
2132       \HyPsd@DecimalToOctalSecond{\IntCalcSub#1!32!}%
2133     \else
2134       \ifnum#1<168 %
2135         \9047\14\IntCalcSub#1!160!%
2136       \else
2137         \ifnum#1>181 %
2138           \9047\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!64!}%
2139         \else
2140           % 172..181 -> U+2460..U+2469
2141           \9044\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!76!}%
2142         \fi
2143       \fi
2144     \fi
2145   }{%
2146     \csname HyPsd@ding@#1\endcsname
2147   }%
2148 }

2149 \@namedef{HyPsd@ding@32}{\space}
```

```

2150 % U+260E BLACK TELEPHONE
2151 \@namedef{HyPsd@ding@37}{\9046\016}% U+260E
2152 % U+261B BLACK RIGHT POINTING INDEX
2153 \@namedef{HyPsd@ding@42}{\9046\033}% U+261B
2154 % U+261E WHITE RIGHT POINTING INDEX
2155 \@namedef{HyPsd@ding@43}{\9046\036}% U+261E
2156 % U+2605 BLACK STAR
2157 \@namedef{HyPsd@ding@72}{\9046\005}% U+2605
2158 % U+25CF BLACK CIRCLE
2159 \@namedef{HyPsd@ding@108}{\9045\317}% U+25CF
2160 % U+25A0 BLACK SQUARE
2161 \@namedef{HyPsd@ding@110}{\9045\240}% U+25A0
2162 % U+25B2 BLACK UP-POINTING TRIANGLE
2163 \@namedef{HyPsd@ding@115}{\9045\262}% U+25B2
2164 % U+25BC BLACK DOWN-POINTING TRIANGLE
2165 \@namedef{HyPsd@ding@116}{\9045\274}% U+25BC
2166 % U+25C6 BLACK DIAMOND
2167 \@namedef{HyPsd@ding@117}{\9045\306}% U+25C6
2168 % U+25D7 RIGHT HALF BLACK CIRCLE
2169 \@namedef{HyPsd@ding@119}{\9045\327}% U+25D7
2170 \@namedef{HyPsd@ding@168}{\textclubsuitblack}%
2171 \@namedef{HyPsd@ding@169}{\textdiamondsuitblack}%
2172 \@namedef{HyPsd@ding@170}{\textheartsuitblack}%
2173 \@namedef{HyPsd@ding@171}{\textspadesuitblack}%
2174 \@namedef{HyPsd@ding@213}{\textrightarrow}%
2175 \@namedef{HyPsd@ding@214}{\textleftarrow}%
2176 \@namedef{HyPsd@ding@215}{\textupdownarrow}%
2177 \@namedef{HyPsd@ding@240}{\HyPsd@UnicodeReplacementCharacter}

```

7 Support of other packages

7.1 Package subfigure

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

```

2178 \@ifpackageloaded{subfigure}{%
2179   \@ifundefined{sub@label}{%
2180     \Hy@hypertextnamesfalse
2181   }{%
2182     \renewcommand*{\sub@label}[1]{%
2183       \@bsphack
2184       \subfig@oldlabel{#1}%
2185       \if@filesw
2186         \beginngroup
2187           \edef\@currentlabstr{%
2188             \expandafter\strip@prefix\meaning\@currentlabelname
2189           }%
2190           \protected@write\@auxout{}{%
2191             \string\newlabel{sub@#1}{%
2192               {\@nameuse{\@thesub\@captype}}%
2193               {\thepage}%
2194             }%
2195             \expandafter\strip@period\@currentlabstr
2196             \relax.\relax\@@@%

```

```

2197         }%
2198         {\@currentHref}%
2199         }}%
2200     }%
2201 }%
2202 \endgroup
2203 \fi
2204 \@esphack
2205 }%
2206 }%
2207 }{}

```

7.2 Package xr and xr-hyper

The beta version of xr that supports `\XR@addURL` is called **xr-hyper**. 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. Change 2023-05-14: xr-hyper adds the field.

```

2208 \def\Hy@true{true}
2209 \def\Hy@false{false}

```

Providing dummy definitions.

```

2210 \let\literalps@out\@gobble
2211 \newcommand\pdfbookmark[3][]{ }
2212 \def\Acrobatmenu#1#2{\leavevmode#2}
2213 \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

```

2214 \let\HyperRaiseLinkHook\@empty
2215 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

2216 \newcount\Hy@SavedSpaceFactor
2217 \def\Hy@SaveSpaceFactor{%
2218   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@ \fi
2219 }
2220 \def\Hy@RestoreSpaceFactor{%
2221   \relax
2222   \ifhmode

```

```

2223 \ifnum\Hy@SavedSpaceFactor>\z@
2224 \spacefactor=\Hy@SavedSpaceFactor
2225 \fi
2226 \fi
2227 }
2228 \def\Hy@SaveSavedSpaceFactor{%
2229 \edef\Hy@RestoreSavedSpaceFactor{%
2230 \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2231 }%
2232 }

```

Packages like `varwidth` need an option to change the handling in `vmode`. (Issue #204). With a new format we therefore insert a socket.

```

2233 \@if@t@r\fmtversion{2023-11-01}
2234 {\NewSocket{hyp/raisedlink}{1}}
2235 {\providecommand\UseSocket[2]{#2}}
2236 \def\Hy@raisedlink#1{%
2237 \ifvmode
2238 \UseSocket{hyp/raisedlink}{#1}%
2239 \else
2240 \Hy@SaveSpaceFactor
2241 \penalty\@M
2242 \smash{%
2243 \begingroup
2244 \let\HyperRaiseLinkLength\@tempdima
2245 \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2246 \HyperRaiseLinkHook
2247 \expandafter\endgroup
2248 \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2249 \Hy@RestoreSpaceFactor
2250 #1%
2251 \Hy@SaveSpaceFactor
2252 }%
2253 }%
2254 \Hy@RestoreSpaceFactor
2255 \fi
2256 }

```

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

```

2257 \def\Hy@SaveLastskip{%
2258 \let\Hy@RestoreLastskip\relax
2259 \ifvmode
2260 \ifdim\lastskip=\z@
2261 \ifnum\lastnodetype=1 %
2262 \let\Hy@RestoreLastskip\relax
2263 \else
2264 \let\Hy@RestoreLastskip\nobreak
2265 \fi
2266 \else
2267 \begingroup
2268 \skip@=-\lastskip
2269 \edef\x{%
2270 \endgroup
2271 \def\noexpand\Hy@RestoreLastskip{%

```

```

2272         \noexpand\ifvmode
2273         \noexpand\nobreak
2274         \vskip\the\skip@
2275         \vskip\the\lastskip\relax
2276         \noexpand\fi
2277     }%
2278 }%
2279 \x
2280 \fi
2281 \else
2282 \ifhmode
2283 \ifdim\lastskip=\z@
2284 \let\Hy@RestoreLastskip\nobreak
2285 \else
2286 \begingroup
2287 \skip@=-\lastskip
2288 \edef\x{%
2289 \endgroup
2290 \def\noexpand\Hy@RestoreLastskip{%
2291 \noexpand\ifhmode
2292 \noexpand\nobreak
2293 \hskip\the\skip@
2294 \hskip\the\lastskip\relax
2295 \noexpand\fi
2296 }%
2297 }%
2298 \x
2299 \fi
2300 \fi
2301 \fi
2302 }%

```

9 Options

```

2303 \SetupKeyvalOptions{%
2304   family=Hyp,%
2305   prefix=HyOpt%
2306 }

```

9.1 Help macros

Package like hyperxmp want to retrieve the value of keys like `pdfauthor`. To avoid that we have two parallel interfaces we provide the interface from the `pdfmanagement/ltdocinit` if it doesn't exist.

```

\AddToDocumentProperties
\GetDocumentProperties 2307 \ExplSyntaxOn
2308 \@ifundefined{AddToDocumentProperties}
2309 {
2310 \prop_new:N \g__hyp_documentproperties_prop
2311 \NewDocumentCommand\AddToDocumentProperties{O{\@currname}mm}
2312 {
2313 \exp_args:NNx
2314 \prop_gput:Nnn \g__hyp_documentproperties_prop

```

```

2315     {
2316         \tl_if_blank:eTF {#1}{top-level/}{#1/} #2
2317     }
2318     { #3}
2319 }
2320 \NewExpandableDocumentCommand\GetDocumentProperties{m}
2321 {
2322     \prop_item:Nn \g__hyp_documentproperties_prop {#1}
2323 }
2324 }{}
2325 \ExplSyntaxOff

```

\IfHyperBooleanExists

```

2326 \def\IfHyperBooleanExists#1{%
2327     \@ifundefined{Hy@#1false}\@secondoftwo{%
2328         \@ifundefined{KV@Hyp@#1@default}\@secondoftwo\@firstoftwo
2329     }%
2330 }

2331 \@namedef{KV@Hyp@stoppeearly@default}{}

```

\IfHyperBoolean

```

2332 \def\IfHyperBoolean#1{%
2333     \IfHyperBooleanExists{#1}{%
2334         \csname ifHy@#1\endcsname
2335         \expandafter\@firstoftwo
2336     \else
2337         \expandafter\@secondoftwo
2338     \fi
2339 } \@secondoftwo
2340 }

```

\Hy@boolkey

```

2341 \def\Hy@boolkey#1#2{%
2342     \edef\Hy@tempa{#2}%
2343     \lowercase\expandafter{%
2344         \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2345     }%
2346     \ifx\Hy@tempa\@empty
2347         \let\Hy@tempa\Hy@true
2348     \fi
2349     \ifx\Hy@tempa\Hy@true
2350     \else
2351         \ifx\Hy@tempa\Hy@false
2352         \else
2353             \let\Hy@tempa\relax
2354         \fi
2355     \fi
2356     \ifx\Hy@tempa\relax
2357         \Hy@WarnOptionValue{#2}{#1}{`true' or `false'}%
2358     \else
2359         \Hy@Info{Option `#1' set ``\Hy@tempa'}%
2360         \csname Hy@#1\Hy@tempa\endcsname
2361     \fi
2362 }

```


\Hy@WarnOptionValue

```
2363 \def\Hy@WarnOptionValue#1#2#3{%
2364   \Hy@Warning{%
2365     Unexpected value `#1'\MessageBreak
2366     of option `#2' instead of\MessageBreak
2367     #3%
2368   }%
2369 }
```

\Hy@DisableOption

```
2370 \def\Hy@DisableOption#1{%
2371   \@ifundefined{KV@Hyp@#1@default}{%
2372     \define@key{Hyp}{#1}%
2373   }{%
2374     \define@key{Hyp}{#1}[]%
2375   }%
2376   {\Hy@WarnOptionDisabled{#1}}}%
2377 }
2378
```

\Hy@WarnOptionDisabled

```
2379 \def\Hy@WarnOptionDisabled#1{%
2380   \Hy@Warning{%
2381     Option `#1' has already been used,\MessageBreak
2382     setting the option has no effect%
2383   }%
2384 }
```

\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.

```
2385 \def\Hy@CheckOptionValue#1#2#3{%
2386   \begingroup
2387   \edef\x{#1}%
2388   \@onelevel@sanitize\x
2389   \let\y=y%
2390   \def\do##1##2{%
2391     \def\z{##1}%
2392     \@onelevel@sanitize\z
2393     \ifx\x\z
2394       \let\y=n%
2395       \let\do\@gobbletwo
2396     \fi
2397   }%
2398   #3%
2399   \ifx\y y%
2400     \def\do##1##2{%
2401       *`##1'%
2402       \ifx\\##2\\\else\space(##2)\fi
2403       \MessageBreak
2404     }%
2405     \Hy@Warning{%
2406       Values of option `#2':\MessageBreak
```

```

2407     #3%
2408     * An empty value disables the option.\MessageBreak
2409     Unknown value `\'%
2410   }%
2411   \fi
2412 \endgroup
2413 }

```

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

```

2414 \def\Hy@DefNameKey#1{%
2415   \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2416 }

```

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

```

2417 \def\Hy@@DefNameKey#1#2#3{%
2418   \define@key{Hyp}{#2}{%
2419     \edef#1{##1}%
2420     \ifx#1\@empty
2421       \else
2422         \Hy@CheckOptionValue{##1}{#2}{#3}%
2423       \fi
2424     }%
2425   \let#1\@empty
2426 }

```

`\Hy@UseNameKey`

```

2427 \def\Hy@UseNameKey#1#2{%
2428   \ifx#2\@empty
2429     \else
2430       /#1/#2%
2431     \fi
2432 }

```

9.2 Defining the options

```

2433 \define@key{Hyp}{implicit}[true]{%
2434   \Hy@boolkey{implicit}{#1}%
2435 }
2436 \define@key{Hyp}{draft}[true]{%
2437   \Hy@boolkey{draft}{#1}%
2438 }
2439 \define@key{Hyp}{final}[true]{%
2440   \Hy@boolkey{final}{#1}%
2441 }
2442 \let\KV@Hyp@nolinks\KV@Hyp@draft
2443 \def\Hy@ObsoletePaperOption#1{%
2444   \Hy@WarningNoLine{%
2445     Option `#1' is no longer used%
2446   }%

```

```

2447 \define@key{Hyp}{#1}[true]{}%
2448 }
2449 \def\Hy@temp#1{%
2450 \define@key{Hyp}{#1}[true]{}%
2451 \Hy@ObsoletePaperOption{#1}%
2452 }%
2453 }
2454 \Hy@temp{a4paper}
2455 \Hy@temp{a5paper}
2456 \Hy@temp{b5paper}
2457 \Hy@temp{letterpaper}
2458 \Hy@temp{legalpaper}
2459 \Hy@temp{executivepaper}

2460 \define@key{Hyp}{setpagesize}[true]{}%
2461 \Hy@boolkey{setpagesize}{#1}%
2462 }
2463 \define@key{Hyp}{debug}[true]{}%
2464 \Hy@boolkey{debug}{#1}%
2465 }
2466 \define@key{Hyp}{linktocpage}[true]{}%
2467 \Hy@boolkey{linktocpage}{#1}%
2468 \ifHy@linktocpage
2469 \let\Hy@linktoc\Hy@linktoc@page
2470 \else
2471 \let\Hy@linktoc\Hy@linktoc@section
2472 \fi
2473 }
2474 \chardef\Hy@linktoc@none=0 %
2475 \chardef\Hy@linktoc@section=1 %
2476 \chardef\Hy@linktoc@page=2 %
2477 \chardef\Hy@linktoc@all=3 %
2478 \ifHy@linktocpage
2479 \let\Hy@linktoc\Hy@linktoc@page
2480 \else
2481 \let\Hy@linktoc\Hy@linktoc@section
2482 \fi
2483 \define@key{Hyp}{linktoc}{}%
2484 \@ifundefined{Hy@linktoc@#1}{}%
2485 \Hy@Warning{%
2486 Unexpected value `#1' of\MessageBreak
2487 option `linktoc' instead of `none',\MessageBreak
2488 `section', `page' or `all'%
2489 }%
2490 }{}%
2491 \expandafter\let\expandafter\Hy@linktoc
2492 \csname Hy@linktoc@#1\endcsname
2493 }%
2494 }
2495 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2496 \let\XR@ext\relax
2497 \define@key{Hyp}{verbose}[true]{}%
2498 \Hy@boolkey{verbose}{#1}%
2499 }

```

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.

```
2500 \define@key{Hyp}{raiselinks}[true]{%
2501   \Hy@boolkey{raiselinks}{#1}%
2502 }
```

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

```
2503 \def\Hy@setbreaklinks#1{%
2504   \csname breaklinks#1\endcsname
2505 }

2506 \def\Hy@breaklinks@unsupported{%
2507   \ifx\Hy@setbreaklinks\@gobble
2508     \ifHy@breaklinks
2509       \Hy@WarningNoLine{%
2510         You have enabled option `breaklinks'.\MessageBreak
2511         But driver ``\Hy@driver.def' does not support this.\MessageBreak
2512         Expect trouble with the link areas of broken links%
2513       }%
2514     \fi
2515   \fi
2516 }

2517 \define@key{Hyp}{breaklinks}[true]{%
2518   \Hy@boolkey{breaklinks}{#1}%
2519   \let\Hy@setbreaklinks\@gobble
2520 }

2521 \define@key{Hyp}{localanchorname}[true]{%
2522   \Hy@WarningNoLine{%
2523     Option `localanchorname' is deprecated%
2524   }%
2525   \Hy@boolkey{localanchorname}{#1}%
2526 }
```

Determines whether an automatic anchor is put on each page

```
2527 \define@key{Hyp}{pageanchor}[true]{%
2528   \Hy@boolkey{pageanchor}{#1}%
2529 }
```

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.

```
2530 \define@key{Hyp}{plainpages}[true]{%
2531   \Hy@boolkey{plainpages}{#1}%
2532 }
```

Are the names for anchors made as per the HyperTeX system, or do they simply use what L^AT_EX provides?

```
2533 \define@key{Hyp}{naturalnames}[true]{%
2534   \Hy@boolkey{naturalnames}{#1}%
2535 }
```

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

```
2536 \define@key{Hyp}{hypertextnames}[true]{%
2537   \Hy@boolkey{hypertextnames}{#1}%
2538 }
```

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

```

2539 \define@key{Hyp}{nesting}[true]{%
2540   \Hy@boolkey{nesting}{#1}%
2541 }

2542 \define@key{Hyp}{destlabel}[true]{%
2543   \Hy@boolkey{destlabel}{#1}%
2544 }

2545 \define@key{Hyp}{unicode}[true]{%
2546   \Hy@boolkey{unicode}{#1}%
2547   \ifHy@unicode
2548     \def\HyPsd@pdfencoding{unicode}%
2549     \HyPsd@LoadUnicode
2550   \else
2551     \def\HyPsd@pdfencoding{pdfdoc}%
2552   \fi
2553 }

2554 \Hy@AtBeginDocument{%
2555   \ifx\HyPsd@LoadUnicode\relax
2556   \else
2557     \def\HyPsd@LoadUnicode{%
2558       \Hy@Error{%
2559         Unicode support for bookmarks is not available.\MessageBreak
2560         Activate unicode support by using one of the options\MessageBreak
2561         `unicode', `pdfencoding=unicode', `pdfencoding=auto'\MessageBreak
2562         in the preamble%
2563       } \@ehc
2564       \global\let\HyPsd@LoadUnicode\relax
2565       \global\Hy@unicodetrue
2566       \global\let\Hy@unicodetrue\Hy@unicodetrue
2567     }%
2568   \fi
2569 }

2570 \define@key{Hyp}{pdfencoding}{%
2571   \edef\HyPsd@temp{#1}%
2572   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2573     \let\HyPsd@pdfencoding\HyPsd@temp
2574     \Hy@unicodetrue
2575   \else
2576     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2577       \z@
2578     \else
2579       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2580         \z@
2581       \else
2582         \@ne
2583       \fi
2584     \fi
2585     \let\HyPsd@pdfencoding\HyPsd@temp
2586     \hypersetup{unicode}%
2587     \ifHy@unicode
2588       \def\HyPsd@pdfencoding{#1}%
2589       \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto

```

```

2590     \HyPsd@LoadStringEnc
2591     \fi
2592   \else
2593     \Hy@Warning{Cannot switch to unicode bookmarks}%
2594     \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2595     \fi
2596   \else
2597     \@onelevel@sanitize\HyPsd@temp
2598     \Hy@Warning{%
2599       Values of option `pdfencoding':\MessageBreak
2600       `pdfdoc', `unicode', `auto'.\MessageBreak
2601       Ignoring unknown value `\HyPsd@temp'%
2602     }%
2603   \fi
2604 \fi
2605 }
2606 \def\HyPsd@pdfencoding@auto{auto}
2607 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2608 \def\HyPsd@pdfencoding@unicode{unicode}

```

change 2020-08-14, use unicode by default:

```

2609 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
2610 \HyPsd@LoadUnicode
2611 \def\HyPsd@LoadStringEnc{%
2612   \RequirePackage{stringenc}[2009/12/15]%
2613   \let\HyPsd@LoadStringEnc\relax
2614 }
2615 \Hy@AtBeginDocument{%
2616   \ifpackageloaded{stringenc}{%
2617     \let\HyPsd@LoadStringEnc\relax
2618   }{%
2619     \def\HyPsd@LoadStringEnc{%
2620       \Hy@WarningNoLine{%
2621         Missing package `stringenc'. Use `pdfencoding=auto'\MessageBreak
2622         in the preamble or load the package there%
2623       }%
2624     }%
2625   }%
2626 }
2627 \define@key{Hyp}{psdextra}[true]{%
2628   \Hy@boolkey{psdextra}{#1}%
2629   \HyPsd@LoadExtra
2630 }
2631 \def\hypersetup{\kvsetkeys{Hyp}}
2632 \newif\ifHy@setpdfversion
2633 \define@key{Hyp}{pdfversion}{%
2634   \ifundefined{Hy@pdfversion@#1}{%
2635     \PackageWarning{hyperref}{%
2636       Unsupported PDF version `#1'.\MessageBreak
2637       Valid values: 1.2-1.7, 2.0%
2638     }%
2639   }{%
2640     \Hy@setpdfversiontrue
2641     \@nameuse{Hy@pdfversion@#1}%

```

```
2642 }%
```

```
2643 }
```

`\Hy@pdfminorversion` already used elsewhere to denote `\pdfminorversion` or `\pdfvariable majorversion` so introduce new names here.

```
2644 \@namedef{Hy@pdfversion@1.2}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{2}}%
```

```
2645 \@namedef{Hy@pdfversion@1.3}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{3}}%
```

```
2646 \@namedef{Hy@pdfversion@1.4}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{4}}%
```

```
2647 \@namedef{Hy@pdfversion@1.5}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{5}}%
```

```
2648 \@namedef{Hy@pdfversion@1.6}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{6}}%
```

```
2649 \@namedef{Hy@pdfversion@1.7}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{7}}%
```

```
2650 \@namedef{Hy@pdfversion@2.0}{\def\Hy@pdf@majorversion{2}\def\Hy@pdf@mi-
norversion{0}}%
```

```
2651 \def\Hy@pdf@majorversion{1}\def\Hy@pdf@minorversion{5}
```

Legacy name, earlier releases assumed 1.x

```
2652 \let\Hy@pdfversion\Hy@pdf@minorversion
```

```
2653 \def\Hy@pdf@majorminor@version{\numexpr100*\Hy@pdf@majorversion+\Hy@pdf@mi-
norversion\relax}
```

```
2654 \def\Hy@pdfmajorminor@version{\numexpr100*\Hy@pdfmajorversion+\Hy@pdfmi-
norversion\relax}
```

if `pdfminorversion` is defined, make sure `pdfmajorversion` is too.

```
2655 \@ifundefined{pdfminorversion}{}{%
```

```
2656 \@ifundefined{pdfmajorversion}{}%
```

```
2657 \newcount\pdfmajorversion
```

```
2658 \pdfmajorversion=1
```

```
2659 }{}%
```

```
2660 }
```

```
2661 \ifx\pdfmajorversion\undefined\else
```

```
2662 \def\Hy@pdfmajorversion{\pdfmajorversion}
```

```
2663 \fi
```

10 Options for different drivers

```
2664 \newif\ifHy@DviMode
```

```
2665 \let\Hy@DviErrMsg\@empty
```

```
2666 \ifpdf
```

```
2667 \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
```

```
2668 \else
```

```
2669 \ifxetex
```

```
2670 \def\Hy@DviErrMsg{XeTeX is running}%
```

```
2671 \else
```

```
2672 \ifvtex
```

```
2673 \ifnum\OpMode=\z@
```

```
2674 \Hy@DviModetrue
```

```
2675 \else
```

```
2676 \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
```

```
2677 \fi
```

```
2678 \else
```

```

2679 \Hy@DviModetrue
2680 \fi
2681 \fi
2682 \fi
2683 \def\HyOpt@CheckDvi#1{%
2684 \ifHy@DviMode
2685 \expandafter\@firstofone
2686 \else
2687 \Hy@Error{%
2688 Wrong DVI mode driver option `#1',\MessageBreak
2689 because \Hy@DviErrMsg
2690 }\@ehc
2691 \expandafter\@gobble
2692 \fi
2693 }

2694 \DeclareVoidOption{tex4ht}{%
2695 \Hy@texhttrue
2696 \kvsetkeys{Hyp}{colorlinks=true}%
2697 \def\BeforeTeXIVht{\RequirePackage{color}}%
2698 \def\Hy@driver{htex4ht}%
2699 \def\MaybeStopEarly{%
2700 \Hy@Message{Stopped early}%
2701 \Hy@AtBeginDocument{%
2702 \PDF@FinishDoc
2703 \gdef\PDF@FinishDoc{}%
2704 }%
2705 \endinput
2706 }%
2707 }

2708 \DeclareVoidOption{pdftex}{%
2709 \ifpdf
2710 \def\Hy@driver{hpdftex}%
2711 \PassOptionsToPackage{pdftex}{color}%
2712 \else
2713 \Hy@Error{%
2714 Wrong driver option `pdftex',\MessageBreak
2715 because pdfTeX in PDF mode is not detected%
2716 }\@ehc
2717 \fi
2718 }

2719 \DeclareVoidOption{luatex}{%
2720 \ifpdf
2721 \ifx\pdfextension\@undefined
2722 \def\Hy@driver{hpdftex}%
2723 \PassOptionsToPackage{pdftex}{color}%
2724 \else
2725 \def\Hy@driver{hluatex}%
2726 \PassOptionsToPackage{luatex}{color}%
2727 \fi
2728 \else
2729 \Hy@Error{%
2730 Wrong driver option `luatex',\MessageBreak
2731 because luaTeX in PDF mode is not detected%
2732 }\@ehc

```



```

2733 \fi
2734 }
2735 \DeclareVoidOption{nativepdf}{%
2736 \HyOpt@CheckDvi{nativepdf}{%
2737 \def\Hy@driver{hdvips}%
2738 \PassOptionsToPackage{dvips}{color}%
2739 }%
2740 }
2741 \DeclareVoidOption{dvipdfm}{%
2742 \HyOpt@CheckDvi{dvipdfm}{%
2743 \def\Hy@driver{hdvipdfm}%
2744 }%
2745 }
2746 \DeclareVoidOption{dvipdfmx}{%
2747 \HyOpt@CheckDvi{dvipdfmx}{%
2748 \def\Hy@driver{hdvipdfm}%
2749 \PassOptionsToPackage{dvipdfmx}{color}%
2750 }%
2751 }
2752 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2753 \expandafter\ifx\csname if#1\expandafter\endcsname
2754 \csname iftrue\endcsname
2755 \chardef\SpecialDvipdfmxOutlineOpen\@ne
2756 \else
2757 \chardef\SpecialDvipdfmxOutlineOpen\z@
2758 \fi
2759 }
2760 \DeclareVoidOption{xetex}{%
2761 \ifxetex
2762 \def\Hy@driver{hxetex}%
2763 \else
2764 \Hy@Error{%
2765 Wrong driver option `xetex',\MessageBreak
2766 because XeTeX is not detected%
2767 }\@ehc
2768 \fi
2769 }
2770 \DeclareVoidOption{pdfmark}{%
2771 \HyOpt@CheckDvi{pdfmark}{%
2772 \def\Hy@driver{hdvips}%
2773 }%
2774 }
2775 \DeclareVoidOption{dvips}{%
2776 \HyOpt@CheckDvi{dvips}{%
2777 \def\Hy@driver{hdvips}%
2778 \PassOptionsToPackage{dvips}{color}%
2779 }%
2780 }
2781 \DeclareVoidOption{hypertex}{%
2782 \HyOpt@CheckDvi{hypertex}{%
2783 \def\Hy@driver{hypertex}%
2784 }%
2785 }
2786 \let\Hy@MaybeStopNow\relax

```

```

2787 \DeclareVoidOption{vtex}{%
2788   \ifvtex
2789     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2790     \def\Hy@driver{hvtex}%
2791   \else
2792     \ifnum\OpMode=10\relax
2793       \def\Hy@driver{hvtexhtm}%
2794       \def\MaybeStopEarly{%
2795         \Hy@Message{Stopped early}%
2796         \Hy@AtBeginDocument{%
2797           \PDF@FinishDoc
2798           \gdef\PDF@FinishDoc{}}%
2799         }%
2800       \endinput
2801     }%
2802   \else
2803     \Hy@Error{%
2804       Wrong driver option `vtex',\MessageBreak
2805       because of wrong OpMode (\the\OpMode)%
2806     }\@ehc
2807   \fi
2808 \fi
2809 \else
2810   \Hy@Error{%
2811     Wrong driver option `vtex',\MessageBreak
2812     because VTeX is not running%
2813   }\@ehc
2814 \fi
2815 }
2816 \DeclareVoidOption{vtexpdfmark}{%
2817   \ifvtex
2818     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2819     \def\Hy@driver{hvtexmrk}%
2820   \else
2821     \Hy@Error{%
2822       Wrong driver option `vtexpdfmark',\MessageBreak
2823       because of wrong OpMode (\the\OpMode)%
2824     }\@ehc
2825   \fi
2826 \else
2827   \Hy@Error{%
2828     Wrong driver option `vtexpdfmark',\MessageBreak
2829     because VTeX is not running%
2830   }\@ehc
2831 \fi
2832 }
2833 \DeclareVoidOption{dviwindo}{%
2834   \HyOpt@CheckDvi{dviwindo}{%
2835     \def\Hy@driver{hdviwind}%
2836     \kvsetkeys{Hyp}{colorlinks}%
2837     \PassOptionsToPackage{dviwindo}{color}%
2838   }%
2839 }
2840 \DeclareVoidOption{dvipsone}{%

```

```

2841 \HyOpt@CheckDvi{dvipsone}{%
2842   \def\Hy@driver{hdvipson}%
2843   \PassOptionsToPackage{dvipsone}{color}%
2844 }%
2845 }
2846 \DeclareVoidOption{textures}{%
2847   \HyOpt@CheckDvi{textures}{%
2848     \def\Hy@driver{htexture}%
2849   }%
2850 }
2851 \DeclareVoidOption{latex2html}{%
2852   \Hy@Warning{Option `latex2html` is obsolete. \MessageBreak
2853     A current html.sty will do all necessary (re)definitions%
2854 }%
2855 }
2856 \DeclareVoidOption{hitex}{%
2857   \ifhint
2858     \IfFileExists{hhitex.def}
2859     {\def\Hy@driver{hhitex}}%
2860     {\Hy@Warning{%
2861       Missing driver file `hhitex.def',\MessageBreak
2862       ignoring hitex driver%
2863     }}%
2864   \else
2865     \Hy@Error{%
2866       Wrong driver option `hitex',\MessageBreak
2867       because HiTeX is not detected%
2868     }\@ehc
2869   \fi
2870 }

```

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

```

2871 \DeclareVoidOption{ps2pdf}{%
2872   \HyOpt@CheckDvi{ps2pdf}{%
2873     \def\Hy@driver{hdvips}%
2874     \PassOptionsToPackage{dvips}{color}%
2875   }%
2876 }
2877 \let\HyOpt@DriverFallback\@empty
2878 \define@key{Hyp}{driverfallback}{%
2879   \ifHy@DviMode
2880     \def\HyOpt@DriverFallback{#1}%
2881     \Hy@Match\HyOpt@DriverFallback{}{%
2882       ^(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
2883       latex2html|tex4ht)$%
2884     }{}%
2885     \Hy@Warning{%
2886       Invalid driver `#1' for option\MessageBreak
2887       `driverfallback'%
2888     }%
2889     \let\HyOpt@DriverFallback\@empty
2890   }%
2891 \fi
2892 }

```

```

2893 \let\HyOpt@CustomDriver\@empty
2894 \define@key{Hyp}{customdriver}{%
2895   \IfFileExists{#1.def}{%
2896     \def\HyOpt@CustomDriver{#1}%
2897   }{%
2898     \Hy@Warning{%
2899       Missing driver file `#1.def',\MessageBreak
2900       ignoring custom driver%
2901     }%
2902   }%
2903 }

```

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.

```

2904 \define@key{Hyp}{hyperfigures}[true]{%
2905   \Hy@boolkey{hyperfigures}{#1}%
2906 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

2907 \define@key{Hyp}{hyperfootnotes}[true]{%
2908   \Hy@boolkey{hyperfootnotes}{#1}%
2909 }

```

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

```

2910 \def\back@none{none}
2911 \def\back@section{section}
2912 \def\back@page{page}
2913 \def\back@slide{slide}
2914 \define@key{Hyp}{backref}[section]{%
2915   \lowercase{\def\Hy@tempa{#1}}%
2916   \ifx\Hy@tempa\@empty
2917     \let\Hy@tempa\back@section
2918   \fi
2919   \ifx\Hy@tempa\Hy@false
2920     \let\Hy@tempa\back@none
2921   \fi
2922   \ifx\Hy@tempa\back@slide
2923     \let\Hy@tempa\back@section
2924   \fi
2925   \ifx\Hy@tempa\back@page
2926     \PassOptionsToPackage{hyperpageref}{backref}%
2927     \Hy@backreftrue
2928   \else
2929     \ifx\Hy@tempa\back@section
2930       \PassOptionsToPackage{hyperref}{backref}%
2931       \Hy@backreftrue
2932     \else
2933       \ifx\Hy@tempa\back@none
2934         \Hy@backreffalse
2935       \else
2936         \Hy@WarnOptionValue{#1}{backref}{%
2937           `section', `slide', `page', `none',\MessageBreak
2938           or `false'}%

```

```

2939 \fi
2940 \fi
2941 \fi
2942 }
2943 \define@key{Hyp}{pagebackref}[true]{%
2944 \edef\Hy@tempa{#1}%
2945 \lowercase\expandafter{%
2946 \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2947 }%
2948 \ifx\Hy@tempa\@empty
2949 \let\Hy@tempa\Hy@true
2950 \fi
2951 \ifx\Hy@tempa\Hy@true
2952 \PassOptionsToPackage{hyperpageref}{backref}%
2953 \Hy@backreftrue
2954 \else
2955 \ifx\Hy@tempa\Hy@false
2956 \Hy@backreffalse
2957 \else
2958 \Hy@WarnOptionValue{#1}{pagebackref}{`true' or `false'}%
2959 \fi
2960 \fi
2961 }

```

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

```

2962 \define@key{Hyp}{hyperindex}[true]{%
2963 \Hy@boolkey{hyperindex}{#1}%
2964 }

```

Configuration of encap char.

```

2965 \define@key{Hyp}{encap}{\|}{%
2966 \def\HyInd@EncapChar{#1}%
2967 }

```

12 Language options

The \autoref feature depends on the language.

```

2968 \def\HyLang@afrikaans{%
2969 \def\equationautorefname{Vergelyking}%
2970 \def\footnoteautorefname{Voetnota}%
2971 \def\itemautorefname{Item}%
2972 \def\figureautorefname{Figuur}%
2973 \def\tableautorefname{Tabel}%
2974 \def\partautorefname{Deel}%
2975 \def\appendixautorefname{Bylae}%
2976 \def\chapterautorefname{Hoofstuk}%
2977 \def\sectionautorefname{Afdeling}%
2978 \def\subsectionautorefname{Subafdeling}%
2979 \def\subsubsectionautorefname{Subsubafdeling}%
2980 \def\paragraphautorefname{Paragraaf}%
2981 \def\subparagraphautorefname{Subparagraaf}%
2982 \def\FancyVerbLineautorefname{Lyn}%
2983 \def\theoremautorefname{Teorema}%

```

```

2984 \def\pageautorefname{Bladsy}%
2985 }
2986 \def\HyLang@english{%
2987 \def\equationautorefname{Equation}%
2988 \def\footnoteautorefname{footnote}%
2989 \def\itemautorefname{item}%
2990 \def\figureautorefname{Figure}%
2991 \def\tableautorefname{Table}%
2992 \def\partautorefname{Part}%
2993 \def\appendixautorefname{Appendix}%
2994 \def\chapterautorefname{chapter}%
2995 \def\sectionautorefname{section}%
2996 \def\subsectionautorefname{subsection}%
2997 \def\subsubsectionautorefname{subsubsection}%
2998 \def\paragraphautorefname{paragraph}%
2999 \def\subparagraphautorefname{subparagraph}%
3000 \def\FancyVerbLineautorefname{line}%
3001 \def\theoremautorefname{Theorem}%
3002 \def\pageautorefname{page}%
3003 }
3004 \def\HyLang@french{%
3005 \def\equationautorefname{'equation}%
3006 \def\footnoteautorefname{note}%
3007 \def\itemautorefname{item}%
3008 \def\figureautorefname{figure}%
3009 \def\tableautorefname{tableau}%
3010 \def\partautorefname{partie}%
3011 \def\appendixautorefname{annexe}%
3012 \def\chapterautorefname{chapitre}%
3013 \def\sectionautorefname{section}%
3014 \def\subsectionautorefname{sous-section}%
3015 \def\subsubsectionautorefname{sous-sous-section}%
3016 \def\paragraphautorefname{paragraphe}%
3017 \def\subparagraphautorefname{sous-paragraphe}%
3018 \def\FancyVerbLineautorefname{ligne}%
3019 \def\theoremautorefname{th'eor`eme}%
3020 \def\pageautorefname{page}%
3021 }
3022 \def\HyLang@german{%
3023 \def\equationautorefname{Gleichung}%
3024 \def\footnoteautorefname{Fu\ss note}%
3025 \def\itemautorefname{Punkt}%
3026 \def\figureautorefname{Abbildung}%
3027 \def\tableautorefname{Tabelle}%
3028 \def\partautorefname{Teil}%
3029 \def\appendixautorefname{Anhang}%
3030 \def\chapterautorefname{Kapitel}%
3031 \def\sectionautorefname{Abschnitt}%
3032 \def\subsectionautorefname{Unterabschnitt}%
3033 \def\subsubsectionautorefname{Unterunterabschnitt}%
3034 \def\paragraphautorefname{Absatz}%
3035 \def\subparagraphautorefname{Unterabsatz}%
3036 \def\FancyVerbLineautorefname{Zeile}%
3037 \def\theoremautorefname{Theorem}%

```

```

3038 \def\pageautorefname{Seite}%
3039 }
3040 \def\HyLang@italian{%
3041 \def\equationautorefname{Equazione}%
3042 \def\footnoteautorefname{nota}%
3043 \def\itemautorefname{punto}%
3044 \def\figureautorefname{Figura}%
3045 \def\tableautorefname{Tabella}%
3046 \def\partautorefname{Parte}%
3047 \def\appendixautorefname{Appendice}%
3048 \def\chapterautorefname{Capitolo}%
3049 \def\sectionautorefname{sezione}%
3050 \def\subsectionautorefname{sottosezione}%
3051 \def\subsubsectionautorefname{sottosottosezione}%
3052 \def\paragraphautorefname{paragrafo}%
3053 \def\subparagraphautorefname{sottoparagrafo}%
3054 \def\FancyVerbLineautorefname{linea}%
3055 \def\theoremautorefname{Teorema}%
3056 \def\pageautorefname{Pag.\@}%
3057 }
3058 \def\HyLang@magyar{%
3059 \def\equationautorefname{Egyenlet}%
3060 \def\footnoteautorefname{1\'abjegyzet}%
3061 \def\itemautorefname{Elem}%
3062 \def\figureautorefname{'Abra}%
3063 \def\tableautorefname{T\'abl\'azat}%
3064 \def\partautorefname{R\'esz}%
3065 \def\appendixautorefname{F\'uggel\'ek}%
3066 \def\chapterautorefname{fejezet}%
3067 \def\sectionautorefname{szakasz}%
3068 \def\subsectionautorefname{alszakasz}%
3069 \def\subsubsectionautorefname{alalszakasz}%
3070 \def\paragraphautorefname{bekezd\'es}%
3071 \def\subparagraphautorefname{albekezd\'es}%
3072 \def\FancyVerbLineautorefname{sor}%
3073 \def\theoremautorefname{T\'etel}%
3074 \def\pageautorefname{oldal}%
3075 }
3076 \def\HyLang@portuges{%
3077 \def\equationautorefname{Equa\c c\~ao}%
3078 \def\footnoteautorefname{Nota de rodap\'e}%
3079 \def\itemautorefname{Item}%
3080 \def\figureautorefname{Figura}%
3081 \def\tableautorefname{Tabela}%
3082 \def\partautorefname{Parte}%
3083 \def\appendixautorefname{Ap\~endice}%
3084 \def\chapterautorefname{Cap\'itulo}%
3085 \def\sectionautorefname{Se\c c\~ao}%
3086 \def\subsectionautorefname{Subse\c c\~ao}%
3087 \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3088 \def\paragraphautorefname{par\'agrafo}%
3089 \def\subparagraphautorefname{subpar\'agrafo}%
3090 \def\FancyVerbLineautorefname{linha}%
3091 \def\theoremautorefname{Teorema}%

```

```

3092 \def\pageautorefname{P\'agina}%
3093 }

```

Next commented section for Russian is provided by Olga Lapko.

Next follow the checked reference names with commented variants and explanations. All they are abbreviated and they won't create a grammatical problems in the *middle* of sentences.

The most weak points in these abbreviations are the `\equationautorefname`, `\theoremautorefname` and the `\FancyVerbLineautorefname`. But those three, and also the `\footnoteautorefname` are not *too* often referenced. Another rather weak point is the `\appendixautorefname`.

```

3094 \def\HyLang@russian{%

```

The abbreviated reference to the equation: it is not for “the good face of the book”, but maybe it will be better to get the company for the `\theoremautorefname`?

```

3095 \def\equationautorefname{\cyr\cyrv\cyrry\cyrr.}%

```

The name of the equation reference has common form for both nominative and accusative but changes in other forms, like “of `\autoref{auto}`” etc. The full name must follow full name of the `\theoremautorefname`.

```

3096 % \def\equationautorefname{%
3097 %   \cyr\cyrv\cyrry\cyrr\cyra\cyrrh\cyre\cyrn\cyri\cyre
3098 % }%

```

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

```

3099 \def\footnoteautorefname{%
3100   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
3101 }%

```

Commented form of the full synonym for “footnote”. It has common form for both nominative and accusative but changes in other forms, like “of `\autoref{auto}`”

```

3102 % \def\footnoteautorefname{%
3103 %   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrrh\cyrn\cyro\cyre\ %
3104 %   \cyrp\cyrr\cyri\cyrm\cyre\cyrrh\cyra\cyrn\cyri\cyre
3105 % }%

```

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

```

3106 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
3107 % \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.

```

3108 \def\itemautorefname{\cyr\cyrp.}%
3109 % \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.

```

3110 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
3111 \def\tableautorefname{\cyr\cyrt\cyra\cyrb\cyrl.}%

```


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

```

3132 \def\pageautorefname{\cyr\cyr.s.}%
3133 }

3134 \def\HyLang@spanish{%
3135 \def\equationautorefname{Ecuaci\on}%
3136 \def\footnoteautorefname{Nota a pie de p\agina}%
3137 \def\itemautorefname{Elemento}%
3138 \def\figureautorefname{Figura}%
3139 \def\tableautorefname{Tabla}%
3140 \def\partautorefname{Parte}%
3141 \def\appendixautorefname{Ap\endice}%
3142 \def\chapterautorefname{Cap\itulo}%
3143 \def\sectionautorefname{Secci\on}%
3144 \def\subsectionautorefname{Subsecci\on}%
3145 \def\subsubsectionautorefname{Subsubsecci\on}%
3146 \def\paragraphautorefname{P\arrafo}%
3147 \def\subparagraphautorefname{Subp\arrafo}%
3148 \def\FancyVerbLineautorefname{L\inea}%
3149 \def\theoremautorefname{Teorema}%
3150 \def\pageautorefname{P\agina}%
3151 }

3152 \def\HyLang@catalan{%
3153 \def\equationautorefname{Equaci\o}%
3154 \def\footnoteautorefname{Nota al peu de p\agina}%
3155 \def\itemautorefname{Element}%
3156 \def\figureautorefname{Figura}%
3157 \def\tableautorefname{Taula}%
3158 \def\partautorefname{Part}%
3159 \def\appendixautorefname{Ap\`endix}%
3160 \def\chapterautorefname{Cap\`itol}%
3161 \def\sectionautorefname{Secci\o}%
3162 \def\subsectionautorefname{Subsecci\o}%
3163 \def\subsubsectionautorefname{Subsubsecci\o}%
3164 \def\paragraphautorefname{Par\`agraf}%
3165 \def\subparagraphautorefname{Subpar\`agraf}%
3166 \def\FancyVerbLineautorefname{L\`inia}%
3167 \def\theoremautorefname{Teorema}%
3168 \def\pageautorefname{P\`agina}%
3169 }

3170 \def\HyLang@vietnamese{%
3171 \def\equationautorefname{Ph\uhorn}\ohorn{}ng tr\`inh}%
3172 \def\footnoteautorefname{Ch\`u th\`ich}%
3173 \def\itemautorefname{m\`d{u}c}%
3174 \def\figureautorefname{H\`inh}%
3175 \def\tableautorefname{B\`h{a}ng}%
3176 \def\partautorefname{Ph\`acircumflex{}n}%
3177 \def\appendixautorefname{Ph\`d{u} l\`d{u}c}%
3178 \def\chapterautorefname{ch\uhorn}\ohorn{}ng}%
3179 \def\sectionautorefname{m\`d{u}c}%
3180 \def\subsectionautorefname{m\`d{u}c}%
3181 \def\subsubsectionautorefname{m\`d{u}c}%
3182 \def\paragraphautorefname{\dj{}o\`d{a}n}%
3183 \def\subparagraphautorefname{\dj{}o\`d{a}n}%

```

```

3184 \def\FancyVerbLineautorefname{d\`ong}%
3185 \def\theoremautorefname{DJ}\d{i}nh l\`y}%
3186 \def\pageautorefname{Trang}%
3187 }

```

Greek, see github issue 52

```

3188 \def\HyLang@greek{%
3189   \def\equationautorefname{\textEpsilon\textxi\acconos\textiota\textsigma\textomega\textsigma\texteta}%
3190   \def\footnoteautorefname{\textupsilon\textpi\textomicron\textsigma\texteta\textmu\textepsilon\acconos\textiota\textomega\textsigma\texteta}%
3191   \def\itemautorefname{\textalpha\textnu\texttau\textiota\textkappa\textepsilon\acconos\textiota\textmu\textepsilon\textnu\textomicron}%
3192   \def\figureautorefname{\textSigma\textchi\acconos\texteta\textmu\textalpha}%
3193   \def\tableautorefname{\textPi\acconos\textiota\textnu\textalpha\textkappa\textalpha}%
3194   \def\partautorefname{\textMu\acconos\textepsilon\textrho\textomicron\textvarsigma}%
3195   \def\appendixautorefname{\textPi\textalpha\textrho\acconos\textalpha\textrho\texttau\texteta\textmu\textalpha}%
3196   \def\chapterautorefname{\textkappa\textepsilon\textphi\acconos\textalpha\textlambda\textalpha\textiota\textomicron}%
3197   \def\sectionautorefname{\textepsilon\textnu\acconos\textomicron\texttau\texteta\texttau\textalpha}%
3198   \def\subsectionautorefname{\textupsilon\textpi\textomicron\textepsilon\textnu\acconos\textomicron\texttau\texteta\texttau\textalpha}%
3199   \def\subsubsectionautorefname{\textupsilon\textpi\textomicron\textupsilon\textpi\textomicron\textepsilon\textpi\textalpha\textrho\acconos\textalpha\textgamma\textrho\textalpha\textphi\textomicron\textvarsigma}%
3200   \def\paragraphautorefname{\textpi\textalpha\textrho\acconos\textalpha\textgamma\textrho\textalpha\textphi\textomicron\textvarsigma}%
3201   \def\subparagraphautorefname{\textupsilon\textpi\textomicron\textpi\textalpha\textrho\acconos\textalpha\textgamma\textrho\textalpha\textphi\textomicron\textvarsigma}%
3202   \def\FancyVerbLineautorefname{\textgamma\textrho\textalpha\textmu\textmu\acconos\texteta}%
3203   \def\theoremautorefname{\textTheta\textepsilon\acconos\textomega\textrho\texteta\textmu\textalpha}%
3204   \def\pageautorefname{\textsigma\textepsilon\textlambda\acconos\textiota\textdelta\textalpha}%
3205 }

3206 \def\HyLang@dutch{%
3207   \def\equationautorefname{Vergelijking}%
3208   \def\footnoteautorefname{voetnoot}%
3209   \def\itemautorefname{punt}%
3210   \def\figureautorefname{Figuur}%
3211   \def\tableautorefname{Tabel}%
3212   \def\partautorefname{Deel}%
3213   \def\appendixautorefname{Bijlage}%
3214   \def\chapterautorefname{hoofdstuk}%
3215   \def\sectionautorefname{paragraaf}%
3216   \def\subsectionautorefname{deelparagraaf}%
3217   \def\subsubsectionautorefname{deel-deelparagraaf}%
3218   \def\paragraphautorefname{alinea}%
3219   \def\subparagraphautorefname{deelalinea}%

```

```

3220 \def\FancyVerbLineautorefname{regel}%
3221 \def\theoremautorefname{Stelling}%
3222 \def\pageautorefname{pagina}%
3223 }
3224 \def\HyLang@norsk{%
3225 \def\equationautorefname{Ligning}%
3226 \def\footnoteautorefname{fotnote}%
3227 \def\itemautorefname{element}%
3228 \def\figureautorefname{Figur}%
3229 \def\tableautorefname{Tabell}%
3230 \def\partautorefname{Del}%
3231 \def\appendixautorefname{Tillegg}%
3232 \def\chapterautorefname{kapittel}%
3233 \def\sectionautorefname{seksjon}%
3234 \def\subsectionautorefname{underseksjon}%
3235 \def\subsubsectionautorefname{under-underseksjon}%
3236 \def\paragraphautorefname{avsnitt}%
3237 \def\subparagraphautorefname{underavsnitt}%
3238 \def\FancyVerbLineautorefname{Linje}%
3239 \def\theoremautorefname{Teorem}%
3240 \def\pageautorefname{side}%
3241 }
3242 \def\HyLang@danish{%
3243 \def\equationautorefname{Ligning}%
3244 \def\footnoteautorefname{fodnote}%
3245 \def\itemautorefname{element}%
3246 \def\figureautorefname{Figur}%
3247 \def\tableautorefname{Tabel}%
3248 \def\partautorefname{Del}%
3249 \def\appendixautorefname{Bilag}%
3250 \def\chapterautorefname{kapitel}%
3251 \def\sectionautorefname{sektion}%
3252 \def\subsectionautorefname{under-sektion}%
3253 \def\subsubsectionautorefname{under-under-sektion}%
3254 \def\paragraphautorefname{afsnit}%
3255 \def\subparagraphautorefname{underafsnit}%
3256 \def\FancyVerbLineautorefname{linje}%
3257 \def\theoremautorefname{Teorem}%
3258 \def\pageautorefname{side}%
3259 }
3260 \def\HyLang@swedish{%
3261 \def\equationautorefname{Ekvation}%
3262 \def\footnoteautorefname{fotnot}%
3263 \def\itemautorefname{punkt}%
3264 \def\figureautorefname{Figur}%
3265 \def\tableautorefname{Tabell}%
3266 \def\partautorefname{Del}%
3267 \def\appendixautorefname{Bilaga}%
3268 \def\chapterautorefname{kapitel}%
3269 \def\sectionautorefname{avsnitt}%
3270 \def\subsectionautorefname{underavsnitt}%
3271 \def\subsubsectionautorefname{under-underavsnitt}%
3272 \def\paragraphautorefname{paragraf}%
3273 \def\subparagraphautorefname{underparagraf}%

```

```

3274 \def\FancyVerbLineautorefname{linje}%
3275 \def\theoremautorefname{Teorem}%
3276 \def\pageautorefname{sida}%
3277 }

```

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

```

3278 \def\HyLang@addto#1#2{%
3279   #2%
3280   \@temptokena{#2}%
3281   \ifx#1\relax
3282     \let#1\@empty
3283   \fi
3284   \ifx#1\@undefined
3285     \edef#1{\the\@temptokena}%
3286   \else
3287     \toks@\expandafter{#1}%
3288     \edef#1{\the\toks@\the\@temptokena}%
3289   \fi
3290   \@temptokena{}\toks@\@temptokena
3291 }

3292 \def\HyLang@DeclareLang#1#2#3{%
3293   \ifcsname extras#1\endcsname
3294     \expandafter\HyLang@addto
3295       \csname extras#1\expandafter\endcsname
3296       \csname HyLang@#2\endcsname
3297   \begingroup
3298     \edef\x{\endgroup
3299       #3%
3300     }%
3301     \x
3302     \@namedef{HyLang@#1@done}{}%
3303   \fi
3304   \begingroup
3305     \edef\x##1#2{%
3306       \noexpand\ifx##2\relax
3307         \errmessage{No definitions for language #2' found!}%
3308       \noexpand\fi
3309     \endgroup
3310     \noexpand\define@key{Hyp}{#1}[]{%
3311       \noexpand\@ifundefined{HyLang@#1@done}{%
3312         \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3313         #3%
3314         \noexpand\@namedef{HyLang@#1@done}{}%
3315       }{}%
3316     }%
3317   }%
3318   \expandafter\x\csname extras#1\expandafter\endcsname
3319     \csname HyLang@#2\endcsname
3320 }

3321 \HyLang@DeclareLang{english}{english}{}
3322 \HyLang@DeclareLang{UKenglish}{english}{}
3323 \HyLang@DeclareLang{british}{english}{}
3324 \HyLang@DeclareLang{USenglish}{english}{}

```

```

3325 \HyLang@DeclareLang{american}{english}{}
3326 \HyLang@DeclareLang{german}{german}{}
3327 \HyLang@DeclareLang{austrian}{german}{}
3328 \HyLang@DeclareLang{ngerman}{german}{}
3329 \HyLang@DeclareLang{naustrian}{german}{}
3330 \HyLang@DeclareLang{nswissgerman}{german}{}
3331 \HyLang@DeclareLang{swissgerman}{german}{}
3332 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3333 \HyLang@DeclareLang{brazil}{portuges}{}
3334 \HyLang@DeclareLang{brazilian}{portuges}{}
3335 \HyLang@DeclareLang{portuguese}{portuges}{}
3336 \HyLang@DeclareLang{spanish}{spanish}{}
3337 \HyLang@DeclareLang{catalan}{catalan}{}
3338 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3339 \HyLang@DeclareLang{french}{french}{}
3340 \HyLang@DeclareLang{frenchb}{french}{}
3341 \HyLang@DeclareLang{français}{french}{}
3342 \HyLang@DeclareLang{acadian}{french}{}
3343 \HyLang@DeclareLang{canadien}{french}{}
3344 \HyLang@DeclareLang{italian}{italian}{}
3345 \HyLang@DeclareLang{magyar}{magyar}{}
3346 \HyLang@DeclareLang{hungarian}{magyar}{}
3347 \HyLang@DeclareLang{greek}{greek}{}
3348 \HyLang@DeclareLang{dutch}{dutch}{}
3349 \HyLang@DeclareLang{norsk}{norsk}{}
3350 \HyLang@DeclareLang{norwegian}{norsk}{}
3351 \HyLang@DeclareLang{danish}{danish}{}
3352 \HyLang@DeclareLang{swedish}{swedish}{}

```

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

```

3353 \DeclareVoidOption{vietnamese}{%
3354   \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3355   \Hy@AtEndOfPackage{%
3356     \@ifundefined{T@PU}{}{}%
3357     \input{puvnenc.def}%
3358   }%
3359 }%
3360 }
3361 \DeclareVoidOption{vietnam}{%
3362   \HyLang@addto\extrasvietnam\HyLang@vietnamese
3363   \Hy@AtEndOfPackage{%
3364     \@ifundefined{T@PU}{}{}%
3365     \input{puvnenc.def}%
3366   }%
3367 }%
3368 }

```

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

```

3369 \DeclareVoidOption{arabic}{%
3370   \Hy@AtEndOfPackage{%
3371     \@ifundefined{T@PU}{}{}%
3372     \input{puarenc.def}%
3373   }%
3374 }%
3375 }

```

13 Options to change appearance of links

Colouring links at the L^AT_EX level is useful for debugging, perhaps.

```
3376 \define@key{Hyp}{colorlinks}[true]{%
3377   \Hy@boolkey{colorlinks}{#1}%
3378 }
3379 \DeclareVoidOption{hidelinks}{%
3380   \Hy@colorlinksfalse
3381   \Hy@ocgcolorlinksfalse
3382   \Hy@frenchlinksfalse
3383   \def\Hy@colorlink##1{\begingroup}%
3384   \def\Hy@endcolorlink{\endgroup}%
3385   \def\@pdfborder{0 0 0}%
3386   \let\@pdfborderstyle\@empty
3387 }
3388 \define@key{Hyp}{ocgcolorlinks}[true]{%
3389   \Hy@boolkey{ocgcolorlinks}{#1}%
3390 }
3391 \Hy@AtBeginDocument{%
3392   \begingroup
3393   \@ifundefined{OBJ@OCG@view}{%
3394     \ifHy@ocgcolorlinks
3395       \Hy@Warning{%
3396         Driver does not support `ocgcolorlinks',\MessageBreak
3397         using `colorlinks' instead%
3398       }%
3399     \fi
3400   }{%
3401   }%
3402 }
3403 \define@key{Hyp}{frenchlinks}[true]{%
3404   \Hy@boolkey{frenchlinks}{#1}%
3405 }
```

14 Bookmarking

```
3406 \begingroup\expandafter\expandafter\expandafter\endgroup
3407 \expandafter\ifx\csname chapter\endcsname\relax
3408   \def\toclevel@part{0}%
3409 \else
3410   \def\toclevel@part{-1}%
3411 \fi
3412 \def\toclevel@chapter{0}
3413 \def\toclevel@section{1}
3414 \def\toclevel@subsection{2}
3415 \def\toclevel@subsubsection{3}
3416 \def\toclevel@paragraph{4}
3417 \def\toclevel@subparagraph{5}
3418 \def\toclevel@figure{0}
3419 \def\toclevel@table{0}
3420 \define@key{Hyp}{bookmarks}[true]{%
3421   \Hy@boolkey{bookmarks}{#1}%
3422 }
```

```

3423 \define@key{Hyp}{bookmarksopen}[true]{%
3424   \Hy@boolkey{bookmarksopen}{#1}%
3425 }

```

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.

```

3426 \let\Hy@bookmarksdepth\c@tocdepth
3427 \define@key{Hyp}{bookmarksdepth}[]{%
3428   \begingroup
3429     \edef\x{#1}%
3430     \ifx\x\empty
3431       \global\let\Hy@bookmarksdepth\c@tocdepth
3432     \else
3433       \@ifundefined{toclevel@\x}{%
3434         \@onelevel@sanitize\x
3435         \edef\y{\expandafter\@car\x\@nil}%
3436         \ifcase 0\expandafter\ifx\y-1\fi
3437           \expandafter\ifnum\expandafter`\y>47 %
3438             \expandafter\ifnum\expandafter`\y<58 1\fi\fi\relax
3439           \Hy@Warning{Unknown document division name (\x)}%
3440         \else
3441           \setbox\z@=\hbox{%
3442             \count@=\x
3443             \xdef\Hy@bookmarksdepth{\the\count@}%
3444           }%
3445         \fi
3446       }{%
3447         \setbox\z@=\hbox{%
3448           \count@=\csname toclevel@\x\endcsname
3449           \xdef\Hy@bookmarksdepth{\the\count@}%
3450         }%
3451       }%
3452     \fi
3453   \endgroup
3454 }

```

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

```

3455 \define@key{Hyp}{bookmarksopenlevel}{%
3456   \def\@bookmarksopenlevel{#1}%
3457 }
3458 \def\@bookmarksopenlevel{\maxdimen}
3459 % `bookmarkstype' to specify which `toc' file to mimic
3460 \define@key{Hyp}{bookmarkstype}{%
3461   \def\Hy@bookmarkstype{#1}%
3462 }
3463 \def\Hy@bookmarkstype{toc}

```


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

```

3464 \define@key{Hyp}{bookmarksnumbered}[true]{%
3465   \Hy@boolkey{bookmarksnumbered}{#1}%
3466 }

Option CJKbookmarks enables the patch for CJK bookmarks.
3467 \define@key{Hyp}{CJKbookmarks}[true]{%
3468   \Hy@boolkey{CJKbookmarks}{#1}%
3469 }

3470 \def\Hy@temp#1{%
3471   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3472 }
3473 \def\Hy@@temp#1#2#3{%
3474   \define@key{Hyp}{#2color}{%
3475     \HyColor@HyperrefColor{##1}#1%
3476   }%
3477   \def#1{#3}%
3478 }
3479 \Hy@temp{link}{red}
3480 \Hy@temp{anchor}{black}
3481 \Hy@temp{cite}{green}
3482 \Hy@temp{file}{cyan}
3483 \Hy@temp{url}{magenta}
3484 \Hy@temp{menu}{red}
3485 \Hy@temp{run}{\@filecolor}
3486 \define@key{Hyp}{pagecolor}{%
3487   \Hy@WarningPageColor
3488 }
3489 \def\Hy@WarningPageColor{%
3490   \Hy@WarningNoLine{Option `pagecolor' is not available anymore}%
3491   \global\let\Hy@WarningPageColor\relax
3492 }
3493 \define@key{Hyp}{allcolors}{%
3494   \HyColor@HyperrefColor{#1}\@linkcolor
3495   \HyColor@HyperrefColor{#1}\@anchorcolor
3496   \HyColor@HyperrefColor{#1}\@citecolor
3497   \HyColor@HyperrefColor{#1}\@filecolor
3498   \HyColor@HyperrefColor{#1}\@urlcolor
3499   \HyColor@HyperrefColor{#1}\@menucolor
3500   \HyColor@HyperrefColor{#1}\@runcolor
3501 }
3502 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3503 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3504 \let\@baseurl\@empty
3505 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3506 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3507 \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.

```

3508 \let\@pdfpagetransition\relax
3509 \define@key{Hyp}{pdfpagetransition}{%
3510   \def\@pdfpagetransition{#1}%
3511 }

```

`\@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.

```

3512 \let\@pdfpageduration\relax
3513 \define@key{Hyp}{pdfpageduration}{%
3514   \def\@pdfpageduration{#1}%
3515   \Hy@Match\@pdfpageduration}{%
3516     ^(|[0-9]+\.[0-9]*|[0-9]*\.[0-9]+)$%
3517   }{%
3518     \Hy@Warning{%
3519       Invalid value '\@pdfpageduration'\MessageBreak
3520       of option 'pdfpageduration'\MessageBreak
3521       is replaced by an empty value%
3522     }%
3523     \let\@pdfpageduration\@empty
3524   }%
3525 }

```

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).

```

3526 \def\Hy@ColorList{cite,file,link,menu,run,url}
3527 \@for\Hy@temp:=\Hy@ColorList\do{%
3528   \edef\Hy@temp{%
3529     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3530       \noexpand\HyColor@HyperrefBorderColor
3531       {##1}%
3532       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3533       {hyperref}%
3534       {\Hy@temp bordercolor}%
3535     }%
3536   }%
3537   \Hy@temp
3538 }
3539 \define@key{Hyp}{pagebordercolor}{%
3540   \Hy@WarningPageBorderColor
3541 }
3542 \def\Hy@WarningPageBorderColor{%
3543   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3544   \global\let\Hy@WarningPageBorderColor\relax
3545 }
3546 \define@key{Hyp}{allbordercolors}{%

```

```

3547 \def\Hy@temp##1##2{%
3548   \HyColor@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}%
3549 }%
3550 \Hy@temp\@citebordercolor{cite}%
3551 \Hy@temp\@filebordercolor{file}%
3552 \Hy@temp\@linkbordercolor{link}%
3553 \Hy@temp\@menubordercolor{menu}%
3554 \Hy@temp\@runbordercolor{run}%
3555 \Hy@temp\@urlbordercolor{url}%
3556 }

3557 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3558 \Hy@DefNameKey{pdfhighlight}{%
3559   \do{/I}{Invert}%
3560   \do{/N}{None}%
3561   \do{/O}{Outline}%
3562   \do{/P}{Push}%
3563 }
3564 \def\Hy@setpdfhighlight{%
3565   \ifx\@pdfhighlight\@empty
3566     \else
3567       /H\@pdfhighlight
3568     \fi
3569 }
3570 \define@key{Hyp}{pdfborder}{%
3571   \let\Hy@temp\@pdfborder
3572   \def\@pdfborder{#1}%
3573   \Hy@Match\@pdfborder{}{%
3574     ~\HyPat@NonNegativeReal/ %
3575     \HyPat@NonNegativeReal/ %
3576     \HyPat@NonNegativeReal/%
3577     ( ?\[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*])?$$%
3578   }{}{%
3579     \Hy@Warning{%
3580       Invalid value `\'@pdfborder'\MessageBreak
3581       for option `pdfborder'.\MessageBreak
3582       Option setting is ignored%
3583     }%
3584     \let\@pdfborder\Hy@temp
3585   }%
3586 }
3587 \define@key{Hyp}{pdfborderstyle}{%
3588   \let\Hy@temp\@pdfborderstyle
3589   \def\@pdfborderstyle{#1}%
3590   \Hy@Match\@pdfborderstyle{}{%
3591     ~%
3592     ( */Type */Border%
3593     | */W +\HyPat@NonNegativeReal/%
3594     | */S */[SDBIU]%
3595     | */D *[ ( \HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)? )? ]%
3596     )* *$%
3597   }{}{%
3598     \Hy@Warning{%
3599       Invalid value `\'@pdfborderstyle'\MessageBreak
3600       for option `pdfborderstyle'.\MessageBreak

```

```

3601     Option setting is ignored%
3602 }%
3603 \let\@pdfborderstyle\Hy@temp
3604 }%
3605 }
3606 \def\Hy@setpdfborder{%
3607 \ifx\@pdfborder\@empty
3608 \else
3609 /Border[\@pdfborder]%
3610 \fi
3611 \ifx\@pdfborderstyle\@empty
3612 \else
3613 /BS<<\@pdfborderstyle>>%
3614 \fi
3615 }
3616 \Hy@DefNameKey{pdfpagemode}{%
3617 \do{UseNone}{}%
3618 \do{UseOutlines}{}%
3619 \do{UseThumbs}{}%
3620 \do{FullScreen}{}%
3621 \do{UseOC}{PDF 1.5}%
3622 \do{UseAttachments}{PDF 1.6}%
3623 }
3624 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3625 \do{UseNone}{}%
3626 \do{UseOutlines}{}%
3627 \do{UseThumbs}{}%
3628 \do{FullScreen}{}%
3629 \do{UseOC}{PDF 1.5}%
3630 \do{UseAttachments}{PDF 1.6}%
3631 }
3632 \Hy@DefNameKey{pdfdirection}{%
3633 \do{L2R}{Left to right}%
3634 \do{R2L}{Right to left}%
3635 }
3636 \Hy@DefNameKey{pdfviewarea}{%
3637 \do{MediaBox}{}%
3638 \do{CropBox}{}%
3639 \do{BleedBox}{}%
3640 \do{TrimBox}{}%
3641 \do{ArtBox}{}%
3642 }
3643 \Hy@DefNameKey{pdfviewclip}{%
3644 \do{MediaBox}{}%
3645 \do{CropBox}{}%
3646 \do{BleedBox}{}%
3647 \do{TrimBox}{}%
3648 \do{ArtBox}{}%
3649 }
3650 \Hy@DefNameKey{pdfprintarea}{%
3651 \do{MediaBox}{}%
3652 \do{CropBox}{}%
3653 \do{BleedBox}{}%
3654 \do{TrimBox}{}%

```

```

3655 \do{ArtBox}{}%
3656 }
3657 \Hy@DefNameKey{pdfprintclip}{%
3658 \do{MediaBox}{}%
3659 \do{CropBox}{}%
3660 \do{BleedBox}{}%
3661 \do{TrimBox}{}%
3662 \do{ArtBox}{}%
3663 }
3664 \Hy@DefNameKey{pdfprintscaling}{%
3665 \do{AppDefault}{}%
3666 \do{None}{}%
3667 }
3668 \Hy@DefNameKey{pdfduplex}{%
3669 \do{Simplex}{}%
3670 \do{DuplexFlipShortEdge}{}%
3671 \do{DuplexFlipLongEdge}{}%
3672 }
3673 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3674 \do{true}{}%
3675 \do{false}{}%
3676 }
3677 \define@key{Hyp}{pdfprintpagerange}{%
3678 \def\@pdfprintpagerange{#1}%
3679 }
3680 \Hy@DefNameKey{pdfnumcopies}{%
3681 \do{2}{two copies}%
3682 \do{3}{three copies}%
3683 \do{4}{four copies}%
3684 \do{5}{five copies}%
3685 }
3686 \define@key{Hyp}{pdfusetitle}[true]{%
3687 \Hy@boolkey{pdfusetitle}{#1}%
3688 }
3689 \def\HyXeTeX@CheckUnicode{%
3690 \ifxetex
3691 \ifHy@unicode
3692 \else
3693 \Hy@WarningNoLine{%
3694 XeTeX driver only supports unicode.\MessageBreak
3695 Enabling option `unicode'%
3696 }%
3697 \kvsetkeys{Hyp}{unicode}%
3698 \fi
3699 \else
3700 \let\HyXeTeX@CheckUnicode\relax
3701 \fi
3702 }
3703 \def\HyPsd@PrerenderUnicode#1{%
3704 \begingroup
3705 \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3706 \else
3707 \sbox0{%
3708 \let\GenericInfo\@gobbletwo

```

```

3709     \let\GenericWarning\@gobbletwo
3710     \let\GenericError\@gobblefour
3711     \PrerenderUnicode{#1}%
3712 }%
3713 \fi
3714 \endgroup
3715 }
3716 \define@key{Hyp}{pdftitle}{%
3717   \AddToDocumentProperties[hyperref]{pdftitle}{#1}%
3718   \HyXeTeX@CheckUnicode
3719   \HyPsd@PrerenderUnicode{#1}%
3720   \pdfstringdef\@pdftitle{#1}%
3721 }
3722 \define@key{Hyp}{pdfauthor}{%
3723   \AddToDocumentProperties[hyperref]{pdfauthor}{#1}%
3724   \HyXeTeX@CheckUnicode
3725   \HyPsd@PrerenderUnicode{#1}%
3726   \pdfstringdef\@pdfauthor{#1}%
3727 }
3728 \define@key{Hyp}{pdfproducer}{%
3729   \AddToDocumentProperties[hyperref]{pdfproducer}{#1}%
3730   \HyXeTeX@CheckUnicode
3731   \HyPsd@PrerenderUnicode{#1}%
3732   \pdfstringdef\@pdfproducer{#1}%
3733 }
3734 \define@key{Hyp}{pdfcreator}{%
3735   \AddToDocumentProperties[hyperref]{pdfcreator}{#1}%
3736   \HyXeTeX@CheckUnicode
3737   \HyPsd@PrerenderUnicode{#1}%
3738   \pdfstringdef\@pdfcreator{#1}%
3739 }
3740 \define@key{Hyp}{addtopdfcreator}{%
3741   \HyXeTeX@CheckUnicode
3742   \HyPsd@PrerenderUnicode{#1}%
3743   \pdfstringdef\@pdfcreator{\@pdfcreator, #1}%
3744 }
3745 \define@key{Hyp}{pdfcreationdate}{%
3746   \begingroup
3747     \Hy@unicodedefalse
3748     \pdfstringdef\@pdfcreationdate{#1}%
3749   \endgroup
3750 }
3751 \define@key{Hyp}{pdfmoddate}{%
3752   \begingroup
3753     \Hy@unicodedefalse
3754     \pdfstringdef\@pdfmoddate{#1}%
3755   \endgroup
3756 }
3757 \define@key{Hyp}{pdfsubject}{%
3758   \AddToDocumentProperties[hyperref]{pdfsubject}{#1}%
3759   \HyXeTeX@CheckUnicode
3760   \HyPsd@PrerenderUnicode{#1}%
3761   \pdfstringdef\@pdfsubject{#1}%
3762 }

```

```

3763 \define@key{Hyp}{pdfkeywords}{%
3764 \AddToDocumentProperties[hyperref]{pdfkeywords}{#1}%
3765 \HyXeTeX@CheckUnicode
3766 \HyPsd@PrerenderUnicode{#1}%
3767 \pdfstringdef\@pdfkeywords{#1}%
3768 }
3769 \define@key{Hyp}{pdftrapped}{%
3770 \lowercase{\edef\Hy@temp{#1}}%
3771 \ifx\Hy@temp\HyInfo@trapped@true
3772 \def\@pdftrapped{True}%
3773 \else
3774 \ifx\Hy@temp\HyInfo@trapped@false
3775 \def\@pdftrapped{False}%
3776 \else
3777 \ifx\Hy@temp\HyInfo@trapped@unknown
3778 \def\@pdftrapped{Unknown}%
3779 \else
3780 \ifx\Hy@temp\@empty
3781 \else
3782 \Hy@Warning{%
3783 Unsupported value `#1'\MessageBreak
3784 for option `pdftrapped'%
3785 }%
3786 \fi
3787 \def\@pdftrapped{}%
3788 \fi
3789 \fi
3790 \fi
3791 }
3792 \def\HyInfo@trapped@true{true}
3793 \def\HyInfo@trapped@false{false}
3794 \def\HyInfo@trapped@unknown{unknown}
3795 \def\HyInfo@TrappedUnsupported{%
3796 \ifx\@pdftrapped\@empty
3797 \else
3798 \Hy@WarningNoLine{`pdftrapped' is not supported by this driver}%
3799 \gdef\HyInfo@TrappedUnsupported{}%
3800 \fi
3801 }
3802 \define@key{Hyp}{pdfinfo}{%
3803 \kvsetkeys{pdfinfo}{#1}%
3804 }
3805 \def\Hy@temp#1{%
3806 \lowercase{\Hy@temp@A{#1}}{#1}%
3807 }
3808 \def\Hy@temp@A#1#2{%
3809 \define@key{pdfinfo}{#2}{%
3810 \hypersetup{pdf#1={#1}}%
3811 }%
3812 }
3813 \Hy@temp{Title}
3814 \Hy@temp{Author}
3815 \Hy@temp{Keywords}
3816 \Hy@temp{Subject}

```

```

3817 \Hy@temp{Creator}
3818 \Hy@temp{Producer}
3819 \Hy@temp{CreationDate}
3820 \Hy@temp{ModDate}
3821 \Hy@temp{Trapped}
3822 \newif\ifHyInfo@AddonUnsupported
3823 \kv@set@family@handler{pdfinfo}{%
3824   \HyInfo@AddonHandler{#1}{#2}%
3825 }
3826 \let\HyInfo@do\relax
3827 \def\HyInfo@AddonHandler#1#2{%
3828   \ifx\kv@value\relax
3829     \Hy@Warning{%
3830       Option `pdfinfo': ignoring key `\'kv@key' without value%
3831     }%
3832   \else
3833     \EdefEscapeName\HyInfo@KeyEscaped{\'kv@key}%
3834     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3835     \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3836     \ifHyInfo@AddonUnsupported
3837       \Hy@Warning{%
3838         This driver does not support additional\MessageBreak
3839         information entries, therefore\MessageBreak
3840         `\'kv@key' is ignored%
3841       }%
3842     \else
3843       \def\HyInfo@tmp##1{%
3844         \kv@define@key{pdfinfo}{##1}{%
3845           \HyXeTeX@CheckUnicode
3846           \HyPsd@PrerenderUnicode{####1}%
3847           \pdfstringdef\HyInfo@Value{####1}%
3848           \global\expandafter
3849           \let\csname HyInfo@Value@##1\endcsname
3850             \HyInfo@Value
3851         }%
3852       }%
3853       \expandafter\HyInfo@tmp\expandafter{\HyInfo@Key}%
3854       \global\expandafter
3855       \let\csname KV@pdfinfo@\HyInfo@Key\expandafter\endcsname
3856       \csname KV@pdfinfo@\HyInfo@Key\endcsname
3857       \xdef\HyInfo@AddonList{%
3858         \HyInfo@AddonList
3859         \HyInfo@do{\HyInfo@Key}%
3860       }%
3861       \expandafter\kv@parse@normalized\expandafter{%
3862         \HyInfo@Key={#2}%
3863       }{%
3864         \kv@processor@default{pdfinfo}%
3865       }%
3866     \fi
3867   \else
3868     \expandafter\kv@parse@normalized\expandafter{%
3869       \HyInfo@Key={#2}%
3870     }{%

```



```

3871     \kv@processor@default{pdfinfo}%
3872   }%
3873   \fi
3874 \fi
3875 }
3876 \def\HyInfo@GenerateAddons{%
3877   \ifHyInfo@AddonUnsupported
3878     \def\HyInfo@Addons{}%
3879   \else
3880     \begingroup
3881       \toks@{}%
3882       \def\HyInfo@do##1{%
3883         \EdefEscapeName\HyInfo@Key{##1}%
3884         \edef\x{%
3885           \toks@{%
3886             \the\toks@
3887             /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
3888           }%
3889         }%
3890         \x
3891       }%
3892       \HyInfo@AddonList
3893       \edef\x{\endgroup
3894         \def\noexpand\HyInfo@Addons{\the\toks@}%
3895       }%
3896       \x
3897     \fi
3898   }
3899   \global\let\HyInfo@AddonList\@empty
3900   \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
3901   \define@key{Hyp}{pdflinkmargin}{\setpdflinkmargin{#1}}
3902   \let\setpdflinkmargin\@gobble
3903   \def\calculate@pdfview#1 #2\{%
3904     \def\@pdfview{#1}%
3905     \ifx\#2\%
3906       \def\@pdfviewparams{-32768}%
3907     \else
3908       \def\@pdfviewparams{#2}%
3909     \fi
3910   }
3911   \def\Hy@number#1{%
3912     \the\numexpr#1\relax
3913   }%
3914   \define@key{Hyp}{pdfstartpage}{%
3915     \ifx\#1\%
3916       \let\@pdfstartpage\@empty
3917     \else
3918       \edef\@pdfstartpage{\Hy@number{#1}}%
3919     \fi
3920   }%
3921   \define@key{Hyp}{pdfstartview}{%
3922     \ifx\#1\%
3923       \let\@pdfstartview\@empty
3924     \else

```

```

3925 \def\@pdfstartview{/#1}%
3926 \fi
3927 }
3928 \def\HyPat@NonNegativeReal/{%
3929 \ *([0-9]+\.[0-9]*|0-9)*\.[0-9]+) *%
3930 }
3931 \define@key{Hyp}{pdfremotestartview}{%
3932 \ifx\#1\%
3933 \def\@pdfremotestartview{/Fit}%
3934 \else
3935 \edef\@pdfremotestartview{#1}%
3936 \Hy@Match\@pdfremotestartview{%
3937 ^XYZ(%
3938 ()| %
3939 (null|-\HyPat@NonNegativeReal/) %
3940 (null|-\HyPat@NonNegativeReal/) %
3941 (null|\HyPat@NonNegativeReal/)%
3942 )| % end of "XYZ"
3943 Fit(%
3944 ()| %
3945 B| %
3946 (H|V|BH|BV)(%
3947 ()| %
3948 (null|\HyPat@NonNegativeReal/)%
3949 )| %
3950 R %
3951 \HyPat@NonNegativeReal/ %
3952 \HyPat@NonNegativeReal/ %
3953 \HyPat@NonNegativeReal/ %
3954 \HyPat@NonNegativeReal/%
3955 ) % end of "Fit"
3956 )$%
3957 }{%
3958 \Hy@Warning{%
3959 Invalid value \@pdfremotestartview'\MessageBreak
3960 of `pdfremotestartview'\MessageBreak
3961 is replaced by `Fit'%
3962 }%
3963 \let\@pdfremotestartview\@empty
3964 }%
3965 \ifx\@pdfremotestartview\@empty
3966 \def\@pdfremotestartview{/Fit}%
3967 \else
3968 \edef\@pdfremotestartview{/ \@pdfremotestartview}%
3969 \fi
3970 \fi
3971 }
3972 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3973 \define@key{Hyp}{pdftoolbar}[true]{%
3974 \Hy@boolkey{pdftoolbar}{#1}%
3975 }
3976 \define@key{Hyp}{pdfmenubar}[true]{%
3977 \Hy@boolkey{pdfmenubar}{#1}%
3978 }

```

```

3979 \define@key{Hyp}{pdfwindowui}[true]{%
3980   \Hy@boolkey{pdfwindowui}{#1}%
3981 }
3982 \define@key{Hyp}{pdffitwindow}[true]{%
3983   \Hy@boolkey{pdffitwindow}{#1}%
3984 }
3985 \define@key{Hyp}{pdfcenterwindow}[true]{%
3986   \Hy@boolkey{pdfcenterwindow}{#1}%
3987 }
3988 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3989   \Hy@boolkey{pdfdisplaydoctitle}{#1}%
3990 }
3991 \define@key{Hyp}{pdfa}[true]{%
3992   \Hy@boolkey{pdfa}{#1}%
3993 }
3994 \define@key{Hyp}{pdfnewwindow}[true]{%
3995   \def\Hy@temp{#1}%
3996   \ifx\Hy@temp\@empty
3997     \Hy@pdfnewwindowsetfalse
3998   \else
3999     \Hy@pdfnewwindowsettrue
4000     \Hy@boolkey{pdfnewwindow}{#1}%
4001   \fi
4002 }
4003 \def\Hy@SetNewWindow{%
4004   \ifHy@pdfnewwindowset
4005     /NewWindow %
4006   \ifHy@pdfnewwindow true\else false\fi
4007 \fi
4008 }
4009 \Hy@DefNameKey{pdfpagelayout}{%
4010   \do{SinglePage}{}%
4011   \do{OneColumn}{}%
4012   \do{TwoColumnLeft}{}%
4013   \do{TwoColumnRight}{}%
4014   \do{TwoPageLeft}{PDF 1.5}%
4015   \do{TwoPageRight}{PDF 1.5}%
4016 }
4017 \define@key{Hyp}{pdflang}{%
4018   \edef\@pdflang{#1}%
4019   \def\Hy@temp{\relax}%
4020   \ifx\@pdflang\Hy@temp
4021     \let\@pdflang\relax
4022   \fi
4023   \ifx\@pdflang\relax
4024   \else
4025     \ifx\@pdflang\@empty
4026     \else

```

Test according to ABNF of RFC 3066.

```

4027   \Hy@Match\@pdflang{icase}{%
4028     ~%
4029     [a-z]{1,8}%
4030     (-[a-z0-9]{1,8})*%

```

```

4031     $%
4032     }{%

```

Test according to ABNF of RFC 5646.

```

4033     \Hy@Match\@pdflang{icase}{%
4034     ^%
4035     (%
4036     % langtag
4037     (% language
4038     [a-z]{2,3}%
4039     ([a-z]{3}(-[a-z]{3}){0,2})?% extlang
4040     |[a-z]{4}% reserved for future use
4041     |[a-z]{5,8}% registered language subtag
4042     )%
4043     (-[a-z]{4})?% script
4044     (-([a-z]{2}|[0-9]{3}))?% region
4045     (-([a-z]{5,8}|[0-9][a-z0-9]{3}))?% variant
4046     (-[0-9a-wyz](-[a-z0-9]{2,8})+)% extension
4047     (-x(-[a-z0-9]{1,8})+)?% privateuse
4048     % privateuse
4049     |x-([a-z0-9]{1,8})+%
4050     % grandfathered/irregular
4051     |en-GB-oed%
4052     |i-(ami|bnn|default|enochian|hak|klinton|lux|
4053     mingo|navajo|pwn|tao|tay|tsu)%
4054     |sgn-(BE-FR|BE-NL|CH-DE)%
4055     % grandfathered/regular
4056     |art-lojban%
4057     |cel-gaulish%
4058     |no-(bok|nyn)%
4059     |zh-(guoyu|hakka|min|min-nan|xiang)%
4060     )%
4061     $%
4062     }{%

```

Test for unique extensions.

```

4063     \Hy@Match{-\@pdflang}{icase}{-[a-wyz0-9]-}{%
4064     \Hy@Match\@pdflang{icase}{~x-}{~}{%
4065     % remove privateuse
4066     \edef\Hy@temp{-\@pdflang}%
4067     \Hy@Match\Hy@temp{icase}{%
4068     ^%
4069     (%
4070     (-[a-wyz0-9]|-[a-z0-9]{2,8})*%
4071     )%
4072     -x-%
4073     }{%
4074     \edef\Hy@temp{%
4075     \expandafter\strip@prefix\pdfastmatch1%
4076     }%
4077     }{}%
4078     \Hy@Match\Hy@temp{icase}{%
4079     (-[a-wyz0-9]-).*\@backslashchar1%
4080     }{%
4081     \Hy@Warning{%

```

```

4082         Invalid language identifier `#1'\MessageBreak
4083         for option `pdflang', because it violates\MessageBreak
4084         well-formedness defined in RFC 4646\MessageBreak
4085         by duplicate singleton subtags%
4086     }%
4087     \let\@pdflang\relax
4088 }{}%
4089 }%
4090 }{}%

```

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

```

4091     \ifx\@pdflang\relax
4092     \else
4093     \Hy@Match\@pdflang{icase}{%
4094     ~%
4095     [a-zA-Z]{2}-%
4096     (%
4097     aa|AA|%
4098     [qQ][m-zA-Z]|%
4099     [xX][a-zA-Z]|%
4100     zz|ZZ%
4101     )%
4102     (-|%)%
4103 }{}%
4104 \Hy@Warning{%
4105     Invalid language identifier `#1'\MessageBreak
4106     for option `pdflang' because of invalid country code%
4107     \MessageBreak
4108     in second subtag (RFC 3066)%
4109 }%
4110     \let\@pdflang\relax
4111 }{}%
4112 \fi
4113 }{}%
4114 \Hy@Warning{%
4115     Invalid language identifier `#1'\MessageBreak
4116     for option `pdflang', because it violates\MessageBreak
4117     well-formedness defined in RFC 5646%
4118 }%
4119     \let\@pdflang\relax
4120 }%
4121 }{}%
4122 \Hy@Warning{%
4123     Invalid language identifier `#1'\MessageBreak
4124     for option `pdflang' (RFC 3066)%
4125 }%
4126     \let\@pdflang\relax
4127 }%
4128 \fi
4129 \fi
4130 }
4131 \define@key{Hyp}{pdfpagelabels}[true]{%
4132     \Hy@boolkey{pdfpagelabels}{#1}%
4133 }
4134 \define@key{Hyp}{pdfescapeform}[true]{%

```

```

4135 \Hy@boolkey{pdfescapeform}{#1}%
4136 }

```

Default values:

```

4137 \def\@linkbordercolor{1 0 0}
4138 \def\@urlbordercolor{0 1 1}
4139 \def\@menubordercolor{1 0 0}
4140 \def\@filebordercolor{0 .5 .5}
4141 \def\@runbordercolor{0 .7 .7}
4142 \def\@citebordercolor{0 1 0}
4143 \def\@pdfhighlight{/I}
4144 \let\@pdftitle\@empty
4145 \let\@pdfauthor\@empty
4146 \let\@pdfproducer\relax
4147 \def\@pdfcreator{LaTeX with hyperref}
4148 \let\@pdfcreationdate\@empty
4149 \let\@pdfmoddate\@empty
4150 \let\@pdfsubject\@empty
4151 \let\@pdfkeywords\@empty
4152 \let\@pdftrapped\@empty
4153 \let\@pdfpagescrop\@empty
4154 \def\@pdfstartview{/Fit}
4155 \def\@pdfremotestartview{/Fit}
4156 \def\@pdfstartpage{1}
4157 \let\@pdfprintpagerange\@empty
4158 \let\@pdflang\relax
4159 \let\PDF@SetupDoc\@empty
4160 \let\PDF@FinishDoc\@empty
4161 \let\phantomsection\@empty
4162 \let\special@paper\@empty
4163 \def\HyperDestNameFilter#1{#1}
4164 \Hy@AtBeginDocument{%
4165   \begingroup
4166     \edef\x{\ifdim\stockheight>\z@ \stockheight\else\paperheight\fi}%
4167     \dimen@=\x\relax
4168     \ifdim\dimen@>\z@
4169       \else
4170         \dimen@=11in\relax
4171         \Hy@WarningNoLine{%
4172           Height of page (\expandafter\string\x) %
4173           is invalid (\the\x),\MessageBreak
4174           using 11in%
4175         }%
4176       \fi
4177       \dimen@=0.99626401\dimen@
4178       \xdef\Hy@pageheight{\strip@pt\dimen@}%
4179     \endgroup
4180 }
4181 \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.

```

4182 \let\hyper@normalise\ExecuteOptions
4183 \let\ExecuteOptions\hypersetup

```

```

4184 \Hy@RestoreCatcodes
4185 \InputIfFileExists{hyperref.cfg}{-}{-}
4186 \Hy@SetCatcodes
4187 \let\ExecuteOptions\hyper@normalise
4188 \ifx\Hy@MaybeStopNow\relax
4189 \else
4190 \Hy@stoppedearlytrue
4191 \expandafter\Hy@MaybeStopNow
4192 \fi
4193 \Hy@stoppedearlyfalse

```

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

```

4194 \SetupKeyvalOptions{family=Hyp}
4195 \DeclareLocalOptions{%
4196   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4197 }

```

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

```

4198 \@ifpackagewith{hyperref}{tex4ht}{-%
4199 }{%
4200   \@ifpackageloaded{tex4ht}{-%
4201     \PassOptionsToPackage{tex4ht}{hyperref}%
4202   }{%
4203     \@ifundefined{HCode}{-%
4204     }{%
4205       \begingroup
4206       \def\Hy@pkg{tex4ht}%
4207       \def\Hy@temp@A#1\RequirePackage[#2]#3#4\Hy@NIL{%
4208         \def\Hy@param{#2#3}%
4209         \ifx\Hy@param\@empty
4210           \expandafter\@gobble
4211         \else
4212           \def\Hy@param{#3}%
4213           \ifx\Hy@param\Hy@pkg
4214             \PassOptionsToPackage{#2}{tex4ht}%
4215             \expandafter\expandafter\expandafter\@gobble
4216           \else
4217             \expandafter\expandafter\expandafter\@firstofone
4218           \fi
4219         \fi
4220         {\Hy@temp@A#4\Hy@NIL}%
4221       }%
4222       \expandafter
4223       \Hy@temp@A\@documentclasshook\RequirePackage[]{}\Hy@NIL
4224     \endgroup
4225     \PassOptionsToPackage{tex4ht}{hyperref}%
4226   }%
4227 }%
4228 }

4229 \let\ReadBookmarks\relax
4230 \ProcessKeyvalOptions{Hyp}

```

After processing options.

15.1 Package xspace support

```
4231 \def\Hy@xspace@end{%
4232 \ifundefined{xspaceaddexceptions}{%
4233 \Hy@AtBeginDocument{%
4234 \ifundefined{xspaceaddexceptions}{%
4235 }{%
4236 \def\Hy@xspace@end{%
4237 \@gobble{end for xspace}%
4238 }%
4239 \xspaceaddexceptions{%
4240 \Hy@xspace@end,\hyper@linkend,\hyper@anchorend
4241 }%
4242 }%
4243 }%
4244 }{%
4245 \def\Hy@xspace@end{%
4246 \@gobble{end for xspace}%
4247 }%
4248 \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4249 }
```

15.2 Option draft

```
4250 \Hy@AtBeginDocument{%
4251 \ifHy@draft
4252 \let\hyper@@anchor\@gobble
4253 \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%
4254 \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4255 \def\hyper@anchorend{\Hy@xspace@end}%
4256 \let\hyper@linkstart\@gobbletwo
4257 \def\hyper@linkend{\Hy@xspace@end}%
4258 \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4259 \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4260 \def\hyper@link@[#1]#2#3#4{#4\Hy@xspace@end}%
4261 \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%
4262 \let\PDF@SetupDoc\@empty
4263 \let\PDF@FinishDoc\@empty
4264 \let\ReadBookmarks\relax
4265 \let\WriteBookmarks\relax
4266 \Hy@WarningNoLine{Draft mode on}%
4267 \fi
4268 \Hy@DisableOption{draft}%
4269 \Hy@DisableOption{nolinks}%
4270 \Hy@DisableOption{final}%
4271 }
```

15.3 PDF/A

```
4272 \Hy@DisableOption{pdfa}
4273 \ifHy@pdfa
4274 \ifnum \Hy@pdf@majorminor@version < 104
4275 \kvsetkeys{Hyp}{pdfversion=1.4}%
4276 \fi
4277 \Hy@DisableOption{pdfversion}%
4278 \def\Hy@Acrobatmenu#1#2{%
```



```

4279 \leavevmode
4280 \begingroup
4281 \edef\x{#1}%
4282 \@onelevel@sanitize\x
4283 \ifx\x\Hy@NextPage
4284 \let\y=Y%
4285 \else
4286 \ifx\x\Hy@PrevPage
4287 \let\y=Y%
4288 \else
4289 \ifx\x\Hy@FirstPage
4290 \let\y=Y%
4291 \else
4292 \ifx\x\Hy@LastPage
4293 \let\y=Y%
4294 \else
4295 \let\y=N%
4296 \fi
4297 \fi
4298 \fi
4299 \fi
4300 \expandafter\endgroup
4301 \ifx\y Y%
4302 \else
4303 \Hy@Error{%
4304 PDF/A: Named action `#1' is not permitted%
4305 }\@ehc
4306 {#2}%
4307 \expandafter\@gobble
4308 \fi
4309 }%
4310 \def\Hy@temp#1{%
4311 \expandafter\def\csname Hy@#1\endcsname{#1}%
4312 \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4313 }%
4314 \Hy@temp{NextPage}%
4315 \Hy@temp{PrevPage}%
4316 \Hy@temp{FirstPage}%
4317 \Hy@temp{LastPage}%
4318 \else
4319 \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4320 \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.

change 2020-10-10: no trace of `\texttilde` can be found in the three languages spanish, galician and estonian so the patch has been removed as outdated.

```

4321 \def\Hy@wrapper@babel#1#2{%
4322 \begingroup
4323 \Hy@safe@activetrue
4324 \set@display@protect

```

```

4325 \edef\x{#2}%
4326 \@onelevel@sanitize\x
4327 \toks@{#1}%
4328 \edef\x{\endgroup\the\toks@{x}}%
4329 \x
4330 }
4331 \def\Hy@WrapperDef#1{%
4332 \begingroup
4333 \escapechar=\m@ne
4334 \xdef\Hy@gtemp{%
4335 \expandafter\noexpand\csname HyWrap@string#1\endcsname
4336 }%
4337 \endgroup
4338 \edef#1{%
4339 \noexpand\Hy@wrapper@babel
4340 \expandafter\noexpand\Hy@gtemp
4341 }%
4342 \expandafter\def\Hy@gtemp
4343 }

4344 \ifHy@hyperfigures
4345 \Hy@Info{Hyper figures ON}%
4346 \else
4347 \Hy@Info{Hyper figures OFF}%
4348 \fi
4349 \ifHy@nesting
4350 \Hy@Info{Link nesting ON}%
4351 \else
4352 \Hy@Info{Link nesting OFF}%
4353 \fi
4354 \ifHy@hyperindex
4355 \Hy@Info{Hyper index ON}%
4356 \else
4357 \Hy@Info{Hyper index OFF}%
4358 \fi
4359 \ifHy@plainpages
4360 \Hy@Info{Plain pages ON}%
4361 \else
4362 \Hy@Info{Plain pages OFF}%
4363 \fi
4364 \ifHy@backref
4365 \Hy@Info{Backreferencing ON}%
4366 \else
4367 \Hy@Info{Backreferencing OFF}%
4368 \fi
4369 \ifHy@implicit
4370 \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4371 \else
4372 \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4373 \def\MaybeStopEarly{%
4374 \Hy@Message{Stopped early}%
4375 \Hy@AtBeginDocument{%
4376 \PDF@FinishDoc
4377 \gdef\PDF@FinishDoc{}%
4378 }%

```

```

4379 \endinput
4380 }%
4381 \Hy@AtBeginDocument{%
4382   \let\autoref\ref
4383   \let\autopageref\pageref
4384   \ifx\@pdfpagemode\@empty
4385     \gdef\@pdfpagemode{UseNone}%
4386   \fi
4387   \global\Hy@backreffalse
4388 }%
4389 \Hy@AtEndOfPackage{%
4390   \global\let\ReadBookmarks\relax
4391   \global\let\WriteBookmarks\relax
4392 }%
4393 \fi
4394 \Hy@DisableOption{implicit}

```

15.4.1 Driver loading

Ensure that `\stockwidth` and `\stockheight` are defined

```

4395 \@ifundefined{stockwidth}{\newdimen\stockwidth}{}
4396 \@ifundefined{stockheight}{\newdimen\stockheight}{}
4397 \Hy@AtEndOfPackage{%
4398   \@ifpackageloaded{tex4ht}{%
4399     \def\Hy@driver{htex4ht}%
4400     \Hy@texhttrue
4401   }{}%

```

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.

```

4402 \ifx\Hy@driver\@empty
4403 \else
4404   \ifx\pdfextension\@undefined
4405     \def\Hy@temp{hpdfTEX}%
4406   \else
4407     \def\Hy@temp{hluatex}%
4408   \fi
4409   \ifpdf
4410     \ifx\Hy@driver\Hy@temp
4411     \else
4412       \Hy@WarningNoLine{%
4413         Wrong driver ``\Hy@driver.def';\MessageBreak
4414         pdfTeX is running in PDF mode.\MessageBreak
4415         Forcing driver ``\Hy@temp.def'%
4416       }%
4417     \let\Hy@driver\Hy@temp
4418   \fi
4419 \else
4420   \ifx\Hy@driver\Hy@temp
4421   \Hy@WarningNoLine{%
4422     Wrong driver ``\Hy@driver.def';\MessageBreak
4423     pdfTeX is not running in PDF mode.\MessageBreak
4424     Using default driver%
4425   }%

```

```

4426     \let\Hy@driver\@empty
4427   \fi
4428 \fi
4429 \fi
4430 \ifHy@texht
4431 \else
4432   \ifx\Hy@driver\@empty
4433   \else
4434     \def\Hy@temp{hxtex}%
4435     \ifxetex
4436       \ifx\Hy@driver\Hy@temp
4437       \else
4438         \Hy@WarningNoLine{%
4439           Wrong driver ``\Hy@driver.def';\MessageBreak
4440           XeTeX is running.\MessageBreak
4441           Forcing driver ``\Hy@temp.def' for XeTeX%
4442         }%
4443       \let\Hy@driver\Hy@temp
4444     \fi
4445   \fi
4446 \fi
4447 \fi
4448 \ifx\Hy@driver\@empty
4449 \else
4450   \def\Hy@temp{hhitex}%
4451   \ifhint
4452     \ifx\Hy@driver\Hy@temp
4453     \else
4454       \Hy@WarningNoLine{%
4455         Wrong driver ``\Hy@driver.def';\MessageBreak
4456         hitex is running.\MessageBreak
4457         Forcing driver ``\Hy@temp.def'%
4458       }%
4459     \let\Hy@driver\Hy@temp
4460   \fi
4461 \fi
4462 \fi
4463 \ifx\Hy@driver\@empty
4464 \else
4465   \def\Hy@temp{hvtexhtm}%
4466   \ifnum\ifvtex\OpMode\else\m@ne\fi=10 %
4467     \ifx\Hy@driver\Hy@temp
4468     \else
4469       \Hy@WarningNoLine{%
4470         Wrong driver ``\Hy@driver.def';\MessageBreak
4471         VTeX is running in HTML mode.\MessageBreak
4472         Forcing driver ``\Hy@temp.def'%
4473       }%
4474     \let\Hy@driver\Hy@temp
4475   \fi
4476 \else
4477   \ifx\Hy@driver\Hy@temp
4478   \Hy@WarningNoLine{%
4479     Wrong driver ``\Hy@driver.def';\MessageBreak

```

```

4480      VTeX is not running in HTML mode.\MessageBreak
4481      Using default driver%
4482    }%
4483    \let\Hy@driver\@empty
4484  \fi
4485 \fi
4486 \fi

```

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

```

4487 \let\HyOpt@DriverType\@empty
4488 \ifx\HyOpt@CustomDriver\@empty
4489   \ifx\Hy@driver\@empty
4490     \def\HyOpt@DriverType{ (autodetected)}%
4491     \providecommand*{\Hy@defaultdriver}{hdvips}%
4492     \ifpdf
4493       \ifx\pdfextension\@undefined
4494         \def\Hy@driver{hpdftex}%
4495       \else
4496         \def\Hy@driver{hluatex}%
4497       \fi
4498     \else
4499       \ifxetex
4500         \def\Hy@driver{hxetex}%
4501       \else
4502         \ifnum\ifvtex\OpMode\else\m@ne\fi=10 %
4503           \def\Hy@driver{hvtexhtm}%
4504         \def\MaybeStopEarly{%
4505           \Hy@Message{Stopped early}%
4506           \Hy@AtBeginDocument{%
4507             \PDF@FinishDoc
4508             \gdef\PDF@FinishDoc{}}%
4509           }%
4510         \endinput
4511       }%
4512     \else
4513       \ifhint
4514         \def\Hy@driver{hhitex}
4515       \else
4516         \ifnum\ifvtex\OpMode\else\m@ne\fi=\@ne
4517           \def\Hy@driver{hvtex}%
4518         \else
4519           \ifnum\ifvtex\OpMode\else\m@ne\fi=\tw@
4520             \def\Hy@driver{hvtex}%
4521           \else
4522             \ifx\HyOpt@DriverFallback\@empty
4523               \let\Hy@driver\Hy@defaultdriver
4524             \def\HyOpt@DriverType{ (default)}%
4525           \else
4526             \begingroup
4527               \toks@\expandafter{\HyOpt@DriverFallback}%
4528             \edef\x{\endgroup
4529               \noexpand\kvsetkeys{Hyp}{\the\toks@}%
4530             }%
4531             \x
4532             \ifx\Hy@driver\@empty

```

```

4533         \let\Hy@driver\Hy@defaultdriver
4534         \def\HyOpt@DriverType{ (default)}%
4535     \else
4536         \def\HyOpt@DriverType{ (fallback)}%
4537     \fi
4538 \fi
4539 \fi
4540 \fi
4541 \fi
4542 \fi
4543 \fi
4544 \fi
4545 \ifx\Hy@driver\Hy@defaultdriver
4546     \def\Hy@temp{hdvwind}%
4547     \ifx\Hy@temp\Hy@driver
4548         \kvsetkeys{Hyp}{colorlinks}%
4549         \PassOptionsToPackage{dviwindo}{color}%
4550     \fi
4551 \fi
4552 \fi
4553 \else
4554     \def\HyOpt@DriverType{ (custom)}%
4555     \let\Hy@driver\HyOpt@CustomDriver
4556 \fi
4557 \Hy@InfoNoLine{Driver\HyOpt@DriverType: \Hy@driver}%
4558 \chardef\Hy@VersionChecked=0 %
4559 \input{\Hy@driver.def}%
4560 \ifcase\Hy@VersionChecked
4561     \Hy@VersionCheck{\Hy@driver.def}%
4562 \fi
4563 \let\@unprocessedoptions\relax
4564 \Hy@RestoreCatcodes
4565 \Hy@DisableOption{tex4ht}%
4566 \Hy@DisableOption{pdftex}%
4567 \Hy@DisableOption{nativepdf}%
4568 \Hy@DisableOption{dvipdfm}%
4569 \Hy@DisableOption{dvipdfmx}%
4570 \Hy@DisableOption{dvipdfmx-outline-open}%
4571 \Hy@DisableOption{pdfmark}%
4572 \Hy@DisableOption{dvips}%
4573 \Hy@DisableOption{hypertex}%
4574 \Hy@DisableOption{vtex}%
4575 \Hy@DisableOption{vtexpdfmark}%
4576 \Hy@DisableOption{dviwindo}%
4577 \Hy@DisableOption{dvipsone}%
4578 \Hy@DisableOption{textures}%
4579 \Hy@DisableOption{latex2html}%
4580 \Hy@DisableOption{ps2pdf}%
4581 \Hy@DisableOption{xetex}%
4582 \Hy@DisableOption{driverfallback}%
4583 \Hy@DisableOption{customdriver}%
4584 \Hy@DisableOption{pdfversion}%
4585 }

```

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.

```

4586 \newif\ifHy@DvipdfmxOutlineOpen
4587 \ifxetex
4588   \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4589   \else
4590     \chardef\SpecialDvipdfmxOutlineOpen\@ne
4591     \Hy@DvipdfmxOutlineOpentrue
4592   \fi
4593 \fi
4594 \begingroup\expandafter\expandafter\expandafter\endgroup
4595 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4596 \else
4597   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4598     \Hy@DvipdfmxOutlineOpentrue
4599   \fi
4600 \fi

```

15.4.2 Bookmarks

```

4601 \def\WriteBookmarks{0}
4602 \def\@bookmarkopenstatus#1{%
4603   \ifHy@bookmarksopen

```

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

```

4604   \ifnum#1<\expandafter\@firstofone\expandafter
4605     {\number\@bookmarksopenlevel} % explicit space
4606   \else
4607     -%
4608   \fi
4609 \else
4610   -%
4611   \fi
4612 }
4613 \ifHy@bookmarks
4614   \Hy@Info{Bookmarks ON}%
4615   \ifx\@pdfpagemode\@empty
4616     \def\@pdfpagemode{UseOutlines}%
4617   \fi
4618 \else
4619   \let\@bookmarkopenstatus\@gobble
4620   \Hy@Info{Bookmarks OFF}%
4621   \Hy@AtEndOfPackage{%
4622     \global\let\ReadBookmarks\relax
4623     \global\let\WriteBookmarks\relax
4624   }%
4625   \ifx\@pdfpagemode\@empty
4626     \def\@pdfpagemode{UseNone}%
4627   \fi
4628 \fi
4629 \Hy@DisableOption{bookmarks}

```

Add wrapper for setting standard catcodes (babel's shorthands).

```

4630 \def\Hy@CatcodeWrapper#1{%

```

```

4631 \let\Hy@endWrap\@empty
4632 \def\TMP@EnsureCode##1##2{%
4633   \edef\Hy@endWrap{%
4634     \Hy@endWrap
4635     \catcode##1 \the\catcode##1\relax
4636   }%
4637   \catcode##1 ##2\relax
4638 }%
4639 \TMP@EnsureCode{10}{12}% ^^J
4640 \TMP@EnsureCode{33}{12}% !
4641 \TMP@EnsureCode{34}{12}% "
4642 \TMP@EnsureCode{36}{3}% $ (math)
4643 \TMP@EnsureCode{38}{4}% & (alignment)
4644 \TMP@EnsureCode{39}{12}% '
4645 \TMP@EnsureCode{40}{12}% (
4646 \TMP@EnsureCode{41}{12}% )
4647 \TMP@EnsureCode{42}{12}% *
4648 \TMP@EnsureCode{43}{12}% +
4649 \TMP@EnsureCode{44}{12}% ,
4650 \TMP@EnsureCode{45}{12}% -
4651 \TMP@EnsureCode{46}{12}% .
4652 \TMP@EnsureCode{47}{12}% /
4653 \TMP@EnsureCode{58}{12}% :
4654 \TMP@EnsureCode{59}{12}% ;
4655 \TMP@EnsureCode{60}{12}% <
4656 \TMP@EnsureCode{61}{12}% =
4657 \TMP@EnsureCode{62}{12}% >
4658 \TMP@EnsureCode{63}{12}% ?
4659 \TMP@EnsureCode{91}{12}% [
4660 \TMP@EnsureCode{93}{12}% ]
4661 \TMP@EnsureCode{94}{7}% ^ (superscript)
4662 \TMP@EnsureCode{95}{8}% _ (subscript)
4663 \TMP@EnsureCode{96}{12}% `
4664 \TMP@EnsureCode{124}{12}% |
4665 \TMP@EnsureCode{126}{13}% ~ (active)
4666 #1\relax
4667 \Hy@endWrap
4668 }

```

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

```

4669 \Hy@AtBeginDocument{%
4670   \ifHy@ocgcolorlinks
4671     \kvsetkeys{Hyp}{colorlinks}%
4672     \ifHy@pdfa
4673       \Hy@Warning{%
4674         PDF/A: Optional Content Groups are prohibited,\MessageBreak
4675         using `colorlinks' instead of `ocgcolorlinks'%
4676       }%
4677       \Hy@ocgcolorlinksfalse
4678     \fi
4679   \fi
4680   \ifHy@ocgcolorlinks
4681     \else
4682       \Hy@DisableOption{ocgcolorlinks}%

```



```

4683 \fi
4684 \ifHy@colorlinks
4685   \def\@pdfborder{0 0 0}%
4686   \let\@pdfborderstyle\@empty
4687   \Hy@CatcodeWrapper{%
4688     \RequirePackage{color}%
4689   }%
4690   \def\Hy@colorlink#1{%
4691     \begingroup
4692     \HyColor@UseColor#1%
4693   }%
4694   \def\Hy@endcolorlink{\endgroup}%
4695   \Hy@Info{Link coloring ON}%
4696 \else
4697   \ifHy@frenchlinks
4698     \def\Hy@colorlink#1{\begingroup\fontshape{\scdefault}\selectfont}%
4699     \def\Hy@endcolorlink{\endgroup}%
4700     \Hy@Info{French linking ON}%
4701   \else

```

for grouping consistency:

```

4702     \def\Hy@colorlink#1{\begingroup}%
4703     \def\Hy@endcolorlink{\endgroup}%
4704     \Hy@Info{Link coloring OFF}%
4705   \fi
4706 \fi
4707 \Hy@DisableOption{colorlinks}%
4708 \Hy@DisableOption{frenchlinks}%
4709 \ifHy@texht
4710 \else

```

With active links we have to redefine the starred versions to avoid that they get links from the include \@setref:

```

4711 \ifHy@implicit
4712   \let \T@Ref\HyRef@Ref
4713   \def\@refstar#1{%
4714     \NR@ref@showkeys{#1}%
4715     \HyRef@StarSetRef{#1}\@firstoffive
4716   }
4717   \def\@pagerefstar#1{%
4718     \NR@ref@showkeys{#1}%
4719     \HyRef@StarSetRef{#1}\@secondoffive
4720   }
4721   \def\@namerefstar#1{%
4722     \NR@ref@showkeys{#1}%
4723     \HyRef@StarSetRef{#1}\@thirdoffive
4724   }
4725   \def\@Refstar#1{%
4726     \NR@ref@showkeys{#1}%
4727     \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
4728   }%
4729 \else
4730 \fi
4731 \fi
4732 }

```

```

4733 \Hy@AtBeginDocument{%
4734   \ifx\ReadBookmarks\relax
4735     \else
4736       \Hy@CatcodeWrapper\ReadBookmarks
4737     \fi
4738 }

4739 \ifHy@backref
4740   \RequirePackage{backref}%
4741 \else
4742   \let\Hy@backout\@gobble
4743 \fi
4744 \Hy@DisableOption{backref}
4745 \Hy@DisableOption{pagebackref}
4746 \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`.

```

4747 \begingroup
4748   \endlinechar=-1 %
4749   \catcode`\^^A=14 %
4750   \catcode`\^^M\active
4751   \catcode`\%\active
4752   \catcode`\#\active
4753   \catcode`\_\active
4754   \catcode`\$\active
4755   \catcode`\&\active
4756   \gdef\hyper@normalise{^^A
4757     \begingroup
4758       \catcode`\^^M\active
4759       \def^^M{ }^^A
4760       \catcode`\%\active
4761       \let%\@percentchar
4762       \let\%\@percentchar
4763       \catcode`\#\active
4764       \def#{\hyper@hash}^^A
4765       \def\#{\hyper@hash}^^A
4766       \@makeother\&^^A
4767       \edef&{\string&}^^A
4768       \edef\&{\string&}^^A
4769       \edef\textunderscore{\string_}^^A
4770       \let_\textunderscore
4771       \catcode`\_\active
4772       \let_\textunderscore
4773       \let~\hyper@tilde
4774       \let~\hyper@tilde
4775       \let\textasciitilde\hyper@tilde

```

```

4776 \let\\\@backslashchar
4777 \edef$\string$^^A
4778 \Hy@safe@activetrue
4779 \hyper@n@rmalise
4780 }^^A
4781 \catcode`\#=6 ^^A
4782 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4783 \gdef\hyper@n@rmalise#1#2{^^A
4784 \def\Hy@tempa{#2}^^A
4785 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4786 \Hy@ReturnAfterElseFi{^^A
4787 \hyper@@normalise{#1}^^A
4788 }^^A
4789 \else
4790 \Hy@ReturnAfterFi{^^A
4791 \hyper@@normalise{#1}{#2}^^A
4792 }^^A
4793 \fi
4794 }^^A
4795 \gdef\hyper@@normalise#1#2{^^A
4796 \edef\Hy@tempa{^^A
4797 \endgroup
4798 \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
4799 }^^A
4800 \Hy@tempa
4801 }^^A
4802 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
4803 #1^^A
4804 \ifx\limits#2\limits
4805 \else
4806 \Hy@ReturnAfterFi{^^A
4807 \Hy@RemovePercentCr #2\@nil
4808 }^^A
4809 \fi
4810 }^^A
4811 \endgroup
4812 \providecommand*\hyper@chars{%
4813 \let\#\hyper@hash
4814 \let\%\@percentchar
4815 \Hy@safe@activetrue
4816 }

4817 \def\hyperlink#1#2{%
4818 \hyper@@link{}{#1}{#2}%
4819 }

4820 \def\Hy@VerboseLinkStart#1#2{%
4821 \ifHy@verbose
4822 \begingroup
4823 \Hy@safe@activetrue
4824 \xdef\Hy@VerboseGlobalTemp{(#1) `#2'}%
4825 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4826 \xdef\Hy@VerboseGlobalTemp{%
4827 \Hy@VerboseGlobalTemp, %
4828 line \the\inputlineno

```

```

4829 }%
4830 \endgroup
4831 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4832 \@onelevel@sanitize\Hy@VerboseLinkInfo
4833 \fi
4834 }

4835 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4836 \def\Hy@VerboseLinkStop{%
4837   \ifHy@verbose
4838     \begingroup
4839     \edef\x{\endgroup
4840       \write\m@ne{%
4841         Package `hyperref' Info: %
4842         End of reference \Hy@VerboseLinkInfo.%
4843       }}%
4844     }%
4845     \x
4846   \fi
4847 }

4848 \def\Hy@VerboseAnchor#1{%
4849   \ifHy@verbose
4850     \begingroup
4851     \Hy@safe@activertrue
4852     \Hy@Info{Anchor ``\HyperDestNameFilter{#1}'}%
4853   \endgroup
4854   \fi
4855 }

4856 \def\Hy@AllowHyphens{%
4857   \relax
4858   \ifhmode
4859     \penalty\@M
4860     \hskip\z@skip
4861   \fi
4862 }

4863 \DeclareRobustCommand*\href[1][]{%
4864   \begingroup
4865   \setkeys{href}{#1}%
4866   \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4867 }

4868 \def\Hy@href#1{%
4869   \hyper@normalise\href@
4870 }

4871 \begingroup
4872 \catcode`\$=6 %
4873 \catcode`\#=12 %
4874 \gdef\href$1{\expandafter\href@split$1##\}%
4875 \gdef\href@split$1##$2##$3\\$4{%
4876   \hyper@link{$1}{$2}{$3}{$4}%
4877 }
4878 }%
4879 \endgroup

```

Option ‘page’.

```

4880 \define@key{href}{page}{%
4881   \def\Hy@href@page{#1}%
4882 }
4883 \let\Hy@href@page\@empty
4884 \newcount\c@Hy@tempcnt
4885 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4886 \def\Hy@MakeRemoteAction{%
4887   \ifx\Hy@href@page\@empty
4888     \def\Hy@href@page{0}%
4889   \else
4890     \setcounter{Hy@tempcnt}{\Hy@href@page}%
4891     \ifnum\c@Hy@tempcnt<\@ne
4892       \Hy@Warning{%
4893         Invalid page number (\theHy@tempcnt)\MessageBreak
4894         for remote PDF file.\MessageBreak
4895         Using page 1%
4896       }%
4897       \def\Hy@href@page{0}%
4898     \else
4899       \global\advance\c@Hy@tempcnt\m@ne
4900       \edef\Hy@href@page{\theHy@tempcnt}%
4901     \fi
4902   \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.

```

4903 \ifx\Hy@href@nextactionraw\@empty
4904 \else
4905   \Hy@pdfnewwindowsettrue
4906   \Hy@pdfnewwindowtrue
4907 \fi
4908 }

```

Option ‘pdfremotestartview’.

```

4909 \define@key{href}{pdfremotestartview}{%
4910   \setkeys{Hyp}{pdfremotestartview={#1}}%
4911 }

```

Option ‘pdfnewwindow’.

```

4912 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
4913 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default

```

Option ‘ismap’.

```

4914 \newif\ifHy@href@ismap
4915 \define@key{href}{ismap}[true]{%
4916   \@ifundefined{Hy@href@ismap#1}{%
4917     \Hy@Error{%
4918       Invalid value (#1) for key `ismap'.\MessageBreak
4919       Permitted values are `true' or `false'.\MessageBreak
4920       Ignoring `ismap'%
4921     }\@ehc
4922   }{%
4923     \csname Hy@href@ismap#1\endcsname
4924   }%
4925 }

```

Option ‘nextactionraw’.

```

4926 \let\Hy@href@nextactionraw\@empty
4927 \define@key{href}{nextactionraw}{%
4928   \edef\Hy@href@nextactionraw{#1}%
4929   \ifx\Hy@href@nextactionraw\@empty
4930     \else
4931       \Hy@Match\Hy@href@nextactionraw{%
4932         ~(\HyPat@ObjRef/|<<.*[/S[/.+>>|}%
4933         \[( ?\HyPat@ObjRef/|<<.*[/S[/.+>>)+ ?)]$%
4934       }%
4935       \Hy@Warning{Invalid value for `nextactionraw':\MessageBreak
4936       \Hy@href@nextactionraw\MessageBreak
4937       The action is discarded%
4938     }%
4939   }%
4940   \ifx\Hy@href@nextactionraw\@empty
4941     \else
4942       \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
4943     \fi
4944   \fi
4945 }
4946 \def\HyPat@ObjRef/{.+}

```

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

```

4947 \RequirePackage{url}
4948 \let\HyOrg@url\url
4949 \def\Hurl{\begingroup \Url}
4950 \DeclareRobustCommand*{\nolinkurl}{\hyper@normalise\nolinkurl@}
4951 \def\nolinkurl@#1{\Hurl{#1}}
4952 \DeclareRobustCommand*{\url}{\hyper@normalise\url@}
4953 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
4954 \DeclareRobustCommand*{\hyperimage}{\hyper@normalise\hyper@image}
4955 \providecommand\hyper@image[2]{#2}
4956 \def\hypertarget#1#2{%
4957   \ifHy@nesting
4958     \hyper@@anchor{#1}{#2}%
4959   \else
4960     \hyper@@anchor{#1}{\relax}#2%
4961   \fi
4962 }

```

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

```

4963 \DeclareRobustCommand*{\hyperref}{%
4964   \@ifnextchar{\Hy@babelnormalise\label@hyperref}\@hyperref
4965 }
4966 \def\Hy@babelnormalise#1[#2]{%
4967   \begingroup

```

```

4968 \Hy@safe@activestru
4969 \let\protect\@unexpandable@protect
4970 \edef\Hy@tempa{%
4971   \endgroup
4972   \noexpand#1[{#2}]%
4973 }%
4974 \Hy@tempa
4975 }
4976 \def\@hyperref{\hyper@normalise\@hyperref}
4977 \def\@hyperref#1#2#3{%
4978   \edef\ref@one{\ifx\#2\else#2.\fi#3}%
4979   \expandafter\tryhyper@link\ref@one\{#1}%
4980 }
4981 \def\tryhyper@link#1\#2{%
4982   \hyper@@link{#2}{#1}%
4983 }
4984 \def\hyperdef{\@ifnextchar{\label@hyperdef}{\@hyperdef}}
4985 \def\@hyperdef#1#2#3{% category, name, text
4986   \ifx\#1\%
4987     \def\Hy@AnchorName{#2}%
4988   \else
4989     \def\Hy@AnchorName{#1.#2}%
4990   \fi
4991   \ifHy@nesting
4992     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
4993   \else
4994     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}{#3}%
4995   \fi
4996 }

```

We also have a need to give a L^AT_EX *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.

```

4997 \let\hyperrefundefinedlink\@firstofone
4998 \def\label@hyperref[#1]{%
4999   \expandafter\label@\@hyperref\csname r@#1\endcsname{#1}%
5000 }%
5001 \def\label@\@hyperref#1#2#3{%
5002   \ifx#1\relax
5003     \protect\G@refundefinedtrue
5004     \@latex@warning{%
5005       Hyper reference `#2' on page \thepage \space undefined%
5006     }%
5007     \begingroup
5008       \hyperrefundefinedlink{#3}%
5009     \endgroup
5010   \else
5011     \hyper@@link{\expandafter\@fifthoffive#1}%
5012     {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
5013   \fi
5014 }
5015 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
5016                               % anchor text
5017   \@bsphack

```

```

5018 \ifx\|#2\|
5019 \def\Hy@AnchorName{#3}%
5020 \else
5021 \def\Hy@AnchorName{#2.#3}%
5022 \fi
5023 \if@filesw
5024 \protected@write\@auxout{}\{%
5025 \string\newlabel{#1}{\Hy@AnchorName}\}%
5026 }%
5027 \fi
5028 \@esphack
5029 \ifHy@nesting
5030 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
5031 \else
5032 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
5033 \fi
5034 }

```

`\hyperget` To create manually bookmarks one need the destination. If there is a label, the name can be retrieved with commands from `refcount`. Such a destination name must take `\HyperDestNameFilter` into account

```
\HyperDestNameFilter{\getrefbykeydefault{label}{anchor}{Doc-Start}}
```

To make this easier, we define `\hyperget`

```

5035 \ExplSyntaxOn
5036 \cs_new:Npn \hyperget #1 #2
5037 {
5038 \use:c { __hyp_get_#1:n } { #2}
5039 }
5040
5041 \cs_new:Npn \__hyp_get_anchor:n #1
5042 {
5043 \HyperDestNameFilter
5044 {
5045 \cs_if_exist:cTF {r@#1}
5046 {
5047 \tl_item:cn {r@#1}{4}
5048 }
5049 {
5050 Doc-Start
5051 }
5052 }
5053 }
5054 \cs_new:Npn \__hyp_get_pageanchor:n #1
5055 {
5056 \HyperDestNameFilter
5057 {
5058 \cs_if_exist:cTF {r@#1}
5059 {
5060 page. \tl_item:cn {r@#1}{2}
5061 }
5062 {
5063 Doc-Start

```



```

5064     }
5065   }
5066 }
5067 \cs_new:Npn \__hyp_get_currentanchor:n #1
5068 {
5069   \HyperDestNameFilter { \@currentHref }
5070 }
5071 \ExplSyntaxOff

```

16.1 Link box support for XeTeX

```

5072 \newdimen\XeTeXLinkMargin
5073 \setlength{\XeTeXLinkMargin}{2pt}
5074 \ifxetex
5075   \font\XeTeXLink@font=pzdr at 1sp\relax
5076   \newcommand*{\XeTeXLink@space}{%
5077     \begingroup
5078       \XeTeXLink@font
5079       \@xxxii
5080     \endgroup
5081   }%
5082   \newcommand{\XeTeXLinkBox}[1]{%
5083     \begingroup
5084       \leavevmode
5085       \sbox\z@{#1}%
5086       \begingroup
5087         \dimen@=\dp\z@
5088         \advance\dimen@\XeTeXLinkMargin
5089         \setbox\tw@=\llap{%
5090           \hb@xt@\XeTeXLinkMargin{%
5091             \lower\dimen@\hbox{\XeTeXLink@space}%
5092             \hss
5093           }%
5094         }%
5095         \dp\tw@=\dp\z@
5096         \ht\tw@=\ht\z@
5097         \copy\tw@
5098       \endgroup
5099       \copy\z@
5100       \dimen@=\ht\z@
5101       \advance\dimen@\XeTeXLinkMargin
5102       \setbox\tw@=\rlap{%
5103         \hb@xt@\XeTeXLinkMargin{%
5104           \hss
5105           \raise\dimen@\hbox{\XeTeXLink@space}%
5106         }%
5107       }%
5108       \dp\tw@=\dp\z@
5109       \ht\tw@=\ht\z@
5110       \copy\tw@
5111     \endgroup
5112   }%
5113 \else
5114   \newcommand*{\XeTeXLinkBox}[1]{%

```

```

5115 \begingroup
5116 \leavevmode
5117 \sbox\z@{\#1}%
5118 \copy\z@
5119 \endgroup
5120 }%
5121 \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.

```

5122 \def\hyper@@link{\let\Hy@reserved@a\relax
5123 \ifnextchar{\hyper@link@}{\hyper@link@[link]}%
5124 }
5125 % #1: type
5126 % #2: URL
5127 % #3: destination name
5128 % #4: text
5129 \def\hyper@link@[#1]#2#3#4{%
5130 \Hy@ifempty{#4}{% link text
5131 \Hy@Warning{Suppressing empty link}%
5132 }{%
5133 \begingroup
5134 \protected@edef\Hy@tempa{#2}%
5135 \edef\Hy@tempb{#3}%
5136 \ifx\Hy@tempa\@empty
5137 \ifx\Hy@tempb\@empty
5138 \Hy@Warning{Suppressing link with empty target}%
5139 \toks@{%
5140 \endgroup
5141 \@secondoftwo
5142 }%
5143 \else
5144 \toks@{%
5145 \endgroup
5146 \hyper@link{#1}%
5147 }%
5148 \fi
5149 \else
5150 \toks@{%
5151 \endgroup
5152 \expandafter\hyper@readexternallink#2\{#1}%
5153 }%
5154 \fi
5155 \Hy@safe@activesfalse
5156 \toks@\expandafter{%
5157 \the\expandafter\toks@
5158 \expandafter{\Hy@tempb}{#4}%
5159 }%
5160 \the\toks@
5161 }%

```

5162 }

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.

```
5163 \def\hyper@readexternallink#1\\#2#3#4{%
5164   \begingroup
5165     \let\\relax
5166   \expandafter\endgroup
5167   \expandafter\@hyper@@readexternallink#1\\{#2}{#3}{#4}%
5168 }
5169 \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.

```
5170 \@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
5171 }
```

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

```
5172 \def\@pdftempwordfile{file}%
5173 \def\@pdftempwordrun{run}%
5174 \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:

```
5175 \ifx\\#6\\%
5176   \@hyper@linkfile file:#7\\{#3}{#2}{#7}%
5177 \else
5178   \ifx\\#4\\%
5179     \@hyper@linkfile file:#7\\{#3}{#2}{#7}%
5180   \else
```

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

```
5181   \def\@pdftempa{#4}%
5182   \ifx\@pdftempa\@pdftempwordfile
5183     \@hyper@linkfile#7\\{#3}{#2}{#7}%
5184   \else
```

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

```

5185     \ifx\@pdftempa\@pdftempwordrun
5186     \ifHy@pdfa
5187     \Hy@Error{%
5188         PDF/A: Launch action is prohibited%
5189     }\@ehc
5190     \begingroup
5191     \leavevmode
5192     #2%
5193     \endgroup
5194     \else
5195     \@hyper@launch#7\{\#3}\#2}%
5196     \fi
5197     \else

```

otherwise its a URL

```

5198     \hyper@linkurl{\#3}\#7\ifx\#2\\\else\hyper@hash#2\fi}%
5199     \fi
5200     \fi
5201     \fi
5202     \fi
5203 }

```

By default, turn run: into file:

```

5204 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
5205     \hyper@linkurl{\#2}\#1%
5206     \Hy@linkfileprefix
5207     #1%
5208     \ifx\#3\\\%
5209     \else
5210     \hyper@hash
5211     #3%
5212     \fi
5213 }%
5214 }

```

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

```

5215 \def\@hyper@linkfile file:#1\#2#3#4{%
5216     %file url,link string, name, original uri
5217     \filename@parse{\#1}%
5218     \ifx\filename@ext\relax
5219     \edef\filename@ext{\XR@ext}%
5220     \fi
5221     \def\use@file{\filename@area\filename@base.\filename@ext}%
5222     \Hy@IfStringEndsWith\filename@ext\XR@ext{%
5223     \hyper@linkfile{\#2}\use@file{\#3}%
5224     }\%
5225     \ifx\@baseurl\@empty
5226     \hyper@linkurl{\#2}\%
5227     #4\ifx\#3\\\else\hyper@hash#3\fi
5228     }\%
5229     \else
5230     \hyper@linkurl{\#2}\use@file\ifx\#3\\\else\hyper@hash#3\fi}%
5231     \fi

```

```

5232 }%
5233 }

5234 \def\Hy@IfStringEndsWith#1#2{%
5235 \begingroup
5236 \edef\x{#1}%
5237 \@onelevel@sanitize\x
5238 \edef\x{.\x$}%
5239 \edef\y{#2}%
5240 \@onelevel@sanitize\y
5241 \edef\y{.\y$}%
5242 \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
5243 \endgroup
5244 \ifx\relax##2\relax
5245 \expandafter\@secondoftwo
5246 \else
5247 \expandafter\@firstoftwo
5248 \fi
5249 }%
5250 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
5251 }

5252 \def\Hy@StringLocalhost{localhost}
5253 \@onelevel@sanitize\Hy@StringLocalhost
5254 \def\Hy@CleanupFile#1{%
5255 \edef#1{#1}%
5256 \expandafter\Hy@@CleanupFile#1\hbox{///\hbox\@nil{#1}%
5257 }
5258 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5259 \begingroup
5260 \toks@{\endgroup}%
5261 \def\x{#1}%
5262 \ifx\x\@empty
5263 \def\x{#2}%
5264 \ifx\x\@empty
5265 \toks@{\endgroup\def#5{/#3}}%
5266 \else
5267 \@onelevel@sanitize\x
5268 \ifx\x\Hy@StringLocalhost
5269 \toks@{\endgroup\def#5{/#3}}%
5270 \fi
5271 \fi
5272 \fi
5273 \the\toks@
5274 }

```

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.

```

5275 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5276 \long\def\@hyper@@anchor#1\relax#2#3\relax{%

```

```

5277 \ifx\|#1\|
5278 #2\Hy@Warning{Ignoring empty anchor}%
5279 \else
5280 \def\anchor@spot{#2#3}%
5281 \let\put@me@back\@empty
5282 \ifx\relax#2\relax
5283 \else
5284 \ifHy@nesting
5285 \else
5286 \ifcat a\noexpand#2\relax
5287 \else
5288 \ifcat 0\noexpand#2 \relax
5289 \else
5290 % \typeout{Anchor start is not alphanumeric %
5291 % on input line\the\inputlineno%
5292 % }%
5293 \let\anchor@spot\@empty
5294 \def\put@me@back{#2#3}%
5295 \fi
5296 \fi
5297 \fi
5298 \fi
5299 \ifHy@activeanchor
5300 \anchor@spot
5301 \else
5302 \hyper@anchor{#1}%
5303 \fi
5304 \expandafter\put@me@back
5305 \fi
5306 \let\anchor@spot\@empty
5307 }
5308 \let\anchor@spot\@empty

```

18 Option ‘destlabel’

```

5309 \ifHy@destlabel

\hyper@newdestlabel

5310 \def\hyper@newdestlabel#1#2{%
5311 \begingroup
5312 \Hy@safe@activetrue
5313 \edef\x{\endgroup
5314 \noexpand\@newl@bel{HyDL}{#1}{#2}%
5315 }%
5316 \x
5317 }%

\hyper@destlabel@hook

5318 \providecommand*\hyper@destlabel@hook{}%

\Hy@DestRename

5319 \newcommand*\Hy@DestRename[2]{%
5320 \ifundefined{HyDL!#1}{%

```

```

5321 \begingroup
5322 \Hy@safe@activetrue
5323 \edef\dest@name{#1}%
5324 \edef\label@name{#2}%
5325 \hyper@destlabel@hook
5326 \Hy@IsNotEmpty{dest@name}{%
5327 \Hy@IsNotEmpty{label@name}{%
5328 \global\expandafter
5329 \let\csname HyDL!#1\endcsname\@empty
5330 \if@files
5331 \protected@write\@auxout{}{%
5332 \string\hyper@newdestlabel
5333 {#1}%
5334 {\label@name}%
5335 }%
5336 \fi
5337 }%
5338 }%
5339 \endgroup
5340 }{}%
5341 }%

```

\HyperDestRename

```

5342 \newcommand*{\HyperDestRename}[2]{%
5343 \AtBeginDocument{%
5344 \Hy@DestRename{#1}{#2}%
5345 }%
5346 }%
5347 \AtBeginDocument{%
5348 \let\HyperDestRename\Hy@DestRename
5349 }%

```

\Hy@IsNotEmpty

```

5350 \def\Hy@IsNotEmpty#1{%
5351 \@ifundefined{#1}\@gobble{%
5352 \expandafter\ifx\csname#1\endcsname\@empty
5353 \expandafter\@gobble
5354 \else
5355 \expandafter\@firstofone
5356 \fi
5357 }%
5358 }%

5359 \Hy@GlobalAppendToMacro\label@hook{%
5360 \HyperDestRename\@currentHref\label@name
5361 }%

```

\HyperDestLabelReplace

```

5362 \def\HyperDestLabelReplace#1{%
5363 \@ifundefined{HyDL@#1}{%
5364 #1%
5365 }{}%
5366 \csname HyDL@#1\endcsname
5367 }%
5368 }%

```

```

\HyperDestNameFilter
5369 \let\HyperDestNameFilter\HyperDestLabelReplace

5370 \else

\hyper@newdestlabel
5371 \let\hyper@newdestlabel\@gobbletwo

\HyperDestLabelReplace
5372 \let\HyperDestLabelReplace\@firstofone

\HyperDestRename
5373 \let\HyperDestRename\@gobbletwo

5374 \fi
5375 \Hy@DisableOption{destlabel}

Provide a dummy default definition of \hyper@newdestlabel inside the .aux
files.
5376 \AddToHook{include/before}
5377 {\immediate\write\@partaux{\string\providecommand\string\hyper@newdest-
label[2]{}}}
5378 \AddToHook{begindocument}
5379 {\immediate\write\@mainaux{\string\providecommand\string\hyper@newdest-
label[2]{}}}
```

19 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.

19.1 Field flags

The field flags are organized in a bit set.

```
5380 \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
5381 \def\HyField@NewFlag#1#2{%
5382 \lowercase{\HyField@NewOption{#2}}%
5383 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5384 }
```


\HyField@NewFlagOnly

```
5385 \def\HyField@NewFlagOnly#1#2{%
5386   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5387 }
```

\HyField@NewOption #1: option name

```
5388 \def\HyField@NewOption#1{%
5389   \expandafter\newif\csname ifFld@#1\endcsname
5390   \define@key{Field}{#1}[true]{%
5391     \lowercase{\Field@boolkey{##1}}{#1}%
5392   }%
5393 }
```

\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

```
5394 \def\HyField@NewBitsetFlag#1#2#3#4{%
5395   \begingroup
5396     \count@=#4\relax
5397     \advance\count@\m@ne
5398     \def\x##1{%
5399       \endgroup
5400       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5401       \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
5402         \expandafter\edef\csname HyField@#3@#1\endcsname{%
5403           (\number#4) #2%
5404         }%
5405       \else
5406         \expandafter\edef\csname HyField@#3@#1\endcsname{%
5407           \csname HyField@#3@#1\endcsname
5408           /#2%
5409         }%
5410       \fi
5411     }%
5412   \expandafter\x\expandafter{\the\count@}%
5413 }
```

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

```
5414 \def\HyField@UseFlag#1#2{%
5415   \lowercase{\HyField@@UseFlag{#2}}{#1}%
5416 }
```

\HyField@@UseFlag

```
5417 \def\HyField@@UseFlag#1#2{%
5418   \bitsetSetValue{HyField@#2}{%
5419     \csname HyField@#2@#1\endcsname
5420   }{%
5421     \csname ifFld@#1\endcsname 1\else 0\fi
5422   }%
5423 }
```

```

\HyField@SetFlag The bit set is HyField@#1
5424 \def\HyField@SetFlag#1#2{%
5425   \lowercase{\HyField@@SetFlag{#2}}{#1}%
5426 }

```

```

\HyField@@SetFlag
5427 \def\HyField@@SetFlag#1#2{%
5428   \bitsetSetValue{HyField@#2}{%
5429     \csname HyField@#2@#1\endcsname
5430   }{1}%
5431 }

```

```

\HyField@PrintFlags
5432 \def\HyField@PrintFlags#1#2{%
5433   \ifHy@verbose
5434     \begingroup
5435     \let\Hy@temp\@empty
5436     \let\MessageBreak\relax
5437     \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5438     \bitsetGetSetBitList{HyField@#1}\do{%
5439       \edef\Hy@temp{%
5440         \Hy@temp
5441         \csname HyField@#1@\x\endcsname\MessageBreak
5442       }%
5443     }%
5444   \edef\x{\endgroup
5445     \noexpand\Hy@Info{%
5446       Field flags: %
5447       \expandafter\ifx\@car#1\@nil S\else/\fi
5448       #1 %
5449       \bitsetGetDec{HyField@#1} %
5450       (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5451       \Hy@temp
5452       for #2%
5453     }%
5454   }\x
5455 \fi
5456 }

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

5457 \HyField@NewFlag{Ff}{ReadOnly}{1}
5458 \HyField@NewFlag{Ff}{Required}{2}
5459 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

5460 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5461 \HyField@NewFlag{Ff}{Radio}{16}
5462 \HyField@NewFlag{Ff}{Pushbutton}{17}
5463 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

5464 \HyField@NewFlag{Ff}{Multiline}{13}

```

```

5465 \HyField@NewFlag{Ff}{Password}{14}
5466 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5467 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5468 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5469 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5470 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

5471 \HyField@NewFlag{Ff}{Combo}{18}
5472 \HyField@NewFlag{Ff}{Edit}{19}
5473 \HyField@NewFlag{Ff}{Sort}{20}
5474 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5475 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5476 \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.

```

5477 \newif\ifFld@popdown
5478 \define@key{Field}{popdown}[true]{%
5479   \lowercase{\Field@boolkey{#1}}{popdown}%
5480 }

```

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.

```

5481 \HyField@NewFlag{F}{Invisible}{1}
5482 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5483 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5484 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5485 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5486 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5487 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5488 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5489 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7
5490 \ifHy@pdfa
5491   \def\HyField@PDFAFldWarning#1#2{%
5492     \Hy@Warning{%
5493       PDF/A: Annotation flag `#1' must\MessageBreak
5494       be set to `#2'%
5495     }%
5496   }%
5497   \Fld@invisiblefalse
5498   \def\Fld@invisibletrue{%
5499     \HyField@PDFAFldWarning{invisible}{false}%
5500   }%
5501   \Fld@hiddenfalse
5502   \def\Fld@hiddentrue{%
5503     \HyField@PDFAFldWarning{hidden}{false}%
5504   }%
5505   \Fld@printtrue
5506   \def\Fld@printfalse{%

```

```

5507 \HyField@PDFAFIagWarning{print}{true}%
5508 }%
5509 \Fld@nozoomtrue
5510 \def\Fld@nozoomfalse{%
5511 \HyField@PDFAFIagWarning{nozoom}{true}%
5512 }%
5513 \Fld@norotatetrue
5514 \def\Fld@norotatefalse{%
5515 \HyField@PDFAFIagWarning{norotate}{true}%
5516 }%
5517 \Fld@noviewfalse
5518 \def\Fld@noviewtrue{%
5519 \HyField@PDFAFIagWarning{noview}{false}%
5520 }%
5521 \fi

```

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

```

5522 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5523 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5524 \HyField@NewFlag{Submit}{GetMethod}{4}
5525 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5526 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5527 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5528 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5529 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5530 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5531 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5532 \HyField@NewFlag{Submit}{ExclFKey}{12}
5533 \HyField@NewFlag{Submit}{EmbedForm}{14}

5534 \define@key{Field}{export}{%
5535 \lowercase{\def\Hy@temp{#1}}%
5536 \@ifundefined{Fld@export@\Hy@temp}{%
5537 \Onelevel@sanitize\Hy@temp
5538 \Hy@Error{%
5539 Unknown export format `\'Hy@temp'.\MessageBreak
5540 Known formats are `FDF', `HTML', `XFDF', and `PDF'%
5541 }\@ehc
5542 }{%
5543 \let\Fld@export\Hy@temp
5544 }%
5545 }
5546 \def\Fld@export{fdf}
5547 \@namedef{Fld@export@fdf}{0}%
5548 \@namedef{Fld@export@html}{1}%
5549 \@namedef{Fld@export@xfdf}{2}%
5550 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

5551 \def\HyField@FlagsSubmit{%
5552 \bitsetReset{HyField@Submit}%
5553 \ifcase\@nameuse{Fld@export@\Fld@export} %

```

```

5554 % FDF
5555 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5556 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5557 \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5558 \HyField@UseFlag{Submit}{IncludeAnnotations}%
5559 \HyField@UseFlag{Submit}{CanonicalFormat}%
5560 \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5561 \HyField@UseFlag{Submit}{ExclFKey}%
5562 \HyField@UseFlag{Submit}{EmbedForm}%
5563 \or % HTML
5564 \HyField@SetFlag{Submit}{ExportFormat}%
5565 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5566 \HyField@UseFlag{Submit}{GetMethod}%
5567 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5568 \HyField@UseFlag{Submit}{CanonicalFormat}%
5569 \or % XFDF
5570 \HyField@SetFlag{Submit}{XFDF}%
5571 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5572 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5573 \HyField@UseFlag{Submit}{CanonicalFormat}%
5574 \or % PDF
5575 \HyField@SetFlag{Submit}{SubmitPDF}%
5576 \HyField@UseFlag{Submit}{GetMethod}%
5577 \fi
5578 \HyField@PrintFlags{Submit}{submit button field}%
5579 \bitsetIsEmpty{HyField@Submit}{%
5580 \let\Fld@submitflags\@empty
5581 }{%
5582 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
5583 }%
5584 }

```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5585 \def\HyField@FlagsAnnot#1{%
5586 \bitsetReset{HyField@F}%
5587 \HyField@UseFlag{F}{Invisible}%
5588 \HyField@UseFlag{F}{Hidden}%
5589 \HyField@UseFlag{F}{Print}%
5590 \HyField@UseFlag{F}{NoZoom}%
5591 \HyField@UseFlag{F}{NoRotate}%
5592 \HyField@UseFlag{F}{NoView}%
5593 \HyField@UseFlag{F}{Locked}%
5594 \HyField@UseFlag{F}{ToggleNoView}%
5595 \HyField@UseFlag{F}{LockedContents}%
5596 \HyField@PrintFlags{F}{#1}%
5597 \bitsetIsEmpty{HyField@F}{%
5598 \let\Fld@annotflags\@empty
5599 }{%
5600 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
5601 }%
5602 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```
5603 \def\HyField@FlagsPushButton{%
5604   \HyField@FlagsAnnot{push button field}%
5605   \bitsetReset{HyField@Ff}%
5606   \HyField@UseFlag{Ff}{ReadOnly}%
5607   \HyField@UseFlag{Ff}{Required}%
5608   \HyField@UseFlag{Ff}{NoExport}%
5609   \HyField@SetFlag{Ff}{Pushbutton}%
5610   \HyField@PrintFlags{Ff}{push button field}%
5611   \bitsetIsEmpty{HyField@Ff}{%
5612     \let\Fld@flags\@empty
5613   }{%
5614     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5615   }%
5616 }
```

19.1.5 Check box field

\HyField@FlagsCheckBox

```
5617 \def\HyField@FlagsCheckBox{%
5618   \HyField@FlagsAnnot{check box field}%
5619   \bitsetReset{HyField@Ff}%
5620   \HyField@UseFlag{Ff}{ReadOnly}%
5621   \HyField@UseFlag{Ff}{Required}%
5622   \HyField@UseFlag{Ff}{NoExport}%
5623   \HyField@PrintFlags{Ff}{check box field}%
5624   \bitsetIsEmpty{HyField@Ff}{%
5625     \let\Fld@flags\@empty
5626   }{%
5627     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5628   }%
5629 }
```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```
5630 \def\HyField@FlagsRadioButton{%
5631   \HyField@FlagsAnnot{radio button field}%
5632   \bitsetReset{HyField@Ff}%
5633   \HyField@UseFlag{Ff}{ReadOnly}%
5634   \HyField@UseFlag{Ff}{Required}%
5635   \HyField@UseFlag{Ff}{NoExport}%
5636   \HyField@UseFlag{Ff}{NoToggleToOff}%
5637   \HyField@SetFlag{Ff}{Radio}%
5638   \HyField@UseFlag{Ff}{RadiosInUnison}%
5639   \HyField@PrintFlags{Ff}{radio button field}%
5640   \bitsetIsEmpty{HyField@Ff}{%
5641     \let\Fld@flags\@empty
5642   }{%
5643     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5644   }%
5645 }
```

19.1.7 Text fields

\HyField@FlagsText

```
5646 \def\HyField@FlagsText{%
5647   \HyField@FlagsAnnot{text field}%
5648   \bitsetReset{HyField@Ff}%
5649   \HyField@UseFlag{Ff}{ReadOnly}%
5650   \HyField@UseFlag{Ff}{Required}%
5651   \HyField@UseFlag{Ff}{NoExport}%
5652   \HyField@UseFlag{Ff}{Multiline}%
5653   \HyField@UseFlag{Ff}{Password}%
5654   \HyField@UseFlag{Ff}{FileSelect}%
5655   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5656   \HyField@UseFlag{Ff}{DoNotScroll}%
5657   \ifFld@comb
5658     \ifcase0\ifFld@multiline
5659       \else\ifFld@password
5660       \else\ifFld@fileselect
5661       \else 1\fi\fi\fi\relax
5662     \Hy@Error{%
5663       Field option `comb' cannot used together with\MessageBreak
5664       `multiline', `password', or `fileselect'%
5665     }\@ehc
5666   \else
5667     \HyField@UseFlag{Ff}{Comb}%
5668   \fi
5669 \fi
5670 \HyField@UseFlag{Ff}{RichText}%
5671 \HyField@PrintFlags{Ff}{text field}%
5672 \bitsetIsEmpty{HyField@Ff}{%
5673   \let\Fld@flags\@empty
5674 }{%
5675   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5676 }%
5677 }
```

19.1.8 Choice fields

\HyField@FlagsChoice

```
5678 \def\HyField@FlagsChoice{%
5679   \HyField@FlagsAnnot{choice field}%
5680   \bitsetReset{HyField@Ff}%
5681   \HyField@UseFlag{Ff}{ReadOnly}%
5682   \HyField@UseFlag{Ff}{Required}%
5683   \HyField@UseFlag{Ff}{NoExport}%
5684   \HyField@UseFlag{Ff}{Combo}%
5685   \ifFld@combo
5686     \HyField@UseFlag{Ff}{Edit}%
5687   \fi
5688   \HyField@UseFlag{Ff}{Sort}%
5689   \HyField@UseFlag{Ff}{MultiSelect}%
5690   \ifFld@combo
5691     \ifFld@edit
5692       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5693     \fi
5694   \fi
5695 }
```

```

5693   \fi
5694 \fi
5695 \HyField@UseFlag{Ff}{CommitOnSelChange}%
5696 \HyField@PrintFlags{Ff}{choice field}%
5697 \bitsetIsEmpty{HyField@Ff}{%
5698   \let\Fld@flags\@empty
5699 }{%
5700   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5701 }%
5702 }

```

19.2 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`.

```

5703 \def\HyField@PDFChoices#1{%
5704   \begingroup
5705   \global\let\Fld@choices\@empty
5706   \let\HyTmp@optlist\@empty
5707   \let\HyTmp@optitem\relax
5708   \count@=0 %
5709   \kv@parse{#1}{%
5710     \Hy@pdfstringdef\kv@key\kv@key
5711     \ifx\kv@value\relax
5712       \ifnum\Hy@pdf@majorminor@version<103 % implementation note 122, PDF spec 1.7
5713         \xdef\Fld@choices{\Fld@choices(\kv@key)(\kv@key)}%
5714       \else
5715         \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5716       \fi
5717     \else
5718       \Hy@pdfstringdef\kv@value\kv@value
5719       \xdef\Fld@choices{\Fld@choices(\kv@value)(\kv@key)}%
5720     \fi
5721     \edef\HyTmp@optlist{%
5722       \HyTmp@optlist
5723       \HyTmp@optitem{the\count@}{\kv@key}0%
5724     }%
5725     \advance\count@ by 1 %
5726     \@gobbletwo
5727   }%
5728   \xdef\Fld@choices{/Opt[\Fld@choices]}%
5729   \ifFld@multiselect
5730     \HyField@@PDFChoices{DV}\Fld@default
5731     \HyField@@PDFChoices{V}\Fld@value
5732   \else
5733     \ifx\Fld@default\relax
5734     \else
5735       \pdfstringdef\Hy@gtemp\Fld@default
5736       \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5737     \fi
5738     \ifx\Fld@value\relax

```



```

5739 \else
5740 \pdfstringdef\Hy@gtemp\Fld@value
5741 \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5742 \fi
5743 \fi
5744 \endgroup
5745 }

```

\HyField@@PDFChoices

```

5746 \def\HyField@@PDFChoices#1#2{%
5747 \ifx#2\relax
5748 \else
5749 \count@=0 %
5750 \def\HyTmp@optitem##1##2##3{%
5751 \def\HyTmp@key{##2}%
5752 \ifx\HyTmp@key\Hy@gtemp
5753 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5754 \HyTmp@optlist
5755 \HyTmp@optitem{##1}{##2}1%
5756 }%
5757 \let\HyTmp@found=Y%
5758 \else
5759 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5760 \HyTmp@optlist
5761 \HyTmp@optitem{##1}{##2}##3%
5762 }%
5763 \fi
5764 }%
5765 \expandafter\comma@parse\expandafter{#2}{%
5766 \pdfstringdef\Hy@gtemp\comma@entry
5767 \let\HyTmp@found=N %
5768 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5769 \HyTmp@optlist
5770 \ifx\HyTmp@found Y%
5771 \advance\count@ by 1 %
5772 \else
5773 \@onelevel@sanitize\comma@entry
5774 \PackageWarning{hyperref}{%
5775 \string\ChoiceBox: Ignoring value `\'comma@entry',%
5776 \MessageBreak
5777 it cannot be found in the choices%
5778 }%
5779 \fi
5780 \@gobble
5781 }%
5782 \def\HyTmp@optitem##1##2##3{%
5783 \ifnum##3=1 %
5784 (##2)%
5785 \fi
5786 }%
5787 \ifcase\count@
5788 \or
5789 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5790 \else

```

```

5791 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5792 \ifx#1V%
5793 \def\HyTmp@optitem##1##2##3{%
5794 \ifnum##3=1 %
5795 \@firstofone{ ##1}%
5796 \fi
5797 }%
5798 \edef\HyTmp@optlist{\HyTmp@optlist}%
5799 \xdef\Fld@choices{%
5800 \Fld@choices
5801 /I\expandafter\@firstofone\HyTmp@optlist}%
5802 }%
5803 \fi
5804 \fi
5805 \fi
5806 }

```

19.3 Forms

\HyField@SetKeys

```

5807 \def\HyField@SetKeys{%
5808 \kvsetkeys{Field}%
5809 }

5810 \newif\ifFld@checked
5811 \newif\ifFld@disabled
5812 \Fld@checkedfalse
5813 \Fld@disabledfalse
5814 \newcount\Fld@menulength
5815 \newdimen\Fld@Width
5816 \newdimen\Fld@charsize
5817 \Fld@charsize=10\p@
5818 \def\Fld@maxlen{0}
5819 \def\Fld@align{0}
5820 \def\Fld@color{0 0 0 rg}
5821 \def\Fld@bcolor{1 1 1}
5822 \def\Fld@bordercolor{1 0 0}
5823 \def\Fld@bordersep{1\p@}
5824 \def\Fld@borderwidth{1}
5825 \def\Fld@borderstyle{S}
5826 \def\Fld@cbsymbol{4}
5827 \def\Fld@radiosymbol{H}
5828 \def\Fld@rotation{0}
5829 \def\Fld@Form{\@ifnextchar[{\@Form}{\@Form[]}}
5830 \def\endForm{\@endForm}
5831 \newif\ifForm@html
5832 \Form@htmlfalse
5833 \def\Fld@boolkey#1#2{%
5834 \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5835 }
5836 \define@key{Form}{action}{%
5837 \hyper@normalise\Hy@DefFormAction{#1}%
5838 }
5839 \def\Hy@DefFormAction{\def\Fld@action}

```

```

5840 \def\enc@html{html}
5841 \define@key{Form}{encoding}{%
5842   \def\Hy@tempa{#1}%
5843   \ifx\Hy@tempa\enc@html
5844     \Form@htmltrue
5845     \def\Fld@export{html}%
5846   \else
5847     \Hy@Warning{%
5848       Form `encoding' key with \MessageBreak
5849       unknown value `#1'%
5850     }%
5851     \Form@htmlfalse
5852   \fi
5853 }
5854 \define@key{Form}{method}{%
5855   \lowercase{\def\Hy@temp{#1}}%
5856   \@ifundefined{Form@method@\Hy@temp}{%
5857     \@onelevel@sanitize\Hy@temp
5858     \Hy@Error{%
5859       Unknown method ``\Hy@temp'.\MessageBreak
5860       Known values are `post' and `get'%
5861     }\@ehc
5862   }{%
5863     \let\Form@method\Hy@temp
5864     \ifcase\@nameuse{Form@method@\Hy@temp} %
5865       \Fld@getmethodfalse
5866     \else
5867       \Fld@getmethodtrue
5868     \fi
5869   }%
5870 }
5871 \def\Form@method{}
5872 \@namedef{Form@method@post}{0}
5873 \@namedef{Form@method@get}{1}

5874 \newif\ifHyField@NeedAppearances
5875 \def\HyField@NeedAppearancesfalse{%
5876   \global\let\ifHyField@NeedAppearances\iffalse
5877 }
5878 \def\HyField@NeedAppearancetrue{%
5879   \global\let\ifHyField@NeedAppearances\iftrue
5880 }
5881 \HyField@NeedAppearancetrue
5882 \define@key{Form}{NeedAppearances}[true]{%
5883   \edef\Hy@tempa{#1}%
5884   \ifx\Hy@tempa\Hy@true
5885     \HyField@NeedAppearancetrue
5886   \else
5887     \ifx\Hy@tempa\Hy@false
5888       \HyField@NeedAppearancesfalse
5889     \else
5890       \Hy@Error{%
5891         Unexpected value ``\Hy@tempa'\MessageBreak
5892         of option `NeedAppearances' instead of\MessageBreak
5893         `true' or `false'%

```

```

5894     }\@ehc
5895     \fi
5896     \fi
5897 }
5898 \def\Field@boolkey#1#2{%
5899   \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5900 }
5901 \ifHy@texht
5902   \newtoks\Field@toks
5903   \Field@toks={ }%
5904   \def\Field@addtoks#1#2{%
5905     \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
5906     \@processme
5907   }%
5908 \else
5909   \def\Hy@WarnHTMLFieldOption#1{%
5910     \Hy@Warning{%
5911       HTML field option `#1'\MessageBreak
5912       is ignored%
5913     }%
5914   }%
5915 \fi
5916 \def\Fld@checkequals#1=#2=#3\\{%
5917   \def\@currDisplay{#1}%
5918   \ifx\\#2\\%
5919     \def\@currValue{#1}%
5920   \else
5921     \def\@currValue{#2}%
5922   \fi
5923   \expandafter\Hy@pdfstringdef\expandafter\@currValue\expandafter{\@currValue}%
5924 }
5925 \define@key{Field}{loc}{%
5926   \def\Fld@loc{#1}%
5927 }
5928 \define@key{Field}{checked}[true]{%
5929   \lowercase{\Field@boolkey{#1}}{checked}%
5930 }
5931 \define@key{Field}{disabled}[true]{%
5932   \lowercase{\Field@boolkey{#1}}{disabled}%
5933 }
5934 \ifHy@texht
5935   \define@key{Field}{accesskey}{%
5936     \Field@addtoks{accesskey}{#1}%
5937   }%
5938   \define@key{Field}{tabkey}{%
5939     \Field@addtoks{tabkey}{#1}%
5940   }%
5941 \else
5942   \define@key{Field}{accesskey}{%
5943     \Hy@WarnHTMLFieldOption{accesskey}%
5944   }%
5945   \define@key{Field}{tabkey}{%
5946     \Hy@WarnHTMLFieldOption{tabkey}%
5947   }%

```

```

5948 \fi
5949 \define@key{Field}{name}{%
5950   \def\Fld@name{#1}%
5951 }
5952 \let\Fld@altname\relax
5953 \define@key{Field}{altname}{%
5954   \def\Fld@altname{#1}%
5955 }
5956 \let\Fld@mappingname\relax
5957 \define@key{Field}{mappingname}{%
5958   \def\Fld@mappingname{#1}%
5959 }
5960 \define@key{Field}{width}{%
5961   \def\Fld@width{#1}%
5962   \Field@Width#1\setbox0=\hbox{m}%
5963 }
5964 \define@key{Field}{maxlen}{%
5965   \def\Fld@maxlen{#1}%
5966 }
5967 \define@key{Field}{menulength}{%
5968   \Fld@menulength=#1\relax
5969 }
5970 \define@key{Field}{height}{%
5971   \def\Fld@height{#1}%
5972 }
5973 \define@key{Field}{charsize}{%
5974   \setlength{\Fld@charsize}{#1}%
5975 }
5976 \define@key{Field}{borderwidth}{%
5977   \Hy@defaultbp\Fld@borderwidth{#1}%
5978 }
5979 \def\Hy@defaultbp#1#2{%
5980   \begingroup
5981   \afterassignment\Hy@defaultbpAux
5982   \dimen@=#2bp\relax{#1}{#2}%
5983 }
5984 \def\Hy@defaultbpAux#1\relax#2#3{%
5985   \ifx!#1!%
5986     \endgroup
5987     \def#2{#3}%
5988   \else
5989     \edef\x{\endgroup
5990       \def\noexpand#2{%
5991         \strip@pt\dimexpr\dimen@*800/803\relax
5992       }%
5993     }\x
5994   \fi
5995 }%
5996 \define@key{Field}{borderstyle}{%
5997   \let\Hy@temp\Fld@borderstyle
5998   \def\Fld@borderstyle{#1}%
5999   \Hy@Match\Fld@borderstyle{}{%
6000     ^[SDBIU]$%
6001   }{}{%

```

```

6002 \Hy@Warning{%
6003   Invalid value ` \@pdfborderstyle'\MessageBreak
6004   for option `pdfborderstyle'. Valid values:\MessageBreak
6005   \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
6006   \space\space I (Inset), U (Underline)\MessageBreak
6007   Option setting is ignored%
6008 }%
6009 \let\Fld@borderstyle\Hy@temp
6010 }%
6011 }
6012 \define@key{Field}{bordersep}{%
6013   \def\Fld@bordersep{#1}%
6014 }
6015 \define@key{Field}{default}{%
6016   \Hy@pdfstringdef\Fld@default{#1}%
6017 }
6018 \define@key{Field}{align}{%
6019   \def\Fld@align{#1}%
6020 }
6021 \define@key{Field}{value}{%
6022   \Hy@pdfstringdef\Fld@value{#1}%
6023 }
6024 \define@key{Field}{checkboxsymbol}{%
6025   \Fld@DingDef\Fld@cbsymbol{#1}%
6026 }
6027 \define@key{Field}{radiosymbol}{%
6028   \Fld@DingDef\Fld@radiosymbol{#1}%
6029 }
6030 \def\Fld@DingDef#1#2{%
6031   \let\Fld@temp\@empty
6032   \Fld@@DingDef#2\ding{ }\@nil
6033   \let#1\Fld@temp
6034 }
6035 \def\Fld@@DingDef#1\ding#2#3\@nil{%
6036   \expandafter\def\expandafter\Fld@temp\expandafter{%
6037     \Fld@temp
6038     #1%
6039   }%
6040   \ifx\#3\%
6041     \expandafter\@gobble
6042   \else
6043     \begingroup
6044     \lccode`0=#2\relax
6045     \lowercase{\endgroup
6046       \expandafter\def\expandafter\Fld@temp\expandafter{%
6047         \Fld@temp
6048         0%
6049       }%
6050     }%
6051     \expandafter\@firstofone
6052   \fi
6053   {%
6054     \Fld@@DingDef#3\@nil
6055   }%

```

```

6056 }

6057 \define@key{Field}{rotation}{%
6058   \def\Fld@rotation{#1}%
6059 }

6060 \define@key{Field}{backgroundcolor}{%
6061   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
6062 }
6063 \define@key{Field}{bordercolor}{%
6064   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
6065 }
6066 \define@key{Field}{color}{%
6067   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
6068 }

6069 \let\Fld@onclick@code\@empty
6070 \let\Fld@format@code\@empty
6071 \let\Fld@validate@code\@empty
6072 \let\Fld@calculate@code\@empty
6073 \let\Fld@keystroke@code\@empty
6074 \let\Fld@onfocus@code\@empty
6075 \let\Fld@onblur@code\@empty
6076 \let\Fld@onmousedown@code\@empty
6077 \let\Fld@onmouseup@code\@empty
6078 \let\Fld@onenter@code\@empty
6079 \let\Fld@onexit@code\@empty
6080 \def\Hy@temp#1{%
6081   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
6082 }
6083 \def\Hy@@temp#1#2{%
6084   \ifHy@pdfa
6085     \define@key{Field}{#2}{%
6086       \Hy@Error{%
6087         PDF/A: Additional action `#2' is prohibited%
6088       }\@ehc
6089     }%
6090   \else
6091     \define@key{Field}{#2}{%
6092       \def#1{##1}%
6093     }%
6094   \fi
6095 }
6096 \Hy@temp{keystroke}
6097 \Hy@temp{format}
6098 \Hy@temp{validate}
6099 \Hy@temp{calculate}
6100 \Hy@temp{onfocus}
6101 \Hy@temp{onblur}
6102 \Hy@temp{onenter}
6103 \Hy@temp{onexit}

6104 \let\Fld@calculate@sortkey\@empty
6105 \define@key{Field}{calculatesortkey}[1]{%
6106   \def\Fld@calculate@sortkey{#1}%
6107 }

```

```

6108 \ifHy@texht
6109   \def\Hy@temp#1{%
6110     \define@key{Field}{#1}{%
6111       \Field@addtoks{#1}{##1}%
6112     }%
6113   }%
6114 \else
6115   \def\Hy@temp#1{%
6116     \define@key{Field}{#1}{%
6117       \Hy@WarnHTMLFieldOption{#1}%
6118     }%
6119   }%
6120 \fi
6121 \Hy@temp{ondblclick}
6122 \Hy@temp{onmousedown}
6123 \Hy@temp{onmouseup}
6124 \Hy@temp{onmouseover}
6125 \Hy@temp{onmousemove}
6126 \Hy@temp{onmouseout}
6127 \Hy@temp{onkeydown}
6128 \Hy@temp{onkeyup}
6129 \Hy@temp{onselect}
6130 \Hy@temp{onchange}
6131 \Hy@temp{onkeypress}
6132 \ifHy@texht
6133   \define@key{Field}{onclick}{%
6134     \Field@addtoks{onclick}{#1}%
6135   }%
6136 \else
6137   \ifHy@pdfa
6138     \define@key{Field}{onclick}{%
6139       \Hy@Error{%
6140         PDF/A: Action `onclick' is prohibited%
6141       } \@ehc
6142     }%
6143   \else
6144     \define@key{Field}{onclick}{%
6145       \def\Fld@onclick@code{#1}%
6146     }%
6147   \fi
6148 \fi
6149 \DeclareRobustCommand\TextField{%
6150   \@ifnextchar[{\@TextField}{\@TextField[]}%
6151 }
6152 \DeclareRobustCommand\ChoiceMenu{%
6153   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
6154 }
6155 \DeclareRobustCommand\CheckBox{%
6156   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
6157 }
6158 \DeclareRobustCommand\PushButton{%
6159   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
6160 }
6161 \DeclareRobustCommand\Gauge{%

```



```

6162 \@ifnextchar[{\@Gauge}{\@Gauge[]}%
6163 }
6164 \DeclareRobustCommand\Submit{%
6165 \@ifnextchar[{\@Submit}{\@Submit[]}%
6166 }
6167 \DeclareRobustCommand\Reset{%
6168 \@ifnextchar[{\@Reset}{\@Reset[]}%
6169 }
6170 \def\LayoutTextField#1#2{% label, field
6171 \def\Hy@temp{#1}%
6172 \ifx\Hy@temp\@empty
6173 #2%
6174 \else
6175 #1 #2%
6176 \fi
6177 }
6178 \def\LayoutChoiceField#1#2{% label, field
6179 \def\Hy@temp{#1}%
6180 \ifx\Hy@temp\@empty
6181 #2%
6182 \else
6183 #1 #2%
6184 \fi
6185 }
6186 \def\LayoutCheckField#1#2{% label, field
6187 \def\Hy@temp{#1}%
6188 \ifx\Hy@temp\@empty
6189 #2%
6190 \else
6191 #1 #2%
6192 \fi
6193 }
6194 \def\LayoutPushButtonField#1{% button
6195 #1%
6196 }
6197 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6198 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6199 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6200 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6201 \def\MakeButtonField#1{%
6202 \sbox0{%
6203 \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
6204 }%
6205 \@tempdima\ht0 %
6206 \advance\@tempdima by \Fld@borderwidth bp %
6207 \advance\@tempdima by \Fld@borderwidth bp %
6208 \ht0\@tempdima
6209 \@tempdima\dp0 %
6210 \advance\@tempdima by \Fld@borderwidth bp %
6211 \advance\@tempdima by \Fld@borderwidth bp %
6212 \dp0\@tempdima
6213 \box0\relax
6214 }
6215 \def\DefaultHeightofSubmit{14pt}

```

```

6216 \def\DefaultWidthofSubmit{2cm}
6217 \def\DefaultHeightofReset{14pt}
6218 \def\DefaultWidthofReset{2cm}
6219 \def\DefaultHeightofCheckBox{\normalbaselineskip}
6220 \def\DefaultWidthofCheckBox{\normalbaselineskip}
6221 \def\DefaultHeightofChoiceMenu{\normalbaselineskip}
6222 \def\DefaultWidthofChoiceMenu{\normalbaselineskip}
6223 \def\DefaultHeightofText{\normalbaselineskip}
6224 \def\DefaultHeightofTextMultiline{4\normalbaselineskip}
6225 \def\DefaultWidthofText{3cm}
6226 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
6227 \def\DefaultOptionsofReset{print,name=Reset,noexport}
6228 \def\DefaultOptionsofPushButton{print}
6229 \def\DefaultOptionsofCheckBox{print}
6230 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

6231 \def\DefaultOptionsofListBox{print}
6232 \def\DefaultOptionsofComboBox{print,edit,sort}
6233 \def\DefaultOptionsofPopdownBox{print}
6234 \def\DefaultOptionsofRadio{print,notoggletooff}

```

20 Setup

```

6235 \ifHy@hyperfigures
6236 \Hy@Info{Hyper figures ON}%
6237 \else
6238 \Hy@Info{Hyper figures OFF}%
6239 \fi
6240 \ifHy@nesting
6241 \Hy@Info{Link nesting ON}%
6242 \else
6243 \Hy@Info{Link nesting OFF}%
6244 \fi
6245 \ifHy@hyperindex
6246 \Hy@Info{Hyper index ON}%
6247 \else
6248 \Hy@Info{Hyper index OFF}%
6249 \fi
6250 \ifHy@backref
6251 \Hy@Info{backreferencing ON}%
6252 \else
6253 \Hy@Info{backreferencing OFF}%
6254 \fi
6255 \ifHy@colorlinks
6256 \Hy@Info{Link coloring ON}%
6257 \else
6258 \Hy@Info{Link coloring OFF}%
6259 \fi
6260 \ifHy@ocgcolorlinks
6261 \Hy@Info{Link coloring with OCG ON}%
6262 \else
6263 \Hy@Info{Link coloring with OCG OFF}%

```

```

6264 \fi
6265 \ifHy@pdfa
6266   \Hy@Info{PDF/A mode ON}%
6267 \else
6268   \Hy@Info{PDF/A mode OFF}%
6269 \fi

```

21 Low-level utility macros

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

```

6270 \edef\hyper@hash{\string#}
6271 \edef\hyper@tilde{\string~}
6272 \edef\hyper@quote{\string"}

```

Support \label before \begin{document}.

```

6273 \def\@currentHref{Doc-Start}
6274 \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.

```

6275 \Hy@AtBeginDocument{%
6276   \Hy@pdfstringtrue
6277   \PDF@SetupDoc
6278   \let\PDF@SetupDoc\@empty
6279   \Hy@DisableOption{pdfpagescrop}%
6280   \Hy@DisableOption{pdfpagemode}%
6281   \Hy@DisableOption{pdfnonfullscreenpagemode}%
6282   \Hy@DisableOption{pdfdirection}%
6283   \Hy@DisableOption{pdfviewarea}%
6284   \Hy@DisableOption{pdfviewclip}%
6285   \Hy@DisableOption{pdfprintarea}%
6286   \Hy@DisableOption{pdfprintclip}%
6287   \Hy@DisableOption{pdfprintscaling}%
6288   \Hy@DisableOption{pdfduplex}%
6289   \Hy@DisableOption{pdfpicktraybypdfsize}%
6290   \Hy@DisableOption{pdfprintpagerange}%
6291   \Hy@DisableOption{pdfnumcopies}%
6292   \Hy@DisableOption{pdfstartview}%
6293   \Hy@DisableOption{pdfstartpage}%
6294   \Hy@DisableOption{pdftoolbar}%
6295   \Hy@DisableOption{pdfmenubar}%
6296   \Hy@DisableOption{pdfwindowui}%
6297   \Hy@DisableOption{pdfwindow}%
6298   \Hy@DisableOption{pdfcenterwindow}%
6299   \Hy@DisableOption{pdfdisplaydoctitle}%
6300   \Hy@DisableOption{pdfpagelayout}%
6301   \Hy@DisableOption{pdflang}%
6302   \Hy@DisableOption{baseurl}%
6303   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
6304   \Hy@pdfstringfalse
6305 }

```

22 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.

```

6306 \def\NoHyper{%
6307   \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6308   \def\hyper@@anchor##1##2{##2\Hy@xspace@end}%
6309   \global\let\hyper@livelink\hyper@link
6310   \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
6311   \let\hyper@anchor\@gobble
6312   \let\hyper@anchorstart\@gobble
6313   \def\hyper@anchorend{\Hy@xspace@end}%
6314   \let\hyper@linkstart\@gobbletwo
6315   \def\hyper@linkend{\Hy@xspace@end}%
6316   \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6317   \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6318   \let\Hy@backout\@gobble
6319 }
6320 \def\stop@hyper{%
6321   \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6322   \let\Hy@backout\@gobble
6323   \let\hyper@@anchor\@gobble
6324   \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
6325   \let\hyper@anchor\@gobble
6326   \let\hyper@anchorstart\@gobble
6327   \def\hyper@anchorend{\Hy@xspace@end}%
6328   \let\hyper@linkstart\@gobbletwo
6329   \def\hyper@linkend{\Hy@xspace@end}%
6330   \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6331   \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6332 }
6333 \def\endNoHyper{%
6334   \global\let\hyper@link\hyper@livelink
6335 }
6336 \end{package}

```

23 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:

```

6337 (*nohyperref)
6338 \RequirePackage{letltxmacro}[2008/06/13]
6339 \let\hyper@@anchor\@gobble
6340 \def\hyper@link##1##2##3{##3}%
6341 \let\hyper@anchorstart\@gobble
6342 \let\hyper@anchorend\@empty

```

```

6343 \let\hyper@linkstart\@gobbletwo
6344 \let\hyper@linkend\@empty
6345 \def\hyper@linkurl#1#2{#1}%
6346 \def\hyper@linkfile#1#2#3{#1}%
6347 \def\hyper@link@[#1]#2#3{#1}%
6348 \let\PDF@SetupDoc\@empty
6349 \let\PDF@FinishDoc\@empty
6350 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

6351 \def\Acrobatmenu#1#2{\leavevmode#2}
6352 \let\pdfstringdefDisableCommands\@gobbletwo
6353 \let\texorpdfstring\@firstoftwo
6354 \let\pdfbookmark\@undefined
6355 \newcommand\pdfbookmark[3]{}{}
6356 \let\phantomsection\@empty
6357 \let\hypersetup\@gobble
6358 \let\hyperbaseurl\@gobble
6359 \newcommand*{\href}[3]{}{#3}
6360 \let\hyperdef\@gobbletwo
6361 \let\hyperlink\@gobble
6362 \let\hypertarget\@gobble
6363 \def\hyperref{%
6364   \ifnextchar[\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6365 }
6366 \long\def\@gobbleopt[#1]{}
6367 \let\hyperpage\@empty
6368 \</nohyperref>

```

24 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}` change 2023-08-13: with a new format it is no longer needed to handle different `\newlabel` definitions. The code can be removed completely later.

```

6369 (*package)
6370 \if@t@r\fmtversion{2023-06-01}{}
6371 {
6372   \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 `\newlabel` is defined to cope with the extra arguments. change 2022-03-28: removed the code for `\contentsline`, it is no longer needed as `\contentsline` has now always four arguments.

```

6373   \if@filesw
6374     \immediate\write\@auxout{%
6375       \string\providecommand\string\HyperFirstAtBeginDocument{%
6376         \string\AtBeginDocument}^^J%
6377       \string\HyperFirstAtBeginDocument{%
6378         \string\ifx\string\hyper@anchor\string\@undefined^^J%

```

```

6379      \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6380      \string\gdef\string\newlabel\string#1\string#2{%
6381          \string\newlabelxx{\string#1}\string#2}^^J%
6382      \string\gdef\string\newlabelxx%
6383          \string#1\string#2\string#3\string#4\string#5\string#6{%
6384          \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.

```

6385      \string\AtEndDocument{%
6386          \string\ifx\string\hyper@anchor\string\@undefined^^J%
6387          \string\let\string\newlabel\string\oldnewlabel^^J%
6388          \string\fi%
6389      }^^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.

```

6390      \string\fi%
6391      }^^J%
6392      \string\global\string\let\string\hyper@last\relax^^J%
6393      \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6394      }%
6395      \fi
6396      \let\HyperFirstAtBeginDocument\@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. change 2022-03-28: removed the test for an old toc. \contentsline has now always four arguments.

```

6397      \ifx\hyper@last\@undefined
6398          \def\newlabel#1#2{\@newl@bel r{#1}{#2}{\}{\}{\}}%
6399      \fi
6400      }
6401      }

```

25 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.

```

6402 \ifHy@pdfusetitle
6403   \let\HyOrg@title\title
6404   \let\HyOrg@author\author
6405   \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
6406   \def\Hy@scanopttitle[#1]{%
6407       \gdef\Hy@title{#1}%
6408       \HyOrg@title{#1}%
6409   }%
6410   \def\Hy@scantitle#1{%
6411       \gdef\Hy@title{#1}%
6412       \HyOrg@title{#1}%
6413   }%
6414   \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6415   \def\Hy@scanoptauthor[#1]{%

```

```

6416 \gdef\Hy@author{#1}%
6417 \HyOrg@author{#1}%
6418 }%
6419 \def\Hy@scanauthor#1{%
6420 \gdef\Hy@author{#1}%
6421 \HyOrg@author{#1}%
6422 }%

```

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.

```

6423 \begingroup
6424 \def\process@me#1\@nil#2{%
6425 \expandafter\let\expandafter\x\csname @#2\endcsname
6426 \edef\y{\expandafter\strip@prefix\meaning\x}%
6427 \def\c##1#1##2\@nil{%
6428 \ifx\\##1\\%
6429 \else
6430 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6431 \expandafter{\x}%
6432 \fi
6433 }%
6434 \expandafter\c\y\relax#1\@nil
6435 }%
6436 \expandafter\process@me\string\@latex@\@nil{title}%
6437 \expandafter\process@me\string\@latex@\@nil{author}%
6438 \endgroup
6439 \fi
6440 \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 ¹removes its argument.

```

6441 \def\Hy@UseMaketitleString#1{%
6442 \@ifundefined{Hy@#1}{-}{%
6443 \begingroup
6444 \let\Hy@saved@hook\pdfstringdefPreHook
6445 \pdfstringdefDisableCommands{%
6446 \expandafter\let\expandafter\\ \csname Hy@newline@#1\endcsname
6447 \let\newline\\%
6448 \def\and{; }%
6449 \let\thanks\@gobble%
6450 }%
6451 \expandafter\ifx\csname @pdf#1\endcsname\@empty
6452 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6453 \csname Hy@#1\endcsname\@empty
6454 }%

```

```

6455 \fi
6456 \global\let\pdfstringdefPreHook\Hy@saved@hook
6457 \endgroup
6458 }%
6459 }
6460 \def\Hy@newline@title#1{ #1}
6461 \def\Hy@newline@author#1{, #1}
6462 \def\Hy@UseMaketitleInfos{%
6463 \Hy@UseMaketitleString{title}%
6464 \Hy@UseMaketitleString{author}%
6465 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

6466 \RequirePackage{atbegshi}[2007/09/09]
6467 \let\Hy@EveryPageHook\@empty
6468 \let\Hy@EveryPageBoxHook\@empty
6469 \let\Hy@FirstPageHook\@empty
6470 \AtBeginShipout{%
6471 \Hy@EveryPageHook
6472 \ifx\Hy@EveryPageBoxHook\@empty
6473 \else
6474 \setbox\AtBeginShipoutBox=\vbox{%
6475 \offinterlineskip
6476 \Hy@EveryPageBoxHook
6477 \box\AtBeginShipoutBox
6478 }%
6479 \fi
6480 }
6481 \Hy@iffileloaded{hpdftex.def}{%
6482 \AtBeginShipout{%
6483 \Hy@FirstPageHook
6484 \global\let\Hy@FirstPageHook\@empty
6485 }%
6486 }{%
6487 \AtBeginShipoutFirst{%
6488 \Hy@FirstPageHook
6489 }%
6490 }
6491 \g@addto@macro\Hy@FirstPageHook{%
6492 \PDF@FinishDoc
6493 \global\let\PDF@FinishDoc\@empty
6494 }

```

27.1 PDF /PageLabels

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

```

6495 \ifHy@pdfpagelabels

```



```

6496 \begingroup\expandafter\expandafter\expandafter\endgroup
6497 \expandafter\ifx\csname thepage\endcsname\relax
6498   \Hy@pdfpagelabelsfalse
6499   \Hy@WarningNoLine{%
6500     Option `pdfpagelabels' is turned off\MessageBreak
6501     because \string\thepage\space is undefined%
6502   }%
6503   \csname fi\endcsname
6504   \csname iffalse\expandafter\endcsname
6505   \fi

```

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

```

6506 \def\thispdfpagelabel#1{%
6507   \gdef\HyPL@thisLabel{#1}%
6508 }%
6509 \global\let\HyPL@thisLabel\relax

```

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

```

6510 \let\HyPL@Labels\@empty

```

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

```

6511 \newcount\Hy@abspage
6512 \Hy@abspage=0 %

```

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

```

6513 \def\HyPL@LastType{init}%
6514 \def\HyPL@LastNumber{0}%
6515 \let\HyPL@LastPrefix\@empty

```

Definitions for the PDF names of the L^AT_EX pendants.

```

6516 \def\HyPL@arabic{D}%
6517 \def\HyPL@Roman{R}%
6518 \def\HyPL@roman{r}%
6519 \def\HyPL@Alph{A}%
6520 \def\HyPL@alph{a}%

6521 \let\HyPL@SlidesSetPage\@empty
6522 \@ifclassloaded{slides}{%
6523   \def\HyPL@SlidesSetPage{%
6524     \advance\c@page\@ne
6525     \ifnum\value{page}>\@ne
6526       \protected@edef\HyPL@SlidesOptionalPage{%
6527         \Hy@SlidesFormatOptionalPage{\thepage}%
6528       }%
6529     \else
6530       \let\HyPL@SlidesOptionalPage\@empty
6531     \fi
6532     \advance\c@page-\@ne
6533     \def\HyPL@page{%
6534       \csname the\Hy@SlidesPage\endcsname
6535       \HyPL@SlidesOptionalPage
6536     }%

```

```

6537 }%
6538 }{}%

```

`\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.

```

6539 \def\HyPL@EveryPage{%
6540   \begingroup
6541   \ifx\HyPL@thisLabel\relax
6542     \let\HyPL@page\thepage
6543     \HyPL@SlidesSetPage
6544   \else
6545     \let\HyPL@page\HyPL@thisLabel
6546     \global\let\HyPL@thisLabel\relax
6547   \fi
6548   \let\HyPL@Type\relax
6549   \ifnum\c@page>0 %
6550     \ifx\HyPL@SlidesSetPage\@empty
6551       \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6552     \fi
6553   \fi
6554   \let\Hy@temp Y%
6555   \ifx\HyPL@Type\HyPL@LastType
6556   \else
6557     \let\Hy@temp N%
6558   \fi
6559   \ifx\HyPL@Type\relax
6560     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6561   \else
6562     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6563   \fi
6564   \ifx\HyPL@Prefix\HyPL@LastPrefix
6565   \else
6566     \let\Hy@temp N%
6567   \fi
6568   \if Y\Hy@temp
6569     \advance\c@page by -1 %
6570     \ifnum\HyPL@LastNumber=\the\c@page\relax
6571     \else
6572       \let\Hy@temp N%
6573     \fi
6574     \Hy@StepCount\c@page
6575   \fi
6576   \if N\Hy@temp
6577     \ifx\HyPL@Type\relax
6578       \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
6579     \else
6580       \HyPL@StorePageLabel{%
6581         \ifx\HyPL@Prefix\@empty
6582         \else
6583           /P(\HyPL@Prefix)%
6584         \fi
6585         /S/\csname HyPL\HyPL@Type\endcsname
6586         \ifnum\the\c@page=1 %
6587         \else

```

```

6588         \space/St \the\c@page
6589     \fi
6590 }%
6591 \fi
6592 \fi
6593 \xdef\HyPL@LastNumber{\the\c@page}%
6594 \global\let\HyPL@LastType\HyPL@Type
6595 \global\let\HyPL@LastPrefix\HyPL@Prefix
6596 \endgroup
6597 \Hy@GlobalStepCount\Hy@abspage
6598 }%

```

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

```

6599 \def\HyPL@CheckThePage#1\@nil{%
6600     \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6601 }%

```

`\HyPL@@CheckThePage` The first check is, is `\thepage` is defined such as in L^AT_EX, 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`.

```

6602 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6603     \def\Hy@tempa{#4}%
6604     \def\Hy@tempb{\csname\endcsname\c@page}%
6605     \ifx\Hy@tempa\Hy@tempb
6606         \expandafter\ifx\csname HyPL#3\endcsname\relax
6607         \else
6608             \def\HyPL@Type{#3}%
6609             \def\HyPL@Prefix{#2}%
6610         \fi
6611     \else
6612         \begingroup
6613         \let\Hy@next\endgroup
6614         \let\HyPL@found\@undefined
6615         \def\arabic{\HyPL@Format{arabic}}%
6616         \def\Roman{\HyPL@Format{Roman}}%
6617         \def\roman{\HyPL@Format{roman}}%
6618         \def\Alph{\HyPL@Format{Alph}}%
6619         \def\alph{\HyPL@Format{alph}}%
6620         \protected@edef\Hy@temp{#1}%
6621         \ifx\HyPL@found\relax
6622             \toks@\expandafter{\Hy@temp}%
6623             \edef\Hy@next{\endgroup
6624                 \noexpand\HyPL@@@CheckThePage\the\toks@
6625                 \noexpand\HyPL@found\relax\noexpand\@nil
6626             }%
6627         \fi
6628         \Hy@next
6629     \fi
6630 }%

```

`\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`.

```

6631 \def\HyPL@Format#1#2{%
6632   \ifx\HyPL@found\@undefined
6633     \expandafter\ifx\csname c@#2\endcsname\c@page
6634       \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6635     \else
6636       \expandafter\noexpand\csname#1\endcsname{#2}%
6637     \fi
6638   \else
6639     \expandafter\noexpand\csname#1\endcsname{#2}%
6640   \fi
6641 }%

```

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

```

6642 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6643   \def\Hy@tempa{#3}%
6644   \def\Hy@tempb{\HyPL@found\relax}%
6645   \ifx\Hy@tempa\Hy@tempb
6646     \def\HyPL@Type{#2}%
6647     \def\HyPL@Prefix{#1}%
6648   \fi
6649 }%

```

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

```

6650 \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`.

```

6651 \def\HyPL@Useless{0<</S/D>>}%
6652 \@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.

```

6653 \def\HyPL@SetPageLabels{%
6654   \@onelevel@sanitize\HyPL@Labels
6655   \ifx\HyPL@Labels\@empty
6656     \else
6657       \ifx\HyPL@Labels\HyPL@Useless
6658       \else
6659         \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6660       \fi
6661     \fi
6662 }%

```

```

6663 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6664 \fi

```

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

```

6665 \Hy@DisableOption{pdfpagelabels}
6666 \endpackage

```

27.1.1 pdfTeX and VTeX

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

`\Hy@PutCatalog`

```
6667 ⟨*pdfTeX⟩
6668 \pdf@ifdraftmode{%
6669   \let\Hy@PutCatalog\@gobble
6670 }{%
6671   \let\Hy@PutCatalog\pdfcatalog
6672 }
6673 ⟨/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.

```
6674 ⟨*vTeX⟩
6675 \providecommand*{\XR@ext}{pdf}
6676 \edef\Hy@VTeXversion{%
6677   \ifx\VTeXversion\@undefined
6678     \z@
6679   \else
6680     \ifx\VTeXversion\relax
6681       \z@
6682     \else
6683       \VTeXversion
6684     \fi
6685   \fi
6686 }
6687 \begingroup
6688   \ifnum\Hy@VTeXversion<660 %
6689     \gdef\Hy@PutCatalog#1{%
6690       \Hy@WarningNoLine{%
6691         VTeX 6.59g or above required for pdfpagelabels%
6692       }%
6693     }%
6694   \else
6695     \gdef\Hy@PutCatalog#1{%
6696       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6697     }%
6698     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6699       \ifx\#2\%
6700       \else
6701         \immediate\special{!pdfpagelabels #2}%
6702       \fi
6703     }%
6704   \fi
6705 \endgroup
6706 ⟨/vTeX⟩

6707 ⟨*pdfTeX | vTeX⟩
```

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

```
6708 \ifHy@pdfpagelabels
6709   \def\HyPL@StorePageLabel#1{%
6710     \toks@\expandafter{\HyPL@Labels}%
6711     \xdef\HyPL@Labels{%
6712       \the\toks@
6713       \the\Hy@abspage<<#1>>%
6714     }%
6715   }%
```

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.

```
6716 \RequirePackage{atveryend}[2009/12/07]%
6717 \AtVeryEndDocument{%
6718   \HyPL@SetPageLabels
6719 }%

6720 \fi
6721 </pdfTeX | vTeX>
```

27.1.2 xetex

```
6722 <*xetex>
6723 \HyPsd@LoadUnicode
6724 \Hy@unicodetrue
6725 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6726 \else
6727   \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6728 \fi
6729 \HyPsd@LoadStringEncoding
6730 \define@key{Hyp}{unicode}[true]{%
6731   \Hy@boolkey{unicode}{#1}%
6732   \ifHy@unicode
6733   \else
6734     \Hy@Warning{%
6735       XeTeX driver only supports `unicode=true'. Ignoring\MessageBreak
6736       option setting `unicode=false'%
6737     }%
6738   \Hy@unicodetrue
6739 \fi
6740 }
6741 \define@key{Hyp}{pdfencoding}{%
6742   \edef\HyPsd@temp{#1}%
6743   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6744     \let\HyPsd@pdfencoding\HyPsd@temp
6745   \else
6746     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6747       \let\HyPsd@pdfencoding\HyPsd@temp
6748     \else
6749       \Hy@Warning{%
6750         XeTeX driver only supports\MessageBreak
6751         `pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6752         setting `pdfencoding=\HyPsd@temp'%

```

```

6753 }%
6754 \fi
6755 \fi
6756 }
6757 \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:

```

6758 \def\setpdfinkmargin#1{%
6759   \begingroup
6760   \setlength{\dimen@}{#1}%
6761   \special{dvipdfmx:config g \strip@pt\dimen@}%
6762   \endgroup}
6763 \</xetex>

```

set the pdf version

```

6764 \<dvipdfm | xetex>
6765 \special{pdf:majorversion \Hy@pdf@majorversion}
6766 \special{pdf:minorversion \Hy@pdf@minorversion}
6767 \</dvipdfm | xetex>

```

27.1.3 pdfmarkbase, dvipdfm, xetex

```

6768 \<*pdfmarkbase>
6769 \begingroup
6770 \<@ifundefined{headerps@out}{}{}%
6771   \toks@{\expandafter{\Hy@FirstPageHook}}%
6772   \xdef\Hy@FirstPageHook{%
6773     \noexpand\headerps@out{%
6774       systemdict /pdfmark known%
6775       {%
6776         userdict /?pdfmark systemdict /exec get put%
6777       }{%
6778         userdict /?pdfmark systemdict /pop get put %
6779         userdict /pdfmark systemdict /cleartomark get put%
6780       }%
6781     }%
6782   }%
6783   \the\toks@
6784 }%
6785 }%
6786 \endgroup
6787 \</pdfmarkbase>

```

\Hy@PutCatalog

```

6788 \<dvipdfm | xetex>\def\Hy@PutCatalog#1{\<pdfm@mark{docview <<#1>>}}
6789 \<*pdfmarkbase>
6790 \def\Hy@PutCatalog#1{%
6791   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} <<#1>>}}%
6792 }
6793 \</pdfmarkbase>

6794 \<*pdfmarkbase | dvipdfm | xetex>
6795 \ifHy@pdfpagelabels

```

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

```

6796 \def\HyPL@StorePageLabel#1{%
6797   \if@filesw
6798     \begingroup
6799     \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6800     \immediate\write\@mainaux{%
6801       \string\HyPL@Entry{\Hy@tempa}%
6802     }%
6803   \endgroup
6804 \fi
6805 }%

```

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.

```

6806 \Hy@AtBeginDocument{%
6807   \if@filesw
6808     \immediate\write\@mainaux{%
6809       \string\providecommand\string*\string\HyPL@Entry[1]{}%
6810     }%
6811   \fi
6812   \ifx\HyPL@Labels\@empty
6813     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6814   \else
6815     \HyPL@SetPageLabels
6816   \fi
6817   \let\HyPL@Entry\@gobble
6818 }%

```

`\HyPL@Entry`

```

6819 \def\HyPL@Entry#1{%
6820   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6821     \HyPL@Labels
6822     #1%
6823   }%
6824 }%

6825 \fi
6826 </pdfmarkbase | dvipdfm | xetex>
6827 <*\packageEnd>

6828 \ifx\MaybeStopEarly\relax
6829 \else
6830   \Hy@stoppedearlytrue
6831   \expandafter\MaybeStopEarly
6832 \fi
6833 \Hy@stoppedearlyfalse

```

28 Automated L^AT_EX 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^AT_EX 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

```

6834 \def\Hy@CounterExists#1{%
6835   \begingroup\expandafter\expandafter\expandafter\endgroup
6836   \expandafter\ifx\csname c@#1\endcsname\relax
6837     \expandafter\@gobble
6838   \else
6839     \begingroup\expandafter\expandafter\expandafter\endgroup
6840     \expandafter\ifx\csname the#1\endcsname\relax
6841       \expandafter\expandafter\expandafter\@gobble
6842     \else
6843       \expandafter\expandafter\expandafter\@firstofone
6844     \fi
6845   \fi
6846 }
6847 \Hy@CounterExists{section}{%
6848   \providecommand\theHequation{\theHsection.\arabic{equation}}}%
6849 }
6850 \providecommand\theHequation{\arabic{equation}}}%
6851 \Hy@CounterExists{part}{%
6852   \providecommand\theHpart{\arabic{part}}}%
6853 }
6854 \@ifundefined{thechapter}{%
6855   \providecommand\theHsection   {\arabic{section}}}%
6856   \providecommand\theHfigure    {\arabic{figure}}}%
6857   \providecommand\theHtable     {\arabic{table}}}%
6858 }{%
6859   \providecommand\theHchapter   {\arabic{chapter}}}%
6860   \providecommand\theHfigure    {\theHchapter.\arabic{figure}}}%
6861   \providecommand\theHtable     {\theHchapter.\arabic{table}}}%
6862   \providecommand\theHsection   {\theHchapter.\arabic{section}}}%
6863 }
6864 \providecommand\theHsubsection  {\theHsection.\arabic{subsection}}
6865 \providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6866 \providecommand\theHparagraph   {\theHsubsubsection.\arabic{paragraph}}
6867 \providecommand\theHsubparagraph{\theHparagraph.\arabic{subparagraph}}
6868 \providecommand\theHtheorem     {\theHsection.\arabic{theorem}}
6869 \providecommand\theHthm         {\theHsection.\arabic{thm}}

```

Thanks to Greta Meyer (gbd@pop.cwru.edu) for making me realize that enumeration starts at 0 for every list! But `\item` occurs inside `\trivlist`, so check if its a

real `\item` before incrementing counters.

```

6870 \let\H@item\item
6871 \newcounter{Item}
6872 \def\theHItem{\arabic{Item}}
6873 \def\item{%
6874   \@hyper@itemfalse
6875   \if@nmbrrlist\@hyper@itemtrue\fi
6876   \H@item
6877 }

6878 \providecommand\theHenumi   {\theHItem}
6879 \providecommand\theHenumii  {\theHItem}
6880 \providecommand\theHenumiii {\theHItem}
6881 \providecommand\theHenumiv  {\theHItem}
6882 \providecommand\theHHfootnote {\arabic{Hfootnote}}
6883 \providecommand\theHmpfootnote {\arabic{mpfootnote}}
6884 \@ifundefined{theHHmpfootnote}{%
6885   \let\theHHmpfootnote\theHHfootnote
6886 }{}

```

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.

```

6887 \let\H@refstepcounter\refstepcounter
6888 \edef\name@of@eq{equation}%

```

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. change 2022-04-22: removed test for the slide counter and for the equation name. change 2022-05-02: added the new boolean set by `\LinkTargetOn/\LinkTargetOff`

```

6889 \newif\if@hyper@item
6890 \newif\if@skiphyperref
6891 \@hyper@itemfalse
6892 \@skiphyperreffalse
6893 \ExplSyntaxOn
6894 \def\refstepcounter#1{%
6895   \legacy_if:nF {Hy@pdfstring}
6896   {
6897     \H@refstepcounter{#1}%
6898     \bool_lazy_and:nnT
6899       { \l__hyp_target_create_bool }
6900       { ! \legacy_if_p:n{@skiphyperref} }
6901     {
6902       \legacy_if:nTF {@hyper@item}
6903       {
6904         \stepcounter{Item}%
6905         \hyper@refstepcounter{Item}%
6906         \@hyper@itemfalse
6907       }
6908       {
6909         \hyper@refstepcounter{#1}%
6910       }
6911     }

```

```

6912 }
6913 }
6914 \ExplSyntaxOff
6915 \let\Hy@saved@refstepcounter\refstepcounter

```

AMS \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.

```

6916 \newif\ifmeasuring@\measuring@false
6917 \newcommand\Hy@ifnotmeasuring[1]{#1}
6918 \AddToHook{package/amsmath/after}
6919 {
6920   \renewcommand\Hy@ifnotmeasuring[1]
6921     {\ifmeasuring@ \else #1\fi}
6922 }

```

`\hyper@refstepcounter`

```

6923 \def\hyper@refstepcounter#1{%
6924   \HyCnt@ProvideTheHCounter{#1}%
6925   \hyper@makecurrent{#1}%
6926   \Hy@ifnotmeasuring
6927     {\Hy@raisedlink{%
6928       \hyper@anchorstart{\@currentHref}\hyper@anchorend
6929     }}%
6930 }

```

`\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`, \LaTeX remembers the defined counters (needed for `\include`). We check the clear counter lists, whether our counter is present. If we found it, then we add the parent counter value to `\theH<counter>`. The `\@elt` list is used in sanitized form for the comparison, because the list might contain other stuff than `\@elts`. Also it simplifies the implementation, because \LaTeX , substring search `\in@` can be used.

```

6931 \def\HyCnt@ProvideTheHCounter#1{%
6932   \ifundefined{theH#1}{%
6933     \expandafter\def\csname theH#1\endcsname{}%
6934     \def\Hy@temp{\@elt{#1}}%
6935     \@onelevel@sanitize\Hy@temp
6936     \let\HyOrg@elt\@elt
6937     \edef\@elt{%
6938       \noexpand\HyCnt@LookForParentCounter
6939       \expandafter\noexpand\csname theH#1\endcsname
6940     }%
6941     \cl@ckpt
6942     \let\@elt\HyOrg@elt
6943     \expandafter
6944       \Hy@LocalAppendToMacro\csname theH#1\endcsname\expandafter\endcsname
6945     \expandafter{%
6946       \expandafter\@arabic\csname c@#1\endcsname
6947     }%
6948   }{}%
6949 }

```

\Hy@LookForParentCounter

```

6950 \def\HyCnt@LookForParentCounter#1#2{%
6951   \expandafter\let\expandafter\Hy@temp@A\csname cl@#2\endcsname
6952   \@ifundefined{cl@#2}{%
6953   }{%
6954     \@onelevel@sanitize\Hy@temp@A
6955     \edef\Hy@temp@A{%
6956       \noexpand\in@{\Hy@temp}{\Hy@temp@A}%
6957     }\Hy@temp@A
6958     \ifn@
6959       \@ifundefined{theH#2}{%
6960         \expandafter\Hy@LocalAppendToMacro\expandafter#1%
6961         \expandafter{%
6962           \expandafter\@arabic\csname c@#2\endcsname.%
6963         }%
6964       }{%
6965         \expandafter\Hy@LocalAppendToMacro\expandafter#1%
6966         \expandafter{%
6967           \csname theH#2\endcsname.%
6968         }%
6969       }%
6970     \fi
6971   }%
6972 }

```

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.

```

6973 \begingroup\expandafter\expandafter\expandafter\endgroup
6974 \expandafter\ifx\csname chapter\endcsname\relax
6975   \def\Hy@chapterstring{section}%
6976 \else
6977   \def\Hy@chapterstring{chapter}%
6978 \fi
6979 \def\Hy@appendixstring{appendix}
6980 \def\Hy@chapapp{\Hy@chapterstring}
6981 \@ifundefined{appendix}{%
6982 }{%
6983   \let\HyOrg@appendix\appendix
6984   \def\Hy@AlphNoErr#1{%
6985     \ifnum\value{#1}>26 %
6986       Alph\number\value{#1}%
6987     \else
6988       \ifnum\value{#1}<1 %
6989         Alph\number\value{#1}%
6990       \else
6991         \Alph{#1}%
6992       \fi
6993     \fi
6994   }%

```

```

6995 \def\appendix{%
6996   \@ifundefined{chapter}{%
6997     \gdef\theHsection{\Hy@AlphNoErr{section}}%
6998   }{%
6999     \gdef\theHchapter{\Hy@AlphNoErr{chapter}}%
7000   }%
7001   \xdef\Hy@chapapp{\Hy@appendixstring}%
7002   \HyOrg@appendix
7003 }%
7004 }

```

\Hy@Test@alph

```

7005 \def\Hy@Test@alph#1{%
7006   \ifcase#1\or
7007     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
7008     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
7009     u\or v\or w\or x\or y\or z%
7010   \else
7011     \@ctrerr
7012   \fi
7013 }

```

\Hy@Test@Alph

```

7014 \def\Hy@Test@Alph#1{%
7015   \ifcase#1\or
7016     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
7017     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
7018     U\or V\or W\or X\or Y\or Z%
7019   \else
7020     \@ctrerr
7021   \fi
7022 }

```

We define a hook to allow to overwrite the next destination name.

```

7023 \NewHook{__hyp/target/setname }
7024 \define@key{Hyp}{next-anchor}{%
7025   \AddToHookNext{__hyp/target/setname}%
7026   {\Hy@MakeCurrentHref{#1}}%
7027 }

```

\hyper@makecurrent Because of Babel mucking around, nullify \textlatin when making names. And \@number because of babel's lrbabel.def. change 2021-08-15: For new formats we add a hook which allows to overwrite the name of the next destination.

```

7028 \def\hyper@makecurrent#1{%
7029   \begingroup
7030   \Hy@safe@activetrue
7031   \edef\Hy@param{#1}%
7032   \ifx\Hy@param\Hy@chapterstring
7033     \let\Hy@param\Hy@chapapp
7034   \fi
7035   \ifHy@hypertextnames
7036     \let\@number\@firstofone
7037     \def\@fnsymbol##1{\fnsymbol\number##1}%

```

```

7038 \def\@arabic##1{\number##1}%
7039 \ifx\@alph\Hy@Test@alph
7040 \else
7041 \def\@alph{alph\number}%
7042 \fi
7043 \ifx\@Alph\Hy@Test@Alph
7044 \else
7045 \def\@Alph{Alph\number}%
7046 \fi
7047 \ifHy@naturalnames
7048 \let\textlatin\@firstofone
7049 \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
7050 \else
7051 \xdef\HyperGlobalCurrentHref{%
7052 \csname
7053 the%
7054 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
7055 #1%
7056 \endcsname
7057 }%
7058 \fi
7059 \xdef\HyperGlobalCurrentHref{%
7060 \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
7061 }%
7062 \else
7063 \Hy@GlobalStepCount\Hy@linkcounter
7064 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
7065 \fi
7066 \endgroup
7067 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7068 \ifHy@localanchorname
7069 \let\@currentHref\HyperLocalCurrentHref
7070 \else
7071 \global\let\@currentHref\HyperGlobalCurrentHref
7072 \fi
7073 \UseHook{__hyp/target/setname}%
7074 }

```

\Hy@MakeCurrentHref

```

7075 \def\Hy@MakeCurrentHref#1{%
7076 \edef\HyperLocalCurrentHref{#1}%
7077 \@onelevel@sanitize\HyperLocalCurrentHref
7078 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
7079 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7080 \ifHy@localanchorname
7081 \let\@currentHref\HyperLocalCurrentHref
7082 \else
7083 \global\let\@currentHref\HyperGlobalCurrentHref
7084 \fi
7085 }

```

\Hy@MakeCurrentHrefAuto This command is e.g. used to create destinations for unnumbered sections and chapters. For new formats we add a hook which allows to overwrite the name of the next destination.

```

7086 \def\Hy@MakeCurrentHrefAuto#1{%
7087 \Hy@GlobalStepCount\Hy@linkcounter
7088 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
7089 \UseHook{__hyp/target/setname}}

```

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

```

7090 \def\@currentHlabel{\@currentHref}

```

29 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.

```

7091 \def\hypergetref#1{\getrefbykeydefault{#1}{}}{??}}
7092 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}{0}}

```

30 Package varwidth support

2023-11-07: varwidth needs a special configuration point to insert its handler. We use a socket for this.

```

7093 \@if@t@r\fmtversion{2023-11-01}
7094 {
7095 \AddToHook{package/varwidth/after}
7096 {
7097 \NewSocketPlug{hyp/raisedlink}{varwidth}{\@vwid@wrap{#1}}
7098 \appto\@vwid@setup{\AssignSocketPlug{hyp/raisedlink}{varwidth}}
7099 }
7100 }{}

```

31 Package titlesec and titletoc support

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

Package titlesec support:

```

7101 \@ifpackageloaded{titlesec}{%
7102 \def\ttl@Hy@steplink#1{%
7103 \Hy@MakeCurrentHrefAuto{#1*}%
7104 \edef\ttl@Hy@saveanchor{%
7105 \noexpand\Hy@raisedlink{%
7106 \noexpand\hyper@anchorstart{\@currentHref}%
7107 \noexpand\hyper@anchorend
7108 \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
7109 \noexpand\ttl@Hy@PatchSaveWrite
7110 }%
7111 }%
7112 }%
7113 \def\ttl@Hy@PatchSaveWrite{%
7114 \begingroup
7115 \toks@\expandafter{\ttl@savewrite}%
7116 \edef\x{\endgroup
7117 \def\noexpand\ttl@savewrite{%

```

```

7118      \let\noexpand\@currentHref
7119      \noexpand\ttl@Hy@SavedCurrentHref
7120      \the\toks@
7121    }%
7122  }%
7123  \x
7124 }%
7125 \def\ttl@Hy@refstepcounter#1{%
7126   \let\ttl@b\Hy@raisedlink
7127   \def\Hy@raisedlink##1{%
7128     \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}}%
7129   }%
7130   \refstepcounter{#1}%
7131   \let\Hy@raisedlink\ttl@b
7132 }%
7133 }{}

```

32 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

```

7134 \@ifpackageloaded{longtable}{%
7135   \@ifundefined{hyper@nopatch@longtable}{%
7136     \begingroup
7137     \def\y{\LT@array}%
7138     \@ifundefined{scr@LT@array}{%
7139       \@ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}%
7140     }\def\y{\scr@LT@array}}%
7141     \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
7142       \expandafter\endgroup
7143       \expandafter\def\y[##1]##2{%
7144         \H@refstepcounter{#1}%
7145         \hyper@makecurrent{table}%
7146         \let\Hy@LT@currentHref\@currentHref
7147         #2\@sharp###4%
7148       }%
7149     }%
7150     \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil

```

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

```

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

```



```

7161      #3%
7162    }%
7163  }%
7164  \expandafter\x\LT@start\@nil
7165 }{}
7166 }{}

```

33 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 41). change 2023-06-14: previously `hyperref` contained code that moved the equation incrementation inside the `math` environment to avoid specials outside and a wrong vertical spacing of equation environments. Since 2021/08/24 this code is now in `amsmath` directly and so has been removed here.

This and more math related patches can be suppressed with `\hyper@nopatch@mathenv`

```

7167 \let\new@refstepcounter\refstepcounter
7168 \let\H@equation\equation
7169 \let\H@endequation\endequation
7170 \@ifundefined{hyper@nopatch@mathenv}{%

```

If `amsmath` was loaded before the following does nothing. If `amsmath` is loaded later it will overwrite the definition again, which is what is wanted here. If it is not loaded the new definition of `equation` will be used.

```

7171 \@ifpackageloaded{amsmath}{}{}%
7172 \def\equation{%
7173   \let\refstepcounter\H@refstepcounter
7174   \H@equation
7175   \hyper@makecurrent{equation}%

```

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

```

7176   \mathopen{%
7177     \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}}%
7178   }%
7179   \let\refstepcounter\new@refstepcounter
7180 }%
7181 \def\endequation{%
7182   \ifx\Hy@raisedlink\@empty
7183     \hyper@anchorend
7184   \else
7185     \mathclose{\Hy@raisedlink{\hyper@anchorend}}}%
7186   \fi
7187   \H@endequation
7188 }%
7189 }
7190 }{}

```

My goodness, why can't L^AT_EX 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.

```

7191 \newif\if@eqnstar
7192 \@eqnstarfalse
7193 \let\H@eqnarray\eqnarray
7194 \let\H@endeqnarray\endeqnarray
7195 \@ifundefined{hyper@nopatch@mathenv}{%
7196   \def\eqnarray{%
7197     \let\Hy@reserved@a\relax
7198     \def\@currentHref{}%
7199     \H@eqnarray
7200     \if@eqnstar
7201     \else
7202       \ifx\\\@currentHref\\%
7203       \else
7204         \hyper@makecurrent{equation}%
7205         \mathopen{%
7206           \Hy@raisedlink{%
7207             \hyper@anchorstart{\@currentHref}\hyper@anchorend
7208           }%
7209         }%
7210       \fi
7211     \fi
7212   }
7213   \def\endeqnarray{%
7214     \H@endeqnarray
7215   }
7216 }{}

```

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.

```

7217 \@namedef{eqnarray*}{%
7218   \protected\def\@eqnocr{\nonumber\@seqnocr}\@eqnstartrue\eqnarray
7219 }
7220 \@namedef{endeqnarray*}{%
7221   \nonumber\endeqnarray\@eqnstarfalse
7222 }

```

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

```

7223 \@ifundefined{subeqnarray}{}{%
7224   \let\H@subeqnarray\subeqnarray
7225   \let\H@endsubeqnarray\endsubeqnarray
7226   \def\subeqnarray{%
7227     \let\Hy@reserved@a\relax
7228     \H@subeqnarray
7229     \hyper@makecurrent{equation}%
7230     \hyper@anchorstart{\@currentHref}\hyper@anchorend
7231   }%
7232   \def\endsubeqnarray{%
7233     \H@endsubeqnarray
7234   }%
7235   \providecommand\theHsubequation{\theHequation\alph{subequation}}%
7236 }

```

The aim of this macro is to produce a sanitized version of its argument, to make

it a safe label.

```

7237 \def\make@stripped@name#1{%
7238   \begingroup
7239   \escapechar\m@ne
7240   \global\let\newname\@empty
7241   \protected@edef\Hy@tempa{#1}%
7242   \edef\@tempb{%
7243     \noexpand\@tfor\noexpand\Hy@tempa:=%
7244     \expandafter\strip@prefix\meaning\Hy@tempa
7245   }%
7246   \@tempb\do{%
7247     \if\Hy@tempa\else
7248     \if\Hy@tempa\else
7249     \xdef\newname{\newname\Hy@tempa}%
7250     \fi
7251     \fi
7252   }%
7253 \endgroup
7254 }

```

Support for amsmath’s subequations: change 2023-06-14: we use hooks to no longer depend on amsmath being loaded before hyperref. Once amsmath sets the theH-representation itself this can go completely.

```

7255 \AddToHook{cmd/subequations/before}
7256 {%
7257   \stepcounter{equation}%
7258   \protected@edef\theHparentequation{\theHequation}%
7259   \addtocounter{equation}{-1}%
7260 }
7261
7262 \AddToHook{cmd/subequations/after}
7263 {%
7264   \def\theHequation{\theHparentequation\alph{equation}}%
7265   \ignorespaces
7266 }

```

34 Support for theorems

Hyperlink support in theorems has to resolve typically three problems:

- The `\refstepcounter` can be issued too early. The target it produces can be separated from the theorem and then the link is wrong (see testfiles thm-005-xx). It can also affect spacing. This means that it is better if this `\refstepcounter` doesn’t produce a target.
- The natural place for the target (before the theorem label) is normally not printed directly but delayed to the next paragraph begin (through the `\item` code or by other means). and `\label` commands used directly at the begin of the environment are perhaps processed *before* the target is created and so do not know the correct `\@currentHref` value. That means that if `\refstepcounter` does not produce a target, it should nevertheless update the target name.

- The target should be placed (in horizontal mode) before the theorem label to avoid side effects on spacing. For this a suitable place must be found depending on the actual theorem definition.

Theorems typically issue the `\refstepcounter` in `\@thm`. The first two points can therefore be resolved by patching this command and replacing the `\refstepcounter`.

The last point is the most complicated. Simply moving at the point `\refstepcounter` is encountered into the next para hook doesn't work, as this can be in a header if there is page break. The next item hook doesn't work for the same reason, also not every theorem environment actually use `\item` (e.g. `amsthm` and `ams-classes`). Patching (or using a hook) `\@begintheorem` doesn't work either as `ntheorem` redefines this on the fly.

For now we move the target creation into the item hook. This is not perfect, as it can end up in header or be too much to the right, but there is not really a better place.

The patch will not apply to `cleveref`, this means that with `cleveref` there can be a page break between target and theorem but beside this it hopefully it does the right thing. `\@currentHref` is updated directly for labels set before the actual start of the paragraph. The target can be behind a target created from a following list, so we restore `\@currentHref` just in case. Later we could use sockets here (or hope that the packages take this over).

```

7267 \newcommand\Hy@theorem@refstepcounter[1]
7268 {%
7269   \H@refstepcounter{#1}%
7270   \hyper@makecurrent{#1}%
7271   \global\let\Hy@dth@currentHref\@currentHref
7272   \Hy@theorem@makelinktarget{\Hy@dth@currentHref}%
7273 }
7274 \newcommand\Hy@theorem@makelinktarget[1]
7275 {
7276   \AddToHookNext{cmd/item/before}
7277   {\AddToHookNext{para/begin}
7278     {\let\Hy@tempa\@currentHref
7279       \MakeLinkTarget*{#1}% \Hy@dth@currentHref
7280       \global\let\@currentHref\Hy@tempa
7281     }%
7282   }%
7283 }
```

`amsthm` doesn't issue an item in the theorem, we delay the target into `\deferred@thm@head` and hope that it always begins a paragraph.

```

7284 \AddToHook{begindocument}
7285 {%
7286   \ifundefined{deferred@thm@head}{}
7287   {%
7288     \renewcommand\Hy@theorem@makelinktarget[1]
7289     {%
7290       \AddToHookNext{cmd/deferred@thm@head/before}
7291       {\AddToHookNext{para/begin}
7292         {\let\Hy@tempa\@currentHref
7293           \MakeLinkTarget*{#1}%

```

```

7294     \global\let\@currentHref\Hy@tempa
7295     }%
7296   }%
7297 }%
7298 }%
7299 }
7300 \@ifundefined{hyper@nopatch@thm}{%
7301 \AtBeginDocument{%
7302 \ifpackageloaded{cleveref}
7303 {\AddToHook{cmd/@thm/before}{\ifhmode\unskip\fi}}
7304 {%
7305 \ifpatchable\@thm{\refstepcounter}
7306 {\patchcmd\@thm{\refstepcounter}{\Hy@theorem@refstepcounter}{}{}}
7307 }%
7308 }}{}

```

35 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. If `\hyper@nopatch@footnote` is defined we don't patch but assume that addings links to footnotes is handled elsewhere.

```

7309 \@ifundefined{hyper@nopatch@footnote}{%
7310 \ifHy@hyperfootnotes
7311 \newcounter{Hfootnote}%
7312 \let\H@@footnotetext\@footnotetext
7313 \let\H@@footnotemark\@footnotemark
7314 \def\@xfootnotenext[#1]{%
7315 \begingroup
7316 \csname c@\@mpfn\endcsname #1\relax
7317 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7318 \endgroup
7319 \ifx\@footnotetext\@mpfootnotetext
7320 \expandafter\H@@mpfootnotetext
7321 \else
7322 \expandafter\H@@@footnotetext
7323 \fi
7324 }%
7325 \def\@xfootnotemark[#1]{%
7326 \begingroup
7327 \c@footnote #1\relax
7328 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7329 \endgroup
7330 \H@@@footnotemark
7331 }%
7332 \let\H@@mpfootnotetext\@mpfootnotetext
7333 \long\def\@mpfootnotetext#1{%
7334 \H@@mpfootnotetext{%
7335 \ifHy@nesting
7336 \expandafter\@firstoftwo

```

```

7337 \else
7338 \expandafter\@secondoftwo
7339 \fi
7340 {%
7341 \expandafter\hyper@@anchor\expandafter{%
7342 \Hy@footnote@currentHref
7343 }\ignorespaces #1}%
7344 }{%
7345 \Hy@raisedlink{%
7346 \expandafter\hyper@@anchor\expandafter{%
7347 \Hy@footnote@currentHref
7348 }\relax}%
7349 }\ignorespaces #1%
7350 }%
7351 }%
7352 }%
7353 \long\def\@footnotetext#1{%
7354 \H@@@footnotetext{%
7355 \ifHy@nesting
7356 \expandafter\@firstoftwo
7357 \else
7358 \expandafter\@secondoftwo
7359 \fi
7360 {%
7361 \expandafter\hyper@@anchor\expandafter{%
7362 \Hy@footnote@currentHref
7363 }\ignorespaces #1}%
7364 }{%
7365 \Hy@raisedlink{%
7366 \expandafter\hyper@@anchor\expandafter{%
7367 \Hy@footnote@currentHref
7368 }\relax}%
7369 }%
7370 \let\@currentHref\Hy@footnote@currentHref
7371 \let\@currentlabelname\@empty
7372 \ignorespaces #1%
7373 }%
7374 }%
7375 }%

```

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.

```

7376 \def\@footnotemark{%
7377 \leavevmode
7378 \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
7379 \stepcounter{Hfootnote}%
7380 \global\let\Hy@saved@currentHref\@currentHref
7381 \hyper@makecurrent{Hfootnote}%
7382 \global\let\Hy@footnote@currentHref\@currentHref
7383 \global\let\@currentHref\Hy@saved@currentHref
7384 \hyper@linkstart{link}{\Hy@footnote@currentHref}%

```

```

7385 \makefnmark
7386 \hyper@linkend
7387 \ifhmode\spacefactor\@x@sf\fi
7388 \relax
7389 }%

```

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

```

7390 \ifpackageloaded{tabularx}{%
7391 \let\HyOrg@TX@endtabularx\TX@endtabularx
7392 \def\Hy@tabularx@hook{%
7393 \let\@footnotetext\H@@footnotetext
7394 \let\@footnotemark\H@@footnotemark
7395 \let\@mpfootnotetext\H@@mpfootnotetext
7396 }%
7397 \begingroup
7398 \toks@\expandafter{\TX@endtabularx}%
7399 \xdef\Hy@gtemp{%
7400 \noexpand\Hy@tabularx@hook
7401 \the\toks@
7402 }%
7403 \endgroup
7404 \let\TX@endtabularx\Hy@gtemp
7405 }{}%

```

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

```

7406 \ifpackageloaded{longtable}{%
7407 \CheckCommand{\LT@p@ftntext}[1]{%
7408 \edef\@tempa{%
7409 \the\LT@p@ftn
7410 \noexpand\footnotetext[\the\c@footnote]%
7411 }%
7412 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7413 }%
7414 \long\def\LT@p@ftntext#1{%
7415 \edef\@tempa{%
7416 \the\LT@p@ftn
7417 \begingroup
7418 \noexpand\c@footnote=\the\c@footnote\relax
7419 \noexpand\protected@xdef\noexpand\@thefnmark{%
7420 \noexpand\thempfn
7421 }%
7422 \noexpand\Hy@LT@footnotetext{%
7423 \Hy@footnote@currentHref
7424 }%
7425 }%
7426 \global\LT@p@ftn\expandafter{%
7427 \@tempa{#1}%
7428 \endgroup
7429 }%
7430 }%
7431 \long\def\Hy@LT@footnotetext#1#2{%

```

```

7432 \H@@footnotetext{%
7433 \ifHy@nesting
7434 \hyper@@anchor{#1}{#2}%
7435 \else
7436 \Hy@raisedlink{%
7437 \hyper@@anchor{#1}{\relax}%
7438 }%
7439 \def\@currentHref{#1}%
7440 \let\@currentlabelname\@empty
7441 #2%
7442 \fi
7443 }%
7444 }%
7445 }{}%

```

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

```

7446 \@ifpackageloaded{fancyvrb}{%
7447 \def\V@@footnotetext{%
7448 \insert\footins\bgroup
7449 \csname reset@font\endcsname
7450 \footnotesize
7451 \interlinepenalty\interfootnotelinepenalty
7452 \splittopskip\footnotesep
7453 \splitmaxdepth\dp\strutbox
7454 \floatingpenalty \@MM
7455 \hsize\columnwidth
7456 \@parboxrestore
7457 \def\@currentcounter{footnote}%
7458 \protected@edef\@currentlabel{\csname p@footnote\endcsname\@thefn-
mark}%
7459 \@makefn-text{}%
7460 \rule{\z@}{\footnotesep}%
7461 \bgroup
7462 \aftergroup\V@@@footnotetext
7463 \Hy@raisedlink{%
7464 \expandafter\hyper@@anchor\expandafter{%
7465 \Hy@footnote@currentHref
7466 }{\relax}%
7467 }%
7468 \let\@currentHref\Hy@footnote@currentHref
7469 \let\@currentlabelname\@empty
7470 \ignorespaces
7471 }%
7472 }{}%

```

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

```

7473 \def\Hy@temp#1{%
7474 \begingroup
7475 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7476 \endgroup
7477 \@footnotemark
7478 }%
7479 \ifx\Hy@temp\footref
7480 \def\footref#1{%

```



```

7481 \begingroup
7482 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7483 \endgroup
7484 \H@@footnotemark
7485 }%
7486 \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.

```

7487 \let\HyOrg@maketitle\maketitle
7488 \def\maketitle{%
7489 \let\Hy@saved@footnotemark\@footnotemark
7490 \let\Hy@saved@footnotetext\@footnotetext
7491 \let\@footnotemark\H@@footnotemark
7492 \let\@footnotetext\H@@footnotetext
7493 \@ifnextchar[\Hy@maketitle@optarg{% ]
7494 \HyOrg@maketitle
7495 \Hy@maketitle@end
7496 }%
7497 }%
7498 \def\Hy@maketitle@optarg[#1]{%
7499 \HyOrg@maketitle[{#1}]%
7500 \Hy@maketitle@end
7501 }%
7502 \def\Hy@maketitle@end{%
7503 \ifx\@footnotemark\H@@footnotemark
7504 \let\@footnotemark\Hy@saved@footnotemark
7505 \fi
7506 \ifx\@footnotetext\H@@footnotetext
7507 \let\@footnotetext\Hy@saved@footnotetext
7508 \fi
7509 }%

```

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

```

7510 \def\realfootnote{%
7511 \@ifnextchar[\@xfootnote%]
7512 {\stepcounter{\@mpfn}%
7513 \protected@xdef\@thefnmark{\thempfn}%
7514 \H@@@footnotemark\H@@@footnotetext
7515 }%
7516 }%
7517 \fi
7518 }{}
7519 \Hy@DisableOption{hyperfootnotes}

7520 \</packageEnd>
7521 \< *check>
7522 \checklatex
7523 \checkcommand\def\@xfootnotenext[#1]{%
7524 \begingroup
7525 \csname c@\@mpfn\endcsname #1\relax
7526 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7527 \endgroup

```

```

7528 \@footnotetext
7529 }
7530 \checkcommand\def\xfootnotemark[#1]{%
7531 \begingroup
7532 \c@footnote #1\relax
7533 \unrestored@protected\xdef\@thefnmark{\thefootnote}%
7534 \endgroup
7535 \@footnotemark
7536 }
7537 \checkcommand\def\@footnotemark{%
7538 \leavevmode
7539 \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
7540 \@makefnmark
7541 \ifhmode\spacefactor\x@sf\fi
7542 \relax
7543 }
7544 \end{check}
7545 \end{package}

```

36 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.

```

7546 \@ifundefined{hyper@nopath@caption}{%
7547 \def\caption{%
7548 \ifx\@c@type\@undefined
7549 \@latex@error{\noexpand\caption outside float}\@ehd
7550 \expandafter\@gobble
7551 \else
7552 \H@refstepcounter\@c@type
7553 \let\Hy@tempa\@caption
7554 \@ifundefined{float@caption}{%
7555 }{%
7556 \expandafter\ifx\csname @float@c@\@c@type\endcsname
7557 \float@caption
7558 \let\Hy@tempa\Hy@float@caption
7559 \fi
7560 }%
7561 \expandafter\@firstofone
7562 \fi
7563 {\@dblarg{\Hy@tempa\@c@type}}}%
7564 }
7565 \long\def\@caption#1[#2]#3{%
7566 \expandafter\ifx\csname if@capstart\expandafter\endcsname
7567 \csname iftrue\endcsname
7568 \global\let\@currentHref\hc@currentHref
7569 \else
7570 \hyper@makecurrent{\@c@type}%
7571 \fi
7572 \@ifundefined{NR@getttitle}{%
7573 \def\@currentlabelname{#2}%
7574 }{%
7575 \NR@getttitle{#2}%

```

```

7576 }%
7577 \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7578   \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7579 }%
7580 \begingroup
7581   \@parboxrestore
7582   \if@minipage
7583     \@setminipage
7584   \fi
7585   \normalsize
7586   \expandafter\ifx\csname if@capstart\expandafter\endcsname
7587     \csname iftrue\endcsname
7588     \global\@capstartfalse
7589     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7590   \else
7591     \@makecaption{\csname fnum@#1\endcsname}{%
7592       \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7593   \ifHy@nesting
7594     \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
7595   \else
7596     \Hy@raisedlink{%
7597       \expandafter\hyper@@anchor\expandafter{%
7598         \@currentHref
7599       }\relax}%
7600   }%
7601   #3%
7602   \fi
7603 }%
7604 \fi
7605 \par
7606 \endgroup
7607 }}{}}%end no patch

```

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’.

```

7608 \let\Hy@float@caption\@caption
7609 \newcommand{\HyNew@float@makebox}[1]{%
7610   \HyOrg@float@makebox{%
7611     #1\relax
7612     \ifx\Hy@float@currentHref\@undefined
7613     \else
7614       \expandafter\hyper@@anchor\expandafter{%
7615         \Hy@float@currentHref
7616       }\relax}%
7617     \global\let\Hy@float@currentHref\@undefined
7618   \fi
7619 }%
7620 }%
7621 \@ifpackageloaded{float}{%
7622   \def\Hy@float@caption{%

```

```

7623 \ifx\Hy@float@currentHref\@undefined
7624 \hyper@makecurrent{\@cuptype}%
7625 \global\let\Hy@float@currentHref\@currentHref
7626 \else
7627 \let\@currentHref\Hy@float@currentHref
7628 \fi
7629 \float@caption
7630 }%
7631 \let\HyOrg@float@makebox\float@makebox
7632 \let\float@makebox\HyNew@float@makebox
7633 }{}

7634 \</packageEnd>
7635 \< *check>
7636 \checklatex[1999/06/01 - 2000/06/01]
7637 \checkcommand\def\caption{%
7638 \ifx\@cuptype\@undefined
7639 \@latex@error{\noexpand\caption outside float}\@ehd
7640 \expandafter\@gobble
7641 \else
7642 \refstepcounter\@cuptype
7643 \expandafter\@firstofone
7644 \fi
7645 {\@dblarg{\@caption\@cuptype}}}%
7646 }
7647 \checkcommand\long\def\@caption#1[#2]#3{%
7648 \par
7649 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7650 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7651 }%
7652 \begingroup
7653 \@parboxrestore
7654 \if@minipage
7655 \@setminipage
7656 \fi
7657 \normalsize
7658 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7659 \endgroup
7660 }
7661 \</check>
7662 \< *packageEnd>

```

37 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 `\bibtex`; this still breaks some citation packages so we have to work around them. But this remains extremely dangerous. Any or all of *achemso* and *drftcite* may break.

However, let's make an attempt to get *natbib* right, because that's a powerful, important package. Patrick Daly (daly@linmpi.mpg.de) has provided hooks for us, so all we need to do is activate them.

```

7663 \def\hyper@natlinkstart#1{%

```

```

7664 \Hy@backout{#1}%
7665 \hyper@linkstart{cite}{cite.#1}%
7666 \def\hyper@nat@current{#1}%
7667 }
7668 \def\hyper@natlinkend{%
7669 \hyper@linkend
7670 }
7671 \def\hyper@natlinkbreak#1#2{%
7672 \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7673 }
7674 \def\hyper@natanchorstart#1{%
7675 \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7676 }
7677 \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.

```

7678 \@ifundefined{hyper@nopatch@bib}
7679 {%
7680 \ifundefined{NAT@parse}{%
7681 \providecommand*\@extra@binfo{}%
7682 \providecommand*\@extra@b@citeb{}%
7683 \def\bibcite#1#2{%
7684 \@newl@bel{b}{#1\@extra@binfo}{%
7685 \hyper@@link[cite]{cite.#1\@extra@b@citeb}{#2}%
7686 }%
7687 }%
7688 \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.”.

```

7689 \let\Hy@bibcite\bibcite
7690 \begingroup
7691 \@ifundefined{bbl@cite@choice}{%
7692 \g@addto@macro\bbl@cite@choice{%
7693 \let\bibcite\Hy@bibcite
7694 }%
7695 }%
7696 \endgroup

```

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

```

7697 \providecommand*\@BIBLABEL{\@biblabel}%
7698 \def\@lbibitem[#1]#2{%
7699 \@skiphyperreftrue
7700 \H@item{%
7701 \ifx\Hy@raisedlink\@empty
7702 \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7703 \@BIBLABEL{#1}%
7704 \hyper@anchorend
7705 \else
7706 \Hy@raisedlink{%
7707 \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7708 }%

```

```

7709      \@BIBLABEL{#1}%
7710      \fi
7711      \hfill
7712    }%
7713    \@skiphyperreffalse
7714    \if@filesw
7715      \begingroup
7716        \let\protect\noexpand
7717        \immediate\write\@auxout{%
7718          \string\bibcite{#2}{#1}%
7719        }%
7720      \endgroup
7721    \fi
7722    \ignorespaces
7723  }%

```

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

```

7724  \def\@bibitem#1{%
7725    \@skiphyperreftrue\H@item\@skiphyperreffalse
7726    \Hy@raisedlink{%
7727      \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7728    }%
7729    \if@filesw
7730      \begingroup
7731        \let\protect\noexpand
7732        \immediate\write\@auxout{%
7733          \string\bibcite{#1}{\the\value{\@listctr}}%
7734        }%
7735      \endgroup
7736    \fi
7737    \ignorespaces
7738  }%
7739 }{}%
7740 }{}

7741 </packageEnd>
7742 <*check>
7743 \checklatex
7744 \checkcommand\def\@lbibitem[#1]#2{%
7745   \item[\@biblabel{#1}\hfill]%
7746   \if@filesw
7747     {%
7748       \let\protect\noexpand
7749       \immediate\write\@auxout{%
7750         \string\bibcite{#2}{#1}%
7751       }%
7752     }%
7753   \fi
7754   \ignorespaces
7755 }
7756 \checkcommand\def\@bibitem#1{%
7757   \item
7758   \if@filesw
7759     \immediate\write\@auxout{%

```

```

7760 \string\bibcite{#1}{\the\value{\@listctr}}%
7761 }%
7762 \fi
7763 \ignorespaces
7764 }
7765 </check>
7766 <*packageEnd>

```

37.1 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.

```

7767 \ifpackageloaded{harvard}{%
7768 \Hy@AtBeginDocument{%
7769 \Hy@Info{*** compatibility with harvard **** }%
7770 \Hy@raiselinksfalse
7771 \def\harvardcite#1#2#3#4{%
7772 \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{#1}{#2}}%
7773 \global\@namedef{HAR@an@#1}{\hyper@link[cite]{#1}{#3}}%
7774 \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{#1}{#4}}%
7775 \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7776 }%
7777 \def\HAR@citetoaux#1{%
7778 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7779 \ifHy@backref
7780 \ifx\@empty\@currentlabel
7781 \else
7782 \@bsphack
7783 \if@filesw
7784 \protected@write\@auxout{}{%
7785 \string\@writefile{brf}{%
7786 \string\backcite{#1}{%
7787 {\thepage}{\@currentlabel}{\@currentHref}%
7788 }%
7789 }%
7790 }%
7791 \fi
7792 \@esphack
7793 \fi
7794 \fi
7795 }%
7796 \def\harvarditem{%
7797 \ifnextchar[{\@harvarditem}{\@harvarditem[\nulll]}%
7798 }%
7799 \def\@harvarditem[#1]#2#3#4#5\par{%
7800 \item[]%
7801 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7802 \if@filesw

```

```

7803 \begingroup
7804 \def\protect##1{\string ##1\space}%
7805 \ifthenelse{\equal{#1}{\null}}{%
7806   {\def\next{{#4}{#2}{#2}{#3}}}%
7807   {\def\next{{#4}{#2}{#1}{#3}}}%
7808   \immediate\write\@auxout{\string\harvardcite\codeof\next}%
7809 \endgroup
7810 \fi
7811 \protect\hspace*{-\labelwidth}%
7812 \protect\hspace*{-\labelsep}%
7813 \ignorespaces
7814 #5%
7815 \ifHy@backref
7816 \newblock
7817 \backref{\csname br@#4\endcsname}%
7818 \fi
7819 \par
7820 }%

```

\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:

```

7821 \long\def\HAR@checkcitations#1#2#3#4{%
7822 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#2}}%
7823 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7824 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#3}}%
7825 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7826 \def\HAR@tempa{\hyper@@link[cite]{}{cite.#1}{#4}}%
7827 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
7828 \else
7829 \@tempswatrue
7830 \fi
7831 \else
7832 \@tempswatrue
7833 \fi
7834 \else
7835 \@tempswatrue
7836 \fi
7837 }%
7838 }%

7839 }{}

```

37.2 Package chicago

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

```

7840 \@ifpackageloaded{chicago}{%

```

\citeN

```

7841 \def\citeN{%
7842 \def\@citesep{-1000}%
7843 \def\@cite##1##2{{##1}}%
7844 \def\citeauthoryear##1##2##3{{##1} (##3\@cite@opt)}}%

```



```

7845 \citedata@opt
7846 }%

\shortciteN
7847 \def\shortciteN{%
7848 \def\@citesep{-1000}%
7849 \def\@cite##1##2{##1}%
7850 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
7851 \citedata@opt
7852 }%

\@citedata@opt
7853 \def\@citedata@opt{%
7854 \let\@cite@opt\@empty
7855 \@ifnextchar [{%
7856 \@tempswatrue
7857 \@citedatax@opt
7858 }{%
7859 \@tempswafalse
7860 \@citedatax[]%
7861 }%
7862 }%

\@citedatax@opt
7863 \def\@citedatax@opt[#1]{%
7864 \def\@cite@opt{, #1}%
7865 \@citedatax[{#1}]%
7866 }%

7867 }{}

```

38 Page numbers

The last page should not contain a /Dur key, because there is no page after the last page. Therefore at the last page there should be a command `\hypersetup{pdfpageduration={}}`. This can be set with `\AtEndDocument`, but it can be too late, if the last page is already finished, or too early, if lots of float pages will follow. Therefore currently nothing is done by hyperref.

This where we supply a destination for each page.

The name of destination is stored in the global command `\@currentHpage`, this allows it to retrieve it with an extended reference system like zref or the new property code from L^AT_EX 2023-11-01.

```

7868 \def\@currentHpage{Doc-Start}
7869 \ifclassloaded{slides}{%
7870 \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
7871 \def\Hy@PageAnchorSlidesPlain{%
7872 \advance\c@page\@ne
7873 \xdef\@currentHpage{page.\the\c@slide.\the\c@overlay.\the\c@note%
7874 \ifnum\c@page=\@ne
7875 \else
7876 .\the\c@page
7877 \fi}%

```

```

7878 \edef\Hy@TempPageAnchor{%
7879 \noexpand\hyper@@anchor{%
7880 \@currentHpage
7881 }%
7882 }%
7883 \advance\c@page-\@ne
7884 }%
7885 \def\Hy@PageAnchorSlide{%
7886 \advance\c@page\@ne
7887 \ifnum\c@page>\@ne
7888 \ifundefined{theHpage}{%
7889 \protected@edef\Hy@TheSlideOptionalPage{%
7890 \Hy@SlidesFormatOptionalPage{theHpage}%
7891 }%
7892 }{%
7893 \protected@edef\Hy@TheSlideOptionalPage{%
7894 \Hy@SlidesFormatOptionalPage{theHpage}%
7895 }%
7896 }%
7897 \else
7898 \def\Hy@TheSlideOptionalPage{}%
7899 \fi
7900 \advance\c@page-\@ne
7901 \pdfstringdef\@the@H@page{%
7902 \csname
7903 the%
7904 \@ifundefined{theH\Hy@SlidesPage}{H}%
7905 \Hy@SlidesPage
7906 \endcsname
7907 \Hy@TheSlideOptionalPage
7908 }%
7909 \@gobblethree
7910 }%
7911 \def\Hy@SlidesPage{slide}%
7912 \g@addto@macro\slide{%
7913 \def\Hy@SlidesPage{slide}%
7914 }%
7915 \g@addto@macro\overlay{%
7916 \def\Hy@SlidesPage{overlay}%
7917 }%
7918 \g@addto@macro\note{%
7919 \def\Hy@SlidesPage{note}%
7920 }%
7921 }{%
7922 \def\Hy@PageAnchorSlidesPlain{}%
7923 \def\Hy@PageAnchorSlide{}%
7924 }
7925 \def\Hy@EveryPageAnchor{%
7926 \Hy@DistillerDestFix
7927 \ifHy@pageanchor
7928 \ifHy@hypertextnames
7929 \ifHy@plainpages
7930 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
7931 \xdef\@currentHpage{page.\the\c@page}%

```

```

7932 \Hy@PageAnchorSlidesPlain
7933 \else
7934 \begingroup
7935 \let\@number\@firstofone
7936 \Hy@unicodedefalse
7937 \Hy@PageAnchorSlide
7938 \pdfstringdef\@the@H@page{\thepage}%
7939 \endgroup
7940 \EdefUnescapeString\@the@H@page{\@the@H@page}%
7941 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
7942 \xdef\@currentHpage{page.\@the@H@page}%
7943 \fi
7944 \else
7945 \Hy@GlobalStepCount\Hy@pagecounter
7946 \def\Hy@TempPageAnchor{%
7947 \hyper@@anchor{page.\the\Hy@pagecounter}%
7948 }%
7949 \xdef\@currentHpage{page.\the\Hy@pagecounter}%
7950 \fi
7951 \vbox to 0pt{%
7952 \kern\voffset
7953 \kern\topmargin
7954 \kern-1bp\relax
7955 \hbox to 0pt{%
7956 \kern\hoffset
7957 \kern\ifodd\value{page}%
7958 \oddsidemargin
7959 \else
7960 \evensidemargin
7961 \fi
7962 \kern-1bp\relax
7963 \Hy@TempPageAnchor\relax
7964 \hss
7965 }%
7966 \vss
7967 }%
7968 \fi
7969 }
7970 \g@addto@macro\Hy@EveryPageBoxHook{%
7971 \Hy@EveryPageAnchor
7972 }

```

39 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. In newer L^AT_EX releases this is defined to put a % at the end of the line in the tocf file.

```

7973 \providecommand\protected@file@percent{}
7974 \@ifundefined{hyper@nopatch@toc}{%
7975 \def\addcontentsline#1#2#3{% toc extension, type, tag

```

```

7976 \begingroup
7977 \let\label\@gobble
7978 \ifx\@currentHref\@empty
7979 \Hy@Warning{%
7980   No destination for bookmark of \string\addcontentsline,%
7981   \MessageBreak destination is added%
7982 }%
7983 \phantomsection
7984 \fi
7985 \expandafter\ifx\csname toplevel@#2\endcsname\relax
7986 \begingroup
7987 \def\Hy@tempa{#1}%
7988 \ifx\Hy@tempa\Hy@bookmarkstype
7989 \Hy@WarningNoLine{%
7990   bookmark level for unknown #2 defaults to 0%
7991 }%
7992 \else
7993 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
7994 \fi
7995 \endgroup
7996 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
7997 \fi
7998 \edef\Hy@toclevel{\csname toplevel@#2\endcsname}%
7999 \Hy@writebookmark{\csname the#2\endcsname}%
8000 {#3}%
8001 {\@currentHref}%
8002 {\Hy@toclevel}%
8003 {#1}%
8004 \ifHy@verbose
8005 \begingroup
8006 \def\Hy@tempa{#3}%
8007 \@onelevel@sanitize\Hy@tempa
8008 \let\temp@online\on@line
8009 \let\on@line\@empty
8010 \Hy@Info{%
8011   bookmark\temp@online:\MessageBreak
8012   thecounter {\csname the#2\endcsname}\MessageBreak
8013   text {\Hy@tempa}\MessageBreak
8014   reference {\@currentHref}\MessageBreak
8015   toplevel {\Hy@toclevel}\MessageBreak
8016   type {#1}%
8017 }%
8018 \endgroup
8019 \fi
8020 \addtocontents{#1}{%
8021 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}\protected@file@per-
cent
8022 }%
8023 \endgroup
8024 }
8025 }{}

```

`\contentsline` The page number might be empty. In this case the link for the page number is suppressed to avoid little link boxes.

change 2022-11-13: To avoid problems if MakeUppercase is used around the entry we use special protected commands:

```

8026 \protected\def\Hy@toclinkstart{\hyper@linkstart{link}{\Hy@tocdestname}}
8027 \protected\def\Hy@toclinkend{\hyper@linkend}
8028
8029 \@ifundefined{hyper@nopatch@toc}{%
8030   \def\contentsline#1#2#3#4{%
8031     \begingroup
8032       \Hy@safe@activertrue
8033     \edef\x{\endgroup
8034       \def\noexpand\Hy@tocdestname{#4}%
8035     }\x
8036     \ifx\Hy@tocdestname\@empty
8037       \csname l@#1\endcsname{#2}{#3}%
8038     \else
8039       \ifcase\Hy@linktoc % none
8040         \csname l@#1\endcsname{#2}{#3}%
8041       \or % section
8042         \csname l@#1\endcsname{%
8043           \Hy@toclinkstart{#2}\Hy@toclinkend
8044         }{#3}%
8045       \or % page
8046         \def\Hy@temp{#3}%
8047         \ifx\Hy@temp\@empty
8048           \csname l@#1\endcsname{#2}{#3}%
8049         \else
8050           \csname l@#1\endcsname{{#2}}{%
8051             \Hy@toclinkstart{#3}\Hy@toclinkend
8052           }%
8053         \fi
8054       \else % all
8055         \def\Hy@temp{#3}%
8056         \ifx\Hy@temp\@empty
8057           \csname l@#1\endcsname{%
8058             \Hy@toclinkstart{#2}\Hy@toclinkend
8059           }{}%
8060         \else
8061           \csname l@#1\endcsname{%
8062             \Hy@toclinkstart{#2}\Hy@toclinkend
8063           }{%
8064             \Hy@toclinkstart{#3}\Hy@toclinkend
8065           }%
8066         \fi
8067       \fi
8068     \fi
8069   }
8070 }{}

8071 \</packageEnd>
8072 \<*check>
8073 \checklatex
8074 \checkcommand\def\addcontentsline#1#2#3{%
8075   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
8076 }
```

```

8077 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
8078 \</check>
8079 \<*packageEnd>

```

40 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.

```

8080 \@ifundefined{hyper@nopatch@counter}
8081 {
8082   \let\H@definecounter\@definecounter
8083   \def\@definecounter#1{%
8084     \H@definecounter{#1}%
8085     \expandafter\gdef\csname theH#1\endcsname{\arabic{#1}}%
8086   }
8087 }{}

```

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.

```

8088 \@ifundefined{hyper@nopatch@counter}
8089 {
8090   \let\H@newctr\@newctr
8091   \def\@newctr#1[#2]{%
8092     \H@newctr#1[{#2}]%
8093     \expandafter\gdef\csname theH#1\endcsname{%
8094       \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
8095     }%
8096   }
8097 }{}

```

41 AMS \LaTeX compatibility

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

Version 6.77p uses a patch by Ross Moore.

If `\hyper@nopatch@amsmath@tag` is defined we don't patch but assume that kernel code adds anchors to equations. change 2023-06-14: use a hook to make it independent of loading order.

```

8098 \@ifundefined{hyper@nopatch@amsmath@tag}
8099 {%
8100   \AddToHook{package/amsmath/after}{%
8101     \def\Hy@make@anchor{%
8102       \Hy@MakeCurrentHrefAuto{AMS}%
8103       \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
8104     }%
8105     \def\Hy@make@df@tag@@#1{%
8106       \gdef\df@tag{%
8107         \maketag@@@{\Hy@make@anchor#1}%

```

```

8108     \def\@currentlabel{#1}%
8109     }%
8110 }%
8111 \def\Hy@make@df@tag@@@#1{%
8112     \gdef\df@tag{%
8113         \tagform@{\Hy@make@anchor#1}%
8114         \toks@{\xp{\p@equation{#1}}}%
8115         \edef\@currentlabel{\the\toks@}%
8116     }%
8117 }%
8118 \let\HyOrg@make@df@tag@@\make@df@tag@@
8119 \let\HyOrg@make@df@tag@@@\make@df@tag@@@
8120 \let\make@df@tag@@\Hy@make@df@tag@@
8121 \let\make@df@tag@@@\Hy@make@df@tag@@@
8122 }{}
8123 }{}

```

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}}}}

```

41.1 \@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.

```

8124 \@ifundefined{hyper@nopatch@counter}
8125 {
8126     \let\HyOrg@addtoreset\@addtoreset
8127     \def\@addtoreset#1#2{%
8128         \HyOrg@addtoreset{#1}{#2}%
8129         \expandafter\xdef\csname theH#1\endcsname{%
8130             \expandafter\noexpand
8131             \csname the\@ifundefined{theH#2}{H#2\endcsname
8132             .\noexpand\the\noexpand\value{#1}}%
8133         }%
8134     }
8135 }{}

```

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

```

8136 \</packageEnd>
8137 \<{*check>
8138 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
8139 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
8140     \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8141         \@ifundefined{c@#3}{\@nocnterr{#3}}{%

```

```

8142 \addtoreset{#2}{#3}%
8143 \@xp\xdef\csname the#2\endcsname{%
8144 \xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8145 }%
8146 }%
8147 }%
8148 }%
8149 \check)

change 2023-06-14: use hook to make independent of loading order

8150 \*packageEnd)
8151 \ifundefined{hyper@nopatch@counter}
8152 {
8153 \AddToHook{package/amsmath/after}{%
8154 \renewcommand*{\numberwithin}[3][\arabic]{%
8155 \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8156 \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8157 \HyOrg@addtoreset{#2}{#3}%
8158 \@xp\xdef\csname the#2\endcsname{%
8159 \xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8160 }%
8161 \@xp\xdef\csname theH#2\endcsname{%
8162 \xp\@nx
8163 \csname the\@ifundefined{theH#3}{}H#3\endcsname
8164 .\@nx#1{#2}%
8165 }%
8166 }%
8167 }%
8168 }%
8169 }{}
8170 }{}

```

42 Included figures

Simply intercept the low level graphics package macro.

```

8171 \ifHy@hyperfigures
8172 \let\Hy@Gin@setfile\Gin@setfile
8173 \def\Gin@setfile#1#2#3{%
8174 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
8175 }%
8176 \fi
8177 \Hy@DisableOption{hyperfigures}

```

43 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.

```

8178 \ifHy@hyperindex
8179   \def\HyInd@ParenLeft{({}%
8180   \def\HyInd@ParenRight{)}}%
8181   \def\hyperindexformat#1#2{%
8182     \let\HyOrg@hyperpage\hyperpage
8183     \let\hyperpage\@firstofone
8184     #1{\HyOrg@hyperpage{#2}}%
8185     \let\hyperpage\HyOrg@hyperpage
8186   }%
8187   \Hy@nextfalse
8188   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
8189   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
8190   \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
8191   \begingroup
8192     \lccode`|= \expandafter`\HyInd@EncapChar\relax
8193     \lccode`\/= `\\ \relax
8194   \lowercase{\endgroup
8195   \ifHy@next
8196     \let\HyInd@org@wrindex\@wrindex
8197     \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2|\\}%
8198     \def\HyInd@@wrindex#1#2|#3|#4\\{%
8199       \ifx\\#3\\%
8200         \HyInd@org@wrindex{#1}{#2|hyperpage}%
8201       \else
8202         \HyInd@@@wrindex{#1}{#2}#3\\%
8203       \fi
8204     }%
8205     \def\HyInd@@@wrindex#1#2#3#4\\{%
8206       \def\Hy@temp@A{#3}%
8207       \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8208         \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8209       \relax
8210       \HyInd@org@wrindex{#1}{%
8211         #2|hyperindexformat{/#3#4}%
8212       }%
8213     \else
8214       \ifx\\#4\\%
8215         \ifx\Hy@temp@A\HyInd@ParenRight
8216           \HyInd@org@wrindex{#1}{#2|#3}%
8217         \else
8218           \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
8219         \fi
8220       \else
8221         \HyInd@org@wrindex{#1}{%
8222           #2|#3hyperindexformat{/#4}%
8223         }%
8224       \fi
8225     \fi
8226   }%
8227 \else
8228   \def\@wrindex#1{\@wrindex#1|\\}%
8229   \def\@@wrindex#1|#2|#3\\{%

```

```

8230 \if@filesw
8231 \ifx\\#2\\%
8232 \protected@write\@indexfile{}\{%
8233 \string\indexentry{#1|hyperpage}\thepage}%
8234 }%
8235 \else
8236 \HyInd@@@wrindex{#1}#2\\%
8237 \fi
8238 \fi
8239 \endgroup
8240 \@esphack
8241 }%
8242 \def\HyInd@@@wrindex#1#2#3\\{%
8243 \def\Hy@temp@A{#2}%
8244 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8245 \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8246 \relax
8247 \protected@write\@indexfile{}\{%
8248 \string\indexentry{%
8249 #1|hyperindexformat{/#2#3}%
8250 }\thepage}%
8251 }%
8252 \else
8253 \ifx\\#3\\%
8254 \ifx\Hy@temp@A\HyInd@ParenRight
8255 \HyInd@DefKey{#1}%
8256 \@ifundefined{HyInd@(\HyInd@key)}{%
8257 \let\Hy@temp@empty
8258 }{%
8259 \expandafter\let\expandafter\Hy@temp
8260 \csname HyInd@(\HyInd@key)\endcsname
8261 }%
8262 \protected@write\@indexfile{}\{%
8263 \string\indexentry{#1|#2\Hy@temp}\thepage}%
8264 }%
8265 \else
8266 \protected@write\@indexfile{}\{%
8267 \string\indexentry{#1|#2hyperpage}\thepage}%
8268 }%
8269 \HyInd@DefKey{#1}%
8270 \expandafter
8271 \gdef\csname HyInd@(\HyInd@key)\endcsname{%
8272 hyperpage%
8273 }%
8274 \fi
8275 \else
8276 \protected@write\@indexfile{}\{%
8277 \string\indexentry{%
8278 #1|#2hyperindexformat{/#3}%
8279 }\thepage}%
8280 }%
8281 \ifx\Hy@temp@A\HyInd@ParenLeft
8282 \HyInd@DefKey{#1}%
8283 \expandafter

```

```

8284         \gdef\csname HyInd@(\HyInd@key)\endcsname{%
8285             hyperindexformat{/#3}%
8286         }%
8287     \fi
8288 \fi
8289 \fi
8290 }%
8291 \def\HyInd@DefKey#1{%
8292     \begingroup
8293     \let\protect\@unexpandable@protect
8294     \edef\Hy@temp{#1}%
8295     \@onelevel@sanitize\Hy@temp
8296     \global\let\HyInd@key\Hy@temp
8297     \endgroup
8298 }%
8299 \fi
8300 }%
8301 \fi
8302 \Hy@DisableOption{hyperindex}
8303 \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.

```

8304 \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.

```

8305 \def\hyperpage#1{%
8306     \HyInd@hyperpage#1\nohyperpage{}\@nil
8307 }
8308 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8309     \HyInd@@hyperpage{#1}%
8310     #2%
8311     \def\Hy@temp{#3}%
8312     \ifx\Hy@temp\@empty
8313     \else
8314         \Hy@ReturnAfterFi{%
8315             \HyInd@hyperpage#3\@nil
8316         }%
8317     \fi
8318 }
8319 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8320 \def\@hyperpage#1--#2--#3\{\{%
8321     \ifx\#2\%
8322         \@commahyperpage{#1}%
8323     \else
8324         \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8325     \fi
8326 }
8327 \def\@commahyperpage#1{\@commahyperpage#1, ,\}
8328 \def\@commahyperpage#1, #2,#3\{\{%
8329     \ifx\#2\%
8330         \HyInd@pagelink{#1}%
8331     \else

```

```

8332 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8333 \fi
8334 }

```

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

```

8335 \def\HyInd@pagelink#1{%
8336 \begingroup
8337 \toks@={}%
8338 \HyInd@removespaces#1 \@nil
8339 \endgroup
8340 }
8341 \def\HyInd@removespaces#1 #2\@nil{%
8342 \toks@=\expandafter{\the\toks@#1}%
8343 \ifx\#2\%
8344 \edef\x{\the\toks@}%
8345 \ifx\x\@empty
8346 \else
8347 \hyperlink{page.\the\toks@}{\the\toks@}%
8348 \fi
8349 \else
8350 \Hy@ReturnAfterFi{%
8351 \HyInd@removespaces#2\@nil
8352 }%
8353 \fi
8354 }

```

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.)

change 2022-11-13: added an `\@empty` for issue#261.

```

8355 \ifHy@texht
8356 \expandafter\endinput
8357 \fi
8358 \let\real@setref\@setref
8359 \def\@setref#1#2#3{% csname, extract group, refname
8360 \ifx#1\relax
8361 \protect\G@refundefinedtrue
8362 \nfss@text{\reset@font\bfseries ??}%
8363 \@latex@warning{%
8364 Reference `#3' on page \thepage \space undefined%
8365 }%
8366 \else
8367 \expandafter\Hy@setref@link#1\@empty\@empty\@empty\@nil{#2}%
8368 \fi
8369 }

```

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

```

8370 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8371 \begingroup
8372 \toks0={\hyper@@link{#5}{#4}}%
8373 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8374 \edef\x{\endgroup
8375 \the\toks0 {\the\toks1 }%

```

```

8376 }%
8377 \x
8378 }
8379 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8380 \ifx#1\relax
8381 \protect\G@refundefinedtrue
8382 \nfss@text{\reset@font\bfseries ??}%
8383 \@latex@warning{%
8384 Reference `#3' on page \thepage \space undefined%
8385 }%
8386 \else
8387 \protect\hyper@@link
8388 {\expandafter\@fifthoffive#1}%
8389 {page.\expandafter\@secondoffive#1}%
8390 {\expandafter\@secondoffive#1}%
8391 \fi
8392 }
8393 \</packageEnd>
8394 \< *check>
8395 \checklatex
8396 \checkcommand\def\@setref#1#2#3{%
8397 \ifx#1\relax
8398 \protect\G@refundefinedtrue
8399 \nfss@text{\reset@font\bfseries ??}%
8400 \@latex@warning{%
8401 Reference `#3' on page \thepage \space undefined%
8402 }%
8403 \else
8404 \expandafter#2#1\< null
8405 \fi
8406 }
8407 \< /check>
8408 \< *packageEnd>

```

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

```

8409 \def\HyRef@StarSetRef#1{%
8410 \begingroup
8411 \Hy@safe@activestru
8412 \let\protect\@unexpandable@protect
8413 \edef\x{#1}%
8414 \@onelevel@sanitize\x
8415 \edef\x{\endgroup
8416 \noexpand\HyRef@@StarSetRef
8417 \expandafter\noexpand\csname r@\x\endcsname{\x}%
8418 }%
8419 \x
8420 }
8421 \def\HyRef@@StarSetRef#1#2#3{%
8422 \ifx#1\@undefined
8423 \let#1\relax
8424 \fi
8425 \real@setref#1#3{#2}%
8426 }

```

```

8427 \def\@refstar#1{%
8428   \HyRef@StarSetRef{#1}\@firstoffive
8429 }
8430 \def\@pagerefstar#1{%
8431   \HyRef@StarSetRef{#1}\@secondoffive
8432 }
8433 \def\@namerefstar#1{%
8434   \HyRef@StarSetRef{#1}\@thirdoffive
8435 }
8436 \def\@Refstar#1{%
8437   \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8438 }%
8439 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8440   \MakeUppercase#1%
8441 }%
8442 \def\HyRef@Ref#1{%
8443   \hyperref[{#1}]{\Ref*{#1}}%
8444 }%
8445 \Hy@AtBeginDocument{%
8446   \@ifpackageloaded{varioref}{%

```

This are the patches for a varioref newer after 2019-09 Older versions are no longer supported. If `\hyper@nopatch@varioref` is defined we don't patch but assume that varioref handles the hyperlinks.

```

8447   \@ifundefined{hyper@nopatch@varioref}
8448   {
8449     \renewcommand\Vref@star[2][]{%
8450       \begingroup
8451       \let\T@pageref\@pagerefstar
8452       \Ref*{#2}
8453       \vpageref[#1]{#2}%
8454       \endgroup
8455     }%
8456     \renewcommand\Vr@f[2][]{%
8457       \begingroup
8458       \let\T@pageref\@pagerefstar
8459       \hyperref[{#2}]{%
8460         \Ref*{#2}
8461         \vpageref[#1]{#2}%
8462       }%
8463       \endgroup
8464     }%
8465     \renewcommand\vr@f[2][]{%
8466       \begingroup
8467       \let\T@pageref\@pagerefstar
8468       \hyperref[{#2}]{%
8469         \ref*{#2}
8470         \vpageref[#1]{#2}%
8471       }%
8472       \endgroup
8473     }%
8474     \renewcommand\vref@star[2][]{%
8475       \begingroup
8476       \let\T@pageref\@pagerefstar

```

```

8477     \ref*{#2}
8478     \vpageref[#1]{#2}%
8479     \endgroup
8480 }%
8481 }{}%
8482 }{}%
8483 }

8484 \DeclareRobustCommand*\autopageref{%
8485   \@ifstar{%
8486     \HyRef@autopagerefname\pageref*%
8487   }\HyRef@autopageref
8488 }
8489 \def\HyRef@autopageref#1{%
8490   \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
8491 }
8492 \def\HyRef@autopagerefname{%
8493   \@ifundefined{pageautorefname}{%
8494     \@ifundefined{pagename}{%
8495       \Hy@Warning{No autoref name for `page'}%
8496     }{%
8497       \pagename\nobreakspace
8498     }%
8499   }{}%
8500   \pageautorefname\nobreakspace
8501 }%
8502 }

```

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

```

8503 \NewDocumentCommand\autoref{s}
8504 {
8505   \leavevmode
8506   \IfBooleanTF{#1}{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@@link}}
8507 \def\HyRef@autoref#1#2{%
8508   \begingroup
8509   \Hy@safe@activestrue
8510   \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
8511 }
8512 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8513   \HyRef@ShowKeysRef{#2}%
8514   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref\undefined 1\fi\relax
8515     \edef\HyRef@thisref{%
8516       \expandafter\@fourthoffive#1\@empty\@empty\@empty
8517     }%
8518     \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8519     \Hy@safe@activesfalse
8520     #3{%
8521       \expandafter\@fifthoffive#1\@empty\@empty\@empty
8522     }{}%
8523     \expandafter\@fourthoffive#1\@empty\@empty\@empty
8524   }{}%
8525   \HyRef@currentHtag
8526   \expandafter\@firstoffive#1\@empty\@empty\@empty
8527   \null

```

```

8528 }%
8529 \else
8530 \protect\G@refundefinedtrue
8531 \nfss@text{\reset@font\bfseries ??}%
8532 \@latex@warning{%
8533   Reference `#2' on page \thepage\space undefined%
8534 }%
8535 \fi
8536 }
8537 \def\HyRef@testreftype#1.#2\{\%
8538 \@ifundefined{#1autorefname}\{%
8539 \@ifundefined{#1name}\{%
8540 \HyRef@StripStar#1\*\@nil{#1}%
8541 \@ifundefined{\HyRef@name autorefname}\{%
8542 \@ifundefined{\HyRef@name name}\{%
8543 \def\HyRef@currentHtag{\%
8544 \Hy@Warning{No autoref name for `#1'}%
8545 }{\%
8546 \edef\HyRef@currentHtag{\%
8547 \expandafter\noexpand\csname\HyRef@name name\endcsname
8548 \noexpand~%
8549 }%
8550 }%
8551 }{\%
8552 \edef\HyRef@currentHtag{\%
8553 \expandafter\noexpand
8554 \csname\HyRef@name autorefname\endcsname
8555 \noexpand~%
8556 }%
8557 }%
8558 }{\%
8559 \edef\HyRef@currentHtag{\%
8560 \expandafter\noexpand\csname#1name\endcsname
8561 \noexpand~%
8562 }%
8563 }%
8564 }{\%
8565 \edef\HyRef@currentHtag{\%
8566 \expandafter\noexpand\csname#1autorefname\endcsname
8567 \noexpand~%
8568 }%
8569 }%
8570 }
8571 \def\HyRef@StripStar#1*\@#2\@nil#3{%
8572 \def\HyRef@name{#2}%
8573 \ifx\HyRef@name\HyRef@CaseStar
8574 \def\HyRef@name{#1}%
8575 \else
8576 \def\HyRef@name{#3}%
8577 \fi
8578 }
8579 \def\HyRef@CaseStar{*\\}
8580 \def\HyRef@currentHtag{

```

Support for package showkeys.

`\HyRef@ShowKeysRef`

```

8581 \let\HyRef@ShowKeysRef\@gobble
8582 \def\HyRef@ShowKeysInit{%
8583   \@ifundefined{SK@@label}{%
8584     {%
8585       \ifx\SK@ref\@empty
8586       \else
8587         \def\HyRef@ShowKeysRef{%
8588           \SK@\SK@@ref
8589         }%
8590       \fi
8591     }%
8592 }
8593 \AddToHook{package/showkeys/after}{\HyRef@ShowKeysInit}

```

Defaults for the names that `\autoref` uses.

```

8594 \providecommand*\AMSautorefname{\equationautorefname}
8595 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
8596 \providecommand*\Itemautorefname{\itemautorefname}
8597 \providecommand*\itemautorefname{item}
8598 \providecommand*\equationautorefname{Equation}
8599 \providecommand*\footnoteautorefname{footnote}
8600 \providecommand*\itemautorefname{item}
8601 \providecommand*\figureautorefname{Figure}
8602 \providecommand*\tableautorefname{Table}
8603 \providecommand*\partautorefname{Part}
8604 \providecommand*\appendixautorefname{Appendix}
8605 \providecommand*\chapterautorefname{chapter}
8606 \providecommand*\sectionautorefname{section}
8607 \providecommand*\subsectionautorefname{subsection}
8608 \providecommand*\subsubsectionautorefname{subsubsection}
8609 \providecommand*\paragraphautorefname{paragraph}
8610 \providecommand*\subparagraphautorefname{subparagraph}
8611 \providecommand*\FancyVerbLineautorefname{line}
8612 \providecommand*\theoremautorefname{Theorem}
8613 \providecommand*\pageautorefname{page}
8614 \</packageEnd>

```

44 Configuration files

44.1 PS/PDF strings

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

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

```

8615 (*pdfTEX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo)
8616 \begingroup\expandafter\expandafter\expandafter\endgroup
8617 \expandafter\ifx\csname pdf@escapestring\endcsname\relax

```

```

8618 \begingroup
8619 \catcode`\|=0 %
8620 \@makeother\|%
8621 |@firstofone{|endgroup
8622 |def|Hy@pstringdef#1#2{%
8623 |begingroup
8624 |edef~{|string~}%
8625 |xdef|Hy@gtemp{#2}%
8626 |endgroup
8627 |let#1|Hy@gtemp
8628 |@onelevel@sanitize#1%
8629 |edef#1{|expandafter|Hy@ExchangeBackslash#1|@nil}%
8630 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1|@nil}%
8631 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1|@nil}%
8632 }%
8633 |def|Hy@ExchangeBackslash#1\#2|@nil{%
8634 #1%
8635 |ifx|\#2|\%%
8636 |else
8637 \\\%
8638 |Hy@ReturnAfterFi{%
8639 |Hy@ExchangeBackslash#2|@nil
8640 }%
8641 |fi
8642 }%
8643 }%
8644 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
8645 #1%
8646 \ifx\#2\%%
8647 \else
8648 \@backslashchar(%
8649 \Hy@ReturnAfterFi{%
8650 \Hy@ExchangeLeftParenthesis#2\@nil
8651 }%
8652 \fi
8653 }%
8654 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8655 #1%
8656 \ifx\#2\%%
8657 \else
8658 \@backslashchar)%
8659 \Hy@ReturnAfterFi{%
8660 \Hy@ExchangeRightParenthesis#2\@nil
8661 }%
8662 \fi
8663 }%
8664 \else
8665 \def\Hy@pstringdef#1#2{%
8666 \begingroup
8667 \edef~{\string~}%
8668 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8669 \endgroup
8670 \let#1\Hy@gtemp
8671 }%

```

```

8672 \fi
8673 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

44.2 pdftex

```

8674 (*pdftex)
8675 \providecommand*{\XR@ext}{pdf}
8676 \Hy@setbreaklinks{true}
8677 \def\HyPat@ObjRef{%
8678   [0-9]*[1-9][0-9]* 0 R%
8679 }

```

This driver is for Han The Thanh's T_EX 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_EX 1.10a, 2003-01-16: \pdfoptionpdfminorversion
- pdfT_EX 1.30, 2005-08-081: \pdfminorversion

```

8680 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
8681 \def\Hy@pdfminorversion{\pdfminorversion}%
8682 \ifHy@ocgcolorlinks
8683   \ifnum\Hy@pdfmajorminor@version<105 %
8684     \kvsetkeys{Hyp}{pdfversion=1.5}%
8685   \fi
8686 \fi
8687 \ifHy@setpdfversion
8688   \ifnum\Hy@pdf@majorminor@version<105 %
8689     \ifundefined{pdfobjcompresslevel}{%
8690       }{%
8691         \ifHy@verbose
8692           \Hy@InfoNoLine{%
8693             PDF object streams are disabled, because they are%
8694             \MessageBreak
8695             not supported in requested PDF version %
8696             \Hy@pdf@majorversion.\Hy@pdf@minorversion
8697           }%
8698         \fi
8699         \pdfobjcompresslevel=\z@
8700       }%
8701     \fi
8702   \ifnum\Hy@pdfmajorminor@version=\Hy@pdf@majorminor@version\relax
8703   \else
8704     \let\Hy@temp\@empty
8705     \def\Hy@temp@A#1#2{%
8706       \ifnum#1>\z@
8707         \edef\Hy@temp{%
8708           \Hy@temp
8709           \space\space
8710           \the#1\space #2%
8711           \ifnum#1=\@ne\else s\fi
8712           \MessageBreak
8713         }%
8714     \fi

```

```

8715 }%
8716 \Hy@temp@A\pdflastobj{PDF object}%
8717 \Hy@temp@A\pdflastxform{form XObject}%
8718 \Hy@temp@A\pdflastximage{image XObject}%
8719 \Hy@temp@A\pdflastannot{annotation}%
8720 \@ifundefined{pdflastlink}{%
8721 }{%
8722 \Hy@temp@A\pdflastlink{link}%
8723 }%
8724 \ifx\Hy@temp@empty
8725 \Hy@pdfmajorversion=\Hy@pdf@majorversion\relax
8726 \Hy@pdfminorversion=\Hy@pdf@minorversion\relax
8727 \else
8728 \let\Hy@temp@A\empty
8729 \ifnum\Hy@pdf@majorminor@version=104 %
8730 \IfFileExists{pdf14.sty}{%
8731 \def\Hy@temp@A{%
8732 \MessageBreak
8733 Or \string\RequirePackage{pdf14} can be used%
8734 \MessageBreak
8735 before \string\documentclass\space as shortcut%
8736 }%
8737 }{}%
8738 \fi
8739 \Hy@WarningNoLine{%
8740 The PDF version number could not be set,\MessageBreak
8741 because some PDF objects are already written:%
8742 \MessageBreak
8743 \Hy@temp
8744 The version should be set as early as possible:%
8745 \MessageBreak
8746 \space\space
8747 \expandafter\string\Hy@pdfmajorversion=\Hy@pdf@majorversion, %
8748 \expandafter\string\Hy@pdfminorversion=\Hy@pdf@minorversion
8749 \string\relax
8750 \ifnum\Hy@pdf@majorminor@version<105 %
8751 \@ifundefined{pdfobjcompresslevel}{%
8752 }{%
8753 \MessageBreak
8754 \space\space
8755 \string\pdfobjcompresslevel=0\string\relax
8756 }%
8757 \fi
8758 \Hy@temp@A
8759 }%
8760 \fi
8761 \fi
8762 \PackageInfo{hyperref}{%
8763 \expandafter\string\Hy@pdfmajorversion.%
8764 \expandafter\string\Hy@pdfminorversion
8765 :=\number\Hy@pdf@majorversion.\number\Hy@pdf@minorversion\space
8766 }%
8767 \fi
8768 \edef\Hy@pdf@majorversion{\number\Hy@pdfmajorversion}%

```

```

8769 \edef\Hy@pdf@minorversion{\number\Hy@pdfminorversion}%
8770 \Hy@DisableOption{pdfversion}%

8771 \ifHy@ocgcolorlinks
8772 \pdf@ifdraftmode{ }{%
8773 \immediate\pdfobj{%
8774 <<%
8775 /Type/OCG%
8776 /Name(View)%
8777 /Usage<<%
8778 /Print<<%
8779 /PrintState/OFF%
8780 >>%
8781 /View<<%
8782 /ViewState/ON%
8783 >>%
8784 >>%
8785 >>%
8786 }%
8787 \edef\OBJ@OCG@view{\the\pdfastobj\space 0 R}%
8788 \immediate\pdfobj{%
8789 <<%
8790 /Type/OCG%
8791 /Name(Print)%
8792 /Usage<<%
8793 /Print<<%
8794 /PrintState/ON%
8795 >>%
8796 /View<<%
8797 /ViewState/OFF%
8798 >>%
8799 >>%
8800 >>%
8801 }%
8802 \edef\OBJ@OCG@print{\the\pdfastobj\space 0 R}%
8803 \immediate\pdfobj{%
8804 [%
8805 \OBJ@OCG@view\space\OBJ@OCG@print
8806 ]%
8807 }%
8808 \edef\OBJ@OCGs{\the\pdfastobj\space 0 R}%
8809 \pdfcatalog{%
8810 /OCProperties<<%
8811 /OCGs \OBJ@OCGs
8812 /D<<%
8813 /OFF[\OBJ@OCG@print]%
8814 /AS[%
8815 <<%
8816 /Event/View%
8817 /OCGs \OBJ@OCGs
8818 /Category[/View]%
8819 >>%
8820 <<%
8821 /Event/Print%
8822 /OCGs \OBJ@OCGs

```

```

8823         /Category[/Print]%
8824     >>%
8825     <<%
8826         /Event/Export%
8827         /OCGs \OBJ@OCGs
8828         /Category[/Print]%
8829     >>%
8830 ]%
8831 >>%
8832 >>%
8833 }%
8834 \begingroup
8835 \edef\x{\endgroup
8836 \pdfpageresources{%
8837 \the\pdfpageresources
8838 /Properties<<%
8839 /OCView \OBJ@OCG@view
8840 /OCPrint \OBJ@OCG@print
8841 >>%
8842 }%
8843 }%
8844 \x
8845 }%
8846 \Hy@AtBeginDocument{%
8847 \def\Hy@colorlink#1{%
8848 \begingroup
8849 \ifHy@ocgcolorlinks
8850 \def\Hy@ocgcolor{#1}%
8851 \setbox0=\hbox\bgroup\color@begingroup
8852 \else
8853 \HyColor@UseColor#1%
8854 \fi
8855 }%
8856 \def\Hy@endcolorlink{%
8857 \ifHy@ocgcolorlinks
8858 \color@endgroup\egroup
8859 \mbox{%
8860 \pdfliteral page{/OC/OCPrint BDC}%
8861 \rlap{\copy0}%
8862 \pdfliteral page{EMC/OC/OCView BDC}%
8863 \begingroup
8864 \expandafter\HyColor@UseColor\Hy@ocgcolor
8865 \box0 %
8866 \endgroup
8867 \pdfliteral page{EMC}%
8868 }%
8869 \fi
8870 \endgroup
8871 }%
8872 }%
8873 \else
8874 \Hy@DisableOption{ocgcolorlinks}%
8875 \fi

```

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

```

8876 \def\setpdfinkmargin#1{%
8877   \begingroup
8878   \setlength{\dimen@}{#1}%
8879   \expandafter\endgroup
8880   \expandafter\pdfinkmargin\the\dimen@\relax
8881 }
8882 \pdfinkmargin1pt %

```

First set up the default linking

```
8883 \providecommand*\@pdfview{XYZ}
```

First define the anchors:

```

8884 \Hy@WrapperDef\new@pdfink#1{%
8885   \ifhmode
8886     \@savs\spacefactor
8887   \fi
8888   \Hy@SaveLastskip
8889   \Hy@VerboseAnchor{#1}%
8890   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8891   \Hy@DestName\Hy@pstringDest\@pdfview
8892   \Hy@RestoreLastskip
8893   \ifhmode
8894     \spacefactor\@savs
8895   \fi
8896 }
8897 \let\pdf@endanchor\@empty

```

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

```

8898 \def\Hy@DestName#1#2{%
8899   \pdfdest name{#1}#2\relax
8900 }

```

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.

```

8901 \providecommand*\@pdfborder{0 0 1}
8902 \providecommand*\@pdfborderstyle{}
8903 \def\Hy@undefinedname{UNDEFINED}
8904 \def\find@pdfink#1#2{%
8905   \leavevmode
8906   \protected@edef\Hy@testname{#2}%
8907   \ifx\Hy@testname\@empty
8908     \Hy@Warning{%
8909       Empty destination name,\MessageBreak
8910       using `\'Hy@undefinedname'%
8911     }%
8912     \let\Hy@testname\Hy@undefinedname
8913   \else
8914     \Hy@pstringdef\Hy@testname{%
8915       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8916     }%

```

```

8917 \fi
8918 \Hy@StartlinkName{%
8919 \ifHy@pdfa /F 4\fi
8920 \Hy@setpdfborder
8921 \Hy@setpdfhighlight
8922 \ifx\CurrentBorderColor\relax
8923 \else
8924 /C[\CurrentBorderColor]%
8925 \fi
8926 }\Hy@testname
8927 \expandafter\Hy@colorlink\csname @#1color\endcsname
8928 }
8929 \def\Hy@StartlinkName#1#2{%
8930 \pdfstartlink attr{#1}goto name{#2}\relax
8931 }
8932 \def\close@pdflink{%
8933 \Hy@endcolorlink
8934 \Hy@VerboseLinkStop
8935 \pdfendlink
8936 }
8937 \def\hyper@anchor#1{%
8938 \new@pdflink{#1}\anchor@spot\pdf@endanchor
8939 }
8940 \def\hyper@anchorstart#1{%
8941 \new@pdflink{#1}%
8942 \Hy@activeanchortrue
8943 }
8944 \def\hyper@anchorend{%
8945 \pdf@endanchor
8946 \Hy@activeanchorfalse
8947 }
8948 \def\hyper@linkstart#1#2{%
8949 \Hy@VerboseLinkStart{#1}{#2}%
8950 \@ifundefined{@#1bordercolor}{%
8951 \let\CurrentBorderColor\relax
8952 }{%
8953 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8954 }%
8955 \find@pdflink{#1}{#2}%
8956 }
8957 \def\hyper@linkend{\close@pdflink}
8958 \def\hyper@link#1#2#3{%
8959 \Hy@VerboseLinkStart{#1}{#2}%
8960 \@ifundefined{@#1bordercolor}{%
8961 \let\CurrentBorderColor\relax
8962 }{%
8963 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8964 }%
8965 \find@pdflink{#1}{#2}#3\Hy@xspace@end
8966 \close@pdflink
8967 }
8968 \let\CurrentBorderColor\@linkbordercolor
8969 \def\hyper@linkurl#1#2{%
8970 \begingroup

```



```

8971 \Hy@pstringdef\Hy@pstringURI{#2}%
8972 \hyper@chars
8973 \leavevmode
8974 \pdfstartlink
8975   attr{%
8976     \Hy@setpdfborder
8977     \Hy@setpdfhighlight
8978     \ifx\@urlbordercolor\relax
8979     \else
8980       /C[\@urlbordercolor]%
8981     \fi
8982   }%
8983   user{%
8984     /Subtype/Link%
8985     \ifHy@pdfa /F 4\fi
8986     /A<<%
8987       /Type/Action%
8988       /S/URI%
8989       /URI(\Hy@pstringURI)%
8990       \ifHy@href@ismap
8991         /IsMap true%
8992       \fi
8993       \Hy@href@nextactionraw
8994     >>%
8995   }%
8996   \relax
8997 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
8998 \close@pdfink
8999 \endgroup
9000 }
9001 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
9002 \begingroup
9003   \def\Hy@pstringF{#2}%
9004   \Hy@CleanupFile\Hy@pstringF
9005   \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9006   \Hy@pstringdef\Hy@pstringD{#3}%
9007   \Hy@MakeRemoteAction
9008   \leavevmode
9009   \pdfstartlink
9010   attr{%
9011     \Hy@setpdfborder
9012     \Hy@setpdfhighlight
9013     \ifx\@filebordercolor\relax
9014     \else
9015       /C[\@filebordercolor]%
9016     \fi
9017   }%
9018   user {%
9019     /Subtype/Link%
9020     \ifHy@pdfa /F 4\fi
9021     /A<<%
9022       /F(\Hy@pstringF)%
9023       /S/GoToR%
9024     \Hy@SetNewWindow

```

If #3 is empty, page 0; if its a number, Page number, otherwise a named destination.

```
\afterassignment\xxx\count@=0\foo!%
```

```
\def\xxx#1!{%
  \ifx\xxx#1\xxx
    foo was an integer
  \else
    it wasnt
  \fi}
```

```
9025      \ifx\#3\%
9026        /D[\Hy@href@page\@pdfremotestartview]%
9027      \else
9028        /D(\Hy@pstringD)%
9029      \fi
9030      \Hy@href@nextactionraw
9031      >>%
9032    }%
9033    \relax
9034    \Hy@colorlink\@filecolor#1\Hy@xspace@end
9035    \close@pdflink
9036  \endgroup
9037 }
9038 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
9039   \begingroup
9040     \Hy@pstringdef\Hy@pstringF{#1}%
9041     \Hy@pstringdef\Hy@pstringP{#3}%
9042     \leavevmode
9043     \pdfstartlink
9044     attr{%
9045       \Hy@setpdfborder
9046       \Hy@setpdfhighlight
9047       \ifx\@runbordercolor\relax
9048       \else
9049         /C[\@runbordercolor]%
9050       \fi
9051     }%
9052     user {%
9053       /Subtype/Link%
9054       \ifHy@pdfa /F 4\fi
9055       /A<<%
9056         /F(\Hy@pstringF)%
9057         /S/Launch%
9058         \Hy@SetNewWindow
9059         \ifx\#3\%
9060         \else
9061           /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9062         \fi
9063         \Hy@href@nextactionraw
9064       >>%
9065     }%
9066    \relax
```

```

9067 \Hy@colorlink\@runcolor#2\Hy@xspace@end
9068 \close@pdflink
9069 \endgroup
9070 }

```

\PDF@SetupDox

```

9071 \def\PDF@SetupDoc{%
9072 \ifx\@pdfpagescrop\@empty
9073 \else
9074 \edef\process@me{%
9075 \pdfpagesattr={%
9076 /CropBox[\@pdfpagescrop]%
9077 \expandafter\ifx\expandafter\\the\pdfpagesattr\\%
9078 \else
9079 ^^J\the\pdfpagesattr
9080 \fi
9081 }%
9082 }%
9083 \process@me
9084 \fi
9085 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9086 \pdfcatalog{%
9087 /PageMode/\@pdfpagemode
9088 \ifx\@baseurl\@empty
9089 \else
9090 /URI<</Base(\Hy@pstringB)>>%
9091 \fi
9092 }%
9093 \ifx\@pdfstartpage\@empty
9094 \else
9095 \ifx\@pdfstartview\@empty
9096 \else
9097 openaction goto page\@pdfstartpage{\@pdfstartview}%
9098 \fi
9099 \fi
9100 \edef\Hy@temp{%
9101 \ifHy@pdftoolbar\else /HideToolbar true\fi
9102 \ifHy@pdfmenubar\else /HideMenubar true\fi
9103 \ifHy@pdfwindowui\else /HideWindowUI true\fi
9104 \ifHy@pdfwindow /FitWindow true\fi
9105 \ifHy@pdfcenterwindow /CenterWindow true\fi
9106 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9107 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9108 \Hy@UseNameKey{Direction}\@pdfdirection
9109 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9110 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9111 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9112 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9113 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9114 \Hy@UseNameKey{Duplex}\@pdfduplex
9115 \ifx\@pdfpicktraybypdfsize\@empty
9116 \else
9117 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9118 \fi

```

```

9119 \ifx\@pdfprintpagerange\@empty
9120 \else
9121 /PrintPageRange[\@pdfprintpagerange]%
9122 \fi
9123 \ifx\@pdfnumcopies\@empty
9124 \else
9125 /NumCopies \@pdfnumcopies
9126 \fi
9127 }%
9128 \pdfcatalog{%
9129 \ifx\Hy@temp\@empty
9130 \else
9131 /ViewerPreferences<<\Hy@temp>>%
9132 \fi
9133 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9134 \ifx\@pdflang\relax
9135 \else
9136 /Lang(\@pdflang)%
9137 \fi
9138 }%
9139 }

```

\PDF@FinishDoc

```

9140 \def\PDF@FinishDoc{%
9141 \pdf@ifdraftmode{ }{%
9142 \Hy@UseMaketitleInfos
9143 \HyInfo@GenerateAddons
9144 \pdfinfo{%
9145 /Author(\@pdfauthor)%
9146 /Title(\@pdftitle)%
9147 /Subject(\@pdfsubject)%
9148 /Creator(\@pdfcreator)%
9149 \ifx\@pdfcreationdate\@empty
9150 \else
9151 /CreationDate(\@pdfcreationdate)%
9152 \fi
9153 \ifx\@pdfmoddate\@empty
9154 \else
9155 /ModDate(\@pdfmoddate)%
9156 \fi
9157 \ifx\@pdfproducer\relax
9158 \else
9159 /Producer(\@pdfproducer)%
9160 \fi
9161 /Keywords(\@pdfkeywords)%
9162 \ifx\@pdftrapped\@empty
9163 \else
9164 /Trapped/\@pdftrapped
9165 \fi
9166 \HyInfo@Addons
9167 }%
9168 }%
9169 \Hy@DisableOption{pdfauthor}%
9170 \Hy@DisableOption{pdftitle}%

```

```

9171 \Hy@DisableOption{pdfsubject}%
9172 \Hy@DisableOption{pdfcreator}%
9173 \Hy@DisableOption{addtopdfcreator}%
9174 \Hy@DisableOption{pdfcreationdate}%
9175 \Hy@DisableOption{pdfmoddate}%
9176 \Hy@DisableOption{pdfproducer}%
9177 \Hy@DisableOption{pdfkeywords}%
9178 \Hy@DisableOption{pdftrapped}%
9179 \Hy@DisableOption{pdfinfo}%
9180 }

```

`\hyper@pagetransition` `\@pdfpagetransition` is initialized with `\relax`. So it indicates, if option pdfpage-
transition is used. First previous `/Trans` entries are removed. If a new `/Trans`
key exists, it is appended to `\pdfpageattr`.

```

9181 \def\hyper@pagetransition{%
9182   \ifx\@pdfpagetransition\relax
9183   \else
9184     \expandafter\Hy@RemoveTransPageAttr
9185     \the\pdfpageattr^^J/Trans{}>>\END
9186     \ifx\@pdfpagetransition\@empty
9187     \else
9188       \edef\@processme{%
9189         \global\pdfpageattr{%
9190           \the\pdfpageattr
9191             ^^J/Trans << /S /\@pdfpagetransition\space >>%
9192         }%
9193       }%
9194       \@processme
9195     \fi
9196   \fi
9197 }

```

`\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.

```

9198 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9199   \ifx\#2\%
9200     \global\pdfpageattr{#1}%
9201   \else
9202     \Hy@RemoveTransPageAttr#1#4\END
9203   \fi
9204 }

```

`\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`.

```

9205 \def\hyper@pageduration{%
9206   \ifx\@pdfpageduration\relax
9207   \else
9208     \expandafter
9209     \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END

```

```

9210 \ifx\@pdfpageduration\@empty
9211 \else
9212 \edef\@processme{%
9213 \global\pdfpageattr{%
9214 \the\pdfpageattr
9215 ^^J/Dur \@pdfpageduration\space
9216 }%
9217 }%
9218 \@processme
9219 \fi
9220 \fi
9221 }

```

`\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.

```

9222 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9223 \ifx\#2\%
9224 \global\pdfpageattr{#1}%
9225 \else
9226 \Hy@RemoveDurPageAttr#1#4\END
9227 \fi
9228 }

9229 \pdf@ifdraftmode{}{%
9230 \g@addto@macro\Hy@EveryPageHook{%
9231 \hyper@pagetransition
9232 \hyper@pageduration
9233 }%
9234 }

```

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

```

9235 </pdfTeX>
9236 <*pdfTeX | xetex>
9237 \Hy@AtBeginDocument{%
9238 \ifHy@setpagesize
9239 \expandafter\@firstofone
9240 \else
9241 \expandafter\@gobble
9242 \fi
9243 {%
9244 \@ifclassloaded{seminar}{%
9245 *pdfTeX>
9246 \setlength{\pdfhorigin}{1truein}%
9247 \setlength{\pdfvorigin}{1truein}%
9248 </pdfTeX>
9249 \ifportrait
9250 \ifdim\paperwidth=\z@
9251 \else
9252 \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9253 \fi
9254 \ifdim\paperheight=\z@

```

```

9255     \else
9256     \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9257     \fi
9258   \else
9259     \ifdim\paperheight=\z@
9260     \else
9261       \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9262       \fi
9263     \ifdim\paperwidth=\z@
9264     \else
9265       \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9266       \fi
9267     \fi
9268   }{%
9269     \ifnum\mag=\@m
9270     \ifdim\stockwidth>\z@
9271     \ifdim\stockheight>\z@
9272       \setlength{\pdfpagewidth}{\stockwidth}%
9273       \setlength{\pdfpageheight}{\stockheight}%
9274     \else
9275       \ifdim\paperwidth>\z@
9276       \ifdim\paperheight>\z@
9277         \setlength{\pdfpagewidth}{\paperwidth}%
9278         \setlength{\pdfpageheight}{\paperheight}%
9279       \fi
9280     \fi
9281   \fi
9282   \else
9283     \ifdim\stockwidth=\z@
9284     \ifdim\paperwidth>\z@
9285     \ifdim\paperheight>\z@
9286       \setlength{\pdfpagewidth}{\paperwidth}%
9287       \setlength{\pdfpageheight}{\paperheight}%
9288     \fi
9289   \fi
9290   \fi
9291   \fi
9292   }%
9293 }%
9294 }%
9295 \Hy@DisableOption{setpagesize}%
9296 }
9297 </pdfTeX | xetex>
9298 <*pdfTeX>
9299 \def\Acrobatmenu#1#2{%
9300   \Hy@Acrobatmenu{#1}{#2}{%
9301     \leavevmode
9302     \EdefEscapeName\Hy@temp@menu{#1}%
9303     \pdfstartlink
9304     attr{%
9305       \Hy@setpdfborder
9306       \Hy@setpdfhighlight
9307       \ifx\@menubordercolor\relax
9308       \else

```

```

9309      /C[\@menubordercolor]%
9310      \fi
9311    }%
9312    user{%
9313      /Subtype/Link%
9314      \ifHy@pdfa /F 4\fi
9315      /A<<%
9316      /S/Named%
9317      /N/\Hy@temp@menu
9318      \Hy@href@nextactionraw
9319      >>%
9320    }%
9321    \relax
9322    \Hy@colorlink\@menucolor#2%
9323    \close@pdflink
9324  }%
9325 }

```

44.2.1 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.

change 2020-10-01: the code has been removed as outdated.

```
9326 \</pdfTeX>
```

44.3 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:`

name: `html:`

end: `html:`

image: `html:`

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 T_EX file — the T_EX 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.

```

9327 \*hypertext
9328 \providecommand*\XR@ext}{dvi}
9329 \let\PDF@FinishDoc@empty
9330 \def\PDF@SetupDoc{%
9331   \ifx\@baseurl\empty
9332   \else
9333     \special{html:<base href="\@baseurl">}%
9334   \fi
9335 }
9336 \Hy@WrapperDef\hyper@anchor#1{%
9337   \Hy@SaveLastskip
9338   \Hy@VerboseAnchor{#1}%
9339   \begingroup
9340     \let\protect=\string
9341     \hyper@chars
9342     \special{html:<a name=%
9343       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9344   \endgroup
9345   \Hy@activeanchortrue
9346   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9347   \special{html:</a>}%
9348   \Hy@activeanchorfalse
9349   \Hy@RestoreLastskip
9350 }
9351 \Hy@WrapperDef\hyper@anchorstart#1{%
9352   \Hy@SaveLastskip
9353   \Hy@VerboseAnchor{#1}%
9354   \begingroup
9355     \hyper@chars
9356     \special{html:<a name=%
9357       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9358   \endgroup
9359   \Hy@activeanchortrue
9360 }
9361 \def\hyper@anchorend{%
9362   \special{html:</a>}%
9363   \Hy@activeanchorfalse
9364   \Hy@RestoreLastskip
9365 }
9366 \def\@urltype{url}
9367 \def\hyper@linkstart#1#2{%

```

```

9368 \Hy@VerboseLinkStart{#1}{#2}%
9369 \expandafter\Hy@colorlink\csname @#1color\endcsname
9370 \def\Hy@tempa{#1}%
9371 \ifx\Hy@tempa\@urlltype
9372   \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9373 \else
9374   \begingroup
9375     \hyper@chars
9376     \special{html:<a href=%
9377       \hyper@quote\#\Hy@DestNameFilter{#2}\hyper@quote>}%
9378   \endgroup
9379 \fi
9380 }
9381 \def\hyper@linkend{%
9382   \special{html:</a>}%
9383   \Hy@endcolorlink
9384 }
9385 \def\hyper@linkfile#1#2#3{%
9386   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9387 }
9388 \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^AT_EX constructs make this totally foul up, and make us revert to basic T_EX. I do not know.

```

9389 \leavevmode
9390 \ifHy@raiselinks
9391   \Hy@SaveSpaceFactor
9392   \Hy@SaveSavedSpaceFactor
9393   \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9394   \Hy@RestoreSavedSpaceFactor
9395   \@linkdim\dp\@tempboxa
9396   \lower\@linkdim\hbox{%
9397     \hyper@chars
9398     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9399   }%
9400   \Hy@colorlink\@urlcolor
9401   \Hy@RestoreSpaceFactor
9402   #1%
9403   \Hy@SaveSpaceFactor
9404   \@linkdim\ht\@tempboxa

```

Because of the interaction with the dvilhs 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).

```

9405   \advance\@linkdim by -6.5\p@
9406   \raise\@linkdim\hbox{\special{html:</a>}}%
9407   \Hy@endcolorlink
9408   \Hy@RestoreSpaceFactor
9409 \else
9410   \begingroup
9411     \hyper@chars
9412     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9413     \Hy@colorlink\@urlcolor#1\Hy@xspace@end

```

```

9414 \special{html:</a>}%
9415 \Hy@endcolorlink
9416 \endgroup
9417 \fi
9418 }

```

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

```

9419 \def\hyper@link#1#2#3{%
9420 \Hy@VerboseLinkStart{#1}{#2}%
9421 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
9422 }

9423 \def\hyper@image#1#2{%
9424 \begingroup
9425 \hyper@chars
9426 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9427 \endgroup
9428 }
9429 </hypertex>
9430 <*dviwindo>

```

44.4 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`, \LaTeX must specify the size of the active area for links. For some hooks this information is available but for some, the start and end of the link are specified separately in which case a fixed size area of 10000000sp wide by `\baselineskip` high is used.

```

9431 \providecommand*\XR@ext}{dvi}
9432 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9433 \Hy@WrapperDef\hyper@anchor#1{%
9434 \Hy@SaveLastskip
9435 \Hy@VerboseAnchor{#1}%
9436 \begingroup
9437 \let\protect=\string
9438 \special{mark: #1}%
9439 \endgroup
9440 \Hy@activeanchortrue
9441 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9442 \Hy@activeanchorfalse
9443 \Hy@RestoreLastskip
9444 }
9445 \Hy@WrapperDef\hyper@anchorstart#1{%
9446 \Hy@SaveLastskip
9447 \Hy@VerboseAnchor{#1}%
9448 \special{mark: #1}%
9449 \Hy@activeanchortrue
9450 }

```

```

9451 \def\hyper@anchorend{%
9452   \Hy@activeanchorfalse
9453   \Hy@RestoreLastskip
9454 }
9455 \def\hyper@linkstart#1#2{%
9456   \Hy@VerboseLinkStart{#1}{#2}%
9457   \expandafter\Hy@colorlink\csname @#1color\endcsname
9458   \special{button: %
9459     10000000 %
9460     \number\baselineskip\space
9461     #2%
9462   }%
9463 }
9464 \def\hyper@linkend{%
9465   \Hy@endcolorlink
9466 }
9467 \def\hyper@link#1#2#3{%
9468   \Hy@VerboseLinkStart{#1}{#2}%
9469   \leavevmode
9470   \ifHy@raiselinks
9471     \Hy@SaveSpaceFactor
9472     \Hy@SaveSavedSpaceFactor
9473     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
9474     \Hy@RestoreSavedSpaceFactor
9475     \@linkdim\dp\@tempboxa
9476     \lower\@linkdim\hbox{%
9477       \special{button: %
9478         \number\wd\@tempboxa\space
9479         \number\ht\@tempboxa\space
9480         #2%
9481       }%
9482       \expandafter\Hy@colorlink\csname @#1color\endcsname
9483       \Hy@RestoreSpaceFactor
9484       #3\Hy@xspace@end
9485       \Hy@SaveSpaceFactor
9486       \Hy@endcolorlink
9487     }%
9488     \@linkdim\ht\@tempboxa
9489     \advance\@linkdim by -6.5\p@
9490     \raise\@linkdim\hbox{}%
9491     \Hy@RestoreSpaceFactor
9492   \else
9493     \special{button: %
9494       \number\wd\@tempboxa\space
9495       \number\ht\@tempboxa\space
9496       #2%
9497     }%
9498     \expandafter\Hy@colorlink\csname @#1color\endcsname
9499     #3\Hy@xspace@end
9500     \Hy@endcolorlink
9501   \fi
9502 }
9503 \def\hyper@linkurl#1#2{%
9504   \begingroup

```

```

9505 \hyper@chars
9506 \leavevmode
9507 \ifHy@raiselinks
9508 \Hy@SaveSpaceFactor
9509 \Hy@SaveSavedSpaceFactor
9510 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9511 \Hy@RestoreSavedSpaceFactor
9512 \@linkdim\dp\@tempboxa
9513 \lower\@linkdim\hbox{%
9514 \special{button: %
9515 \number\wd\@tempboxa\space
9516 \number\ht\@tempboxa\space
9517 launch: \wwwbrowser\space
9518 #2%
9519 }%
9520 \Hy@colorlink\@urlcolor
9521 \Hy@RestoreSpaceFactor
9522 #1\Hy@xspace@end
9523 \Hy@SaveSpaceFactor
9524 \Hy@endcolorlink
9525 }%
9526 \@linkdim\ht\@tempboxa
9527 \advance\@linkdim by -6.5\p@
9528 \raise\@linkdim\hbox{}}%
9529 \Hy@RestoreSpaceFactor
9530 \else
9531 \special{button: %
9532 \number\wd\@tempboxa\space
9533 \number\ht\@tempboxa\space
9534 launch: \wwwbrowser\space
9535 #2%
9536 }%
9537 \Hy@colorlink\@urlcolor
9538 #1\Hy@xspace@end
9539 \Hy@endcolorlink
9540 \fi
9541 \endgroup
9542 }
9543 \def\hyper@linkfile#1#2#3{%
9544 \begingroup
9545 \hyper@chars
9546 \leavevmode
9547 \ifHy@raiselinks
9548 \Hy@SaveSpaceFactor
9549 \Hy@SaveSavedSpaceFactor
9550 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9551 \Hy@RestoreSavedSpaceFactor
9552 \@linkdim\dp\@tempboxa
9553 \lower\@linkdim\hbox{%
9554 \special{button: %
9555 \number\wd\@tempboxa\space
9556 \number\ht\@tempboxa\space
9557 #3,%
9558 file: #2%

```

```

9559     }%
9560     \Hy@colorlink\@filecolor
9561     \Hy@RestoreSpaceFactor
9562     #1\Hy@xspace@end
9563     \Hy@SaveSpaceFactor
9564     \Hy@endcolorlink
9565     }%
9566     \@linkdim\ht\@tempboxa
9567     \advance\@linkdim by -6.5\p@
9568     \raise\@linkdim\hbox{}%
9569     \Hy@RestoreSpaceFactor
9570     \else
9571     \special{button: %
9572     \number\wd\@tempboxa\space
9573     \number\ht\@tempboxa\space
9574     #3,%
9575     file: #2%
9576     }%
9577     \Hy@colorlink\@filecolor
9578     #1\Hy@xspace@end
9579     \Hy@endcolorlink
9580     \fi
9581     \endgroup
9582 }
9583 \HyInfo@AddonUnsupportedtrue
9584 \def\PDF@FinishDoc{%
9585   \Hy@UseMaketitleInfos
9586   \HyInfo@TrappedUnsupported
9587   \special{PDF: Keywords \@pdfkeywords}%
9588   \special{PDF: Title \@pdftitle}%
9589   \special{PDF: Creator \@pdfcreator}%
9590   \ifx\@pdfcreationdate\@empty
9591   \else
9592     \special{PDF: CreationDate \@pdfcreationdate}%
9593   \fi
9594   \ifx\@pdfmoddate\@empty
9595   \else
9596     \special{PDF: ModDate \@pdfmoddate}%
9597   \fi
9598   \special{PDF: Author \@pdfauthor}%
9599   \ifx\@pdfproducer\relax
9600   \else
9601     \special{PDF: Producer \@pdfproducer}%
9602   \fi
9603   \special{PDF: Subject \@pdfsubject}%
9604   \Hy@DisableOption{pdfauthor}%
9605   \Hy@DisableOption{pdftitle}%
9606   \Hy@DisableOption{pdfsubject}%
9607   \Hy@DisableOption{pdfcreator}%
9608   \Hy@DisableOption{addtopdfcreator}%
9609   \Hy@DisableOption{pdfcreationdate}%
9610   \Hy@DisableOption{pdfcreationdate}%
9611   \Hy@DisableOption{pdfmoddate}%
9612   \Hy@DisableOption{pdfproducer}%

```

```

9613 \Hy@DisableOption{pdfkeywords}%
9614 \Hy@DisableOption{pdftrapped}%
9615 \Hy@DisableOption{pdfinfo}%
9616 }
9617 \def\PDF@SetupDoc{%
9618 \ifx\@baseurl\@empty
9619 \else
9620 \special{PDF: Base \@baseurl}%
9621 \fi
9622 \ifx\@pdfpagescrop\@empty\else
9623 \special{PDF: BBox \@pdfpagescrop}%
9624 \fi
9625 \def\Hy@temp{}%
9626 \ifx\@pdfstartpage\@empty
9627 \else
9628 \ifx\@pdfstartview\@empty
9629 \else
9630 \edef\Hy@temp{%
9631 ,Page=\@pdfstartpage
9632 ,View=\@pdfstartview
9633 }%
9634 \fi
9635 \fi
9636 \edef\Hy@temp{%
9637 \noexpand\pdfmark{%
9638 pdfmark=/DOCVIEW,%
9639 PageMode=/\@pdfpagemode
9640 \Hy@temp
9641 }%
9642 }%
9643 \Hy@temp
9644 \ifx\@pdfpagescrop\@empty
9645 \else
9646 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9647 \fi
9648 \edef\Hy@temp{%
9649 \ifHy@pdftoolbar\else /HideToolbar true\fi
9650 \ifHy@pdfmenubar\else /HideMenubar true\fi
9651 \ifHy@pdfwindowui\else /HideWindowUI true\fi
9652 \ifHy@pdfwindow /FitWindow true\fi
9653 \ifHy@pdfcenterwindow /CenterWindow true\fi
9654 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9655 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9656 \Hy@UseNameKey{Direction}\@pdfdirection
9657 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9658 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9659 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9660 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9661 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9662 \Hy@UseNameKey{Duplex}\@pdfduplex
9663 \ifx\@pdfpicktraybypdfsize\@empty
9664 \else
9665 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9666 \fi

```

```

9667 \ifx\@pdfprintpagerange\@empty
9668 \else
9669 /PrintPageRange[\@pdfprintpagerange]%
9670 \fi
9671 \ifx\@pdfnumcopies\@empty
9672 \else
9673 /NumCopies \@pdfnumcopies
9674 \fi
9675 }%
9676 \pdfmark{pdfmark=/PUT,%
9677 Raw={%
9678 \string{Catalog\string}<<%
9679 \ifx\Hy@temp\@empty
9680 \else
9681 /ViewerPreferences<<\Hy@temp>>%
9682 \fi
9683 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9684 \ifx\@pdflang\relax
9685 \else
9686 /Lang(\@pdflang)%
9687 \fi
9688 >>%
9689 }%
9690 }%
9691 }
9692 </dviwindo>
9693 <*dvipdfm|xetex>

```

44.5 dvipdfm/xetex dvi to PDF converter

Provided by Mark Wicks (mwicks@kettering.edu)

(x)dvipdfmx replaces destination names by numbers. This makes it impossible to link from an external document with xr-hyper, so from version 7.00j on this is suppressed with a config special.

```

9694 \special{dvipdfmx:config C 0x0010}
9695 \providecommand*\XR@ext}{pdf}
9696 \Hy@setbreaklinks{true}
9697 \def\HyPat@ObjRef{%
9698   @[\ ]+}%
9699 }
9700 \newsavebox{\pdfm@box}
9701 \def\@pdfm@mark#1{\special{pdf:#1}}
9702 \Hy@WrapperDef\@pdfm@dest#1{%
9703   \Hy@SaveLastskip
9704   \Hy@VerboseAnchor{#1}%
9705   \begingroup
9706     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9707     \def\x{XYZ}%
9708     \ifx\x\@pdfview
9709       \def\x{XYZ @xpos @ypos null}%
9710     \else
9711       \def\x{FitH}%
9712     \ifx\x\@pdfview

```



```

9713     \def\x{FitH @ypos}%
9714 \else
9715     \def\x{FitBH}%
9716     \ifx\x\@pdfview
9717         \def\x{FitBH @ypos}%
9718     \else
9719         \def\x{FitV}%
9720         \ifx\x\@pdfview
9721             \def\x{FitV @xpos}%
9722         \else
9723             \def\x{FitBV}%
9724             \ifx\x\@pdfview
9725                 \def\x{FitBV @xpos}%
9726             \else
9727                 \def\x{Fit}%
9728                 \ifx\x\@pdfview
9729                     \let\x\@pdfview
9730                 \else
9731                     \def\x{FitB}%
9732                     \ifx\x\@pdfview
9733                         \let\x\@pdfview
9734                     \else
9735                         \def\x{FitR}%
9736                         \ifx\x\@pdfview
9737                             \Hy@Warning{'pdfview=FitR' is not supported}%
9738                             \def\x{XYZ @xpos @ypos null}%
9739                         \else
9740                             \@onelevel@sanitize\@pdfview
9741                             \Hy@Warning{%
9742                                 Unknown value '\@pdfview' for pdfview%
9743                             }%
9744                             \def\x{XYZ @xpos @ypos null}%
9745                         \fi
9746                     \fi
9747                 \fi
9748             \fi
9749         \fi
9750     \fi
9751 \fi
9752 \fi
9753 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
9754 \endgroup
9755 \Hy@RestoreLastskip
9756 }
9757 \providecommand*\@pdfview{XYZ}
9758 \providecommand*\@pdfborder{0 0 1}
9759 \providecommand*\@pdfborderstyle{}
9760 \def\hyper@anchor#1{%
9761     \@pdfm@dest{#1}%
9762 }
9763 \def\hyper@anchorstart#1{%
9764     \Hy@activeanchortrue
9765     \@pdfm@dest{#1}%
9766 }

```

```

9767 \def\hyper@anchorend{%
9768 \Hy@activeanchorfalse
9769 }

9770 \newcounter{Hy@AnnotLevel}

9771 \ifHy@ocgcolorlinks
9772 \def\OBJ@OCG@view{@OCG@view}%
9773 \@pdfm@mark{%
9774   obj \OBJ@OCG@view <<%
9775     /Type/OCG%
9776     /Name(View)%
9777     /Usage<<%
9778     /Print<<%
9779     /PrintState/OFF%
9780     >>%
9781     /View<<%
9782     /ViewState/ON%
9783     >>%
9784     >>%
9785     >>%
9786   }%
9787 \@pdfm@mark{close \OBJ@OCG@view}%
9788 \def\OBJ@OCG@print{@OCG@print}%
9789 \@pdfm@mark{%
9790   obj \OBJ@OCG@print <<%
9791     /Type/OCG%
9792     /Name(Print)%
9793     /Usage<<%
9794     /Print<<%
9795     /PrintState/ON%
9796     >>%
9797     /View<<%
9798     /ViewState/OFF%
9799     >>%
9800     >>%
9801     >>%
9802   }%
9803 \@pdfm@mark{close \OBJ@OCG@print}%
9804 \def\OBJ@OCGs{@OCGs}%
9805 \@pdfm@mark{%
9806   obj \OBJ@OCGs [%
9807     \OBJ@OCG@view\space\OBJ@OCG@print
9808   ]%
9809 }%
9810 \@pdfm@mark{close \OBJ@OCGs}%
9811 \@pdfm@mark{%
9812   put @catalog <<%
9813     /OCProperties<<%
9814     /OCGs \OBJ@OCGs
9815     /D<<%
9816     /OFF[\OBJ@OCG@print]%
9817     /AS[%
9818       <<%
9819       /Event/View%

```

```

9820         /OCGs \OBJ@OCGs
9821         /Category[/View]%
9822     >>%
9823     <<%
9824         /Event/Print%
9825         /OCGs \OBJ@OCGs
9826         /Category[/Print]%
9827     >>%
9828     <<%
9829         /Event/Export%
9830         /OCGs \OBJ@OCGs
9831         /Category[/Print]%
9832     >>%
9833     ]%
9834     >>%
9835     >>%
9836     >>%
9837 }%
9838 \AtBeginShipout{%
9839     \setbox\AtBeginShipoutBox=\hbox{%
9840         \copy\AtBeginShipoutBox
9841         \@pdfm@mark{%
9842             put @resources <<%
9843             /Properties<<%
9844             /OCView \OBJ@OCG@view
9845             /OCPrint \OBJ@OCG@print
9846         >>%
9847         >>%
9848     }%
9849 }%
9850 }%
9851 \Hy@AtBeginDocument{%
9852     \def\Hy@colorlink#1{%
9853         \begingroup
9854         \ifHy@ocgcolorlinks
9855             \def\Hy@ocgcolor{#1}%
9856             \setbox0=\hbox\bgroup\color@begingroup
9857         \else
9858             \HyColor@UseColor#1%
9859         \fi
9860     }%
9861     \def\Hy@endcolorlink{%
9862         \ifHy@ocgcolorlinks
9863             \color@endgroup\egroup
9864             \mbox{%
9865                 \@pdfm@mark{content /OC/OCPrint BDC}%
9866                 \rlap{\copy0}%
9867                 \@pdfm@mark{content EMC/OC/OCView BDC}%
9868             \begingroup
9869                 \expandafter\HyColor@UseColor\Hy@ocgcolor
9870                 \box0 %
9871             \endgroup
9872             \@pdfm@mark{content EMC}%
9873         }%

```

```

9874     \fi
9875     \endgroup
9876   }%
9877 }%
9878 \else
9879   \Hy@DisableOption{ocgcolorlinks}%
9880 \fi

```

Use primitive counter arithmetic here to avoid amsmath redefining `\stepcounter` (github issue/13)

```

9881 \def\Hy@BeginAnnot#1{%
9882   \global\advance\c@Hy@AnnotLevel\@ne
9883   \ifnum\c@Hy@AnnotLevel=\@ne
9884     #1%
9885   \fi
9886 }
9887 \def\Hy@endAnnot{%
9888   \ifnum\value{Hy@AnnotLevel}=\@ne
9889     \Hy@endcolorlink
9890     \@pdfm@mark{eann}%
9891   \fi
9892   \global\advance\c@Hy@AnnotLevel\m@ne
9893 }

9894 \def\Hy@undefinedname{UNDEFINED}
9895 \def\hyper@linkstart#1#2{%
9896   \Hy@VerboseLinkStart{#1}{#2}%
9897   \leavevmode
9898   \Hy@BeginAnnot{%
9899     \protected@edef\Hy@testname{#2}%
9900     \ifx\Hy@testname\@empty
9901       \Hy@Warning{%
9902         Empty destination name,\MessageBreak
9903         using ``\Hy@undefinedname'%
9904       }%
9905       \let\Hy@testname\Hy@undefinedname
9906     \else
9907       \Hy@pstringdef\Hy@testname{%
9908         \expandafter\HyperDestNameFilter\expandafter{%
9909           \Hy@testname
9910         }%
9911       }%
9912     \fi
9913     \@pdfm@mark{%
9914       bann<<%
9915       /Type/Annot%
9916       /Subtype/Link%
9917       \ifHy@pdfa /F 4\fi
9918       \Hy@setpdfborder
9919       \Hy@setpdfhighlight
9920       \expandafter\ifx\c@name @#1bordercolor\endcsname\relax
9921       \else
9922         /C[\c@name @#1bordercolor\endcsname]%
9923       \fi
9924       /A<<%

```

```

9925      /S/GoTo%
9926      /D(\Hy@testname)%
9927      \Hy@href@nextactionraw
9928      >>%
9929      >>%
9930      }%
9931      \expandafter\Hy@colorlink\csname @#1color\endcsname
9932      }%
9933      }
9934      \def\hyper@linkend{\Hy@EndAnnot}%
9935      \def\hyper@link#1#2#3{%
9936      \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
9937      }
9938      \def\hyper@linkfile#1#2#3{%
9939      \leavevmode
9940      \Hy@BeginAnnot{%
9941      \def\Hy@pstringF{#2}%
9942      \Hy@CleanupFile\Hy@pstringF
9943      \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9944      \Hy@pstringdef\Hy@pstringD{#3}%
9945      \Hy@MakeRemoteAction
9946      \@pdfm@mark{%
9947      bann<<%
9948      /Type/Annot%
9949      /Subtype/Link%
9950      \ifHy@pdfa /F 4\fi
9951      \Hy@setpdfborder
9952      \Hy@setpdfhighlight
9953      \ifx\@filebordercolor\relax
9954      \else
9955      /C[\@filebordercolor]%
9956      \fi
9957      /A<<%
9958      /S/GoToR%
9959      /F(\Hy@pstringF)%
9960      /D%
9961      \ifx\#3\%
9962      [\Hy@href@page\@pdfremotestartview]%
9963      \else
9964      (\Hy@pstringD)%
9965      \fi
9966      \Hy@SetNewWindow
9967      \Hy@href@nextactionraw
9968      >>%
9969      >>%
9970      }%
9971      \Hy@colorlink\@filecolor
9972      }%
9973      #1\Hy@xspace@end
9974      \Hy@EndAnnot
9975      }
9976      \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
9977      \leavevmode
9978      \Hy@BeginAnnot{%

```

```

9979 \Hy@pstringdef\Hy@pstringF{#1}%
9980 \Hy@pstringdef\Hy@pstringP{#3}%
9981 \@pdfm@mark{%
9982   bann<<%
9983     /Type/Annot%
9984     /Subtype/Link%
9985     \ifHy@pdfa /F 4\fi
9986     \Hy@setpdfborder
9987     \Hy@setpdfhighlight
9988     \ifx\@runbordercolor\relax
9989     \else
9990       /C[\@runbordercolor]%
9991     \fi
9992     /A<<%
9993     /F(\Hy@pstringF)%
9994     /S/Launch%
9995     \Hy@SetNewWindow
9996     \ifx\#3\%
9997     \else
9998       /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9999     \fi
10000 \Hy@href@nextactionraw
10001 >>%
10002 >>%
10003 }%
10004 \Hy@colorlink\@runcolor
10005 }%
10006 #2\Hy@xspace@end
10007 \Hy@EndAnnot
10008 }
10009 \def\hyper@linkurl#1#2{%
10010 \leavevmode
10011 \Hy@BeginAnnot{%
10012 \Hy@pstringdef\Hy@pstringURI{#2}%
10013 \@pdfm@mark{%
10014   bann<<%
10015     /Type/Annot%
10016     /Subtype/Link%
10017     \ifHy@pdfa /F 4\fi
10018     \Hy@setpdfborder
10019     \Hy@setpdfhighlight
10020     \ifx\@urlbordercolor\relax
10021     \else
10022       /C[\@urlbordercolor]%
10023     \fi
10024     /A<<%
10025     /S/URI%
10026     /URI(\Hy@pstringURI)%
10027     \ifHy@href@ismap
10028     /IsMap true%
10029     \fi
10030     \Hy@href@nextactionraw
10031     >>%
10032     >>%

```

```

10033 }%
10034 \Hy@colorlink\@urlcolor
10035 }%
10036 #1\Hy@xspace@end
10037 \Hy@EndAnnot
10038 }
10039 \def\Acrobatmenu#1#2{%
10040 \Hy@Acrobatmenu{#1}{#2}{%
10041 \Hy@BeginAnnot{%
10042 \EdefEscapeName\Hy@temp@menu{#1}%
10043 \@pdfm@mark{%
10044 bann<<%
10045 /Type/Annot%
10046 /Subtype/Link%
10047 \ifHy@pdfa /F 4\fi
10048 \Hy@setpdfborder
10049 \Hy@setpdfhighlight
10050 \ifx\@menubordercolor\relax
10051 \else
10052 /C[\@menubordercolor]%
10053 \fi
10054 /A<<%
10055 /S/Named%
10056 /N/\Hy@temp@menu
10057 \Hy@href@nextactionraw
10058 >>%
10059 >>%
10060 }%
10061 \Hy@colorlink\@menucolor
10062 }%
10063 #2\Hy@xspace@end
10064 \Hy@EndAnnot
10065 }%
10066 }
10067
10068 \def\PDF@FinishDoc{%
10069 \Hy@UseMaketitleInfos
10070 \HyInfo@GenerateAddons
10071 \@pdfm@mark{%
10072 docinfo<<%
10073 /Title(\@pdftitle)%
10074 /Subject(\@pdfsubject)%
10075 /Creator(\@pdfcreator)%
10076 \ifx\@pdfcreationdate\@empty
10077 \else
10078 /CreationDate(\@pdfcreationdate)%
10079 \fi
10080 \ifx\@pdfmoddate\@empty
10081 \else
10082 /ModDate(\@pdfmoddate)%
10083 \fi
10084 /Author(\@pdfauthor)%
10085 \ifx\@pdfproducer\relax
10086 \else

```

```

10087      /Producer(\@pdfproducer)%
10088      \fi
10089      /Keywords(\@pdfkeywords)%
10090      \ifx\@pdftrapped\@empty
10091      \else
10092      /Trapped/\@pdftrapped
10093      \fi
10094      \HyInfo@Addons
10095      >>%
10096  }%
10097  \Hy@DisableOption{pdfauthor}%
10098  \Hy@DisableOption{pdftitle}%
10099  \Hy@DisableOption{pdfsubject}%
10100  \Hy@DisableOption{pdfcreator}%
10101  \Hy@DisableOption{addtopdfcreator}%
10102  \Hy@DisableOption{pdfcreationdate}%
10103  \Hy@DisableOption{pdfcreationdate}%
10104  \Hy@DisableOption{pdfmoddate}%
10105  \Hy@DisableOption{pdfproducer}%
10106  \Hy@DisableOption{pdfkeywords}%
10107  \Hy@DisableOption{pdftrapped}%
10108  \Hy@DisableOption{pdfinfo}%
10109  }

10110 \def\PDF@SetupDoc{%
10111   \edef\Hy@temp{%
10112     \ifHy@pdftoolbar\else /HideToolbar true\fi
10113     \ifHy@pdfmenubar\else /HideMenubar true\fi
10114     \ifHy@pdfwindowui\else /HideWindowUI true\fi
10115     \ifHy@pdfwindow /FitWindow true\fi
10116     \ifHy@pdfcenterwindow /CenterWindow true\fi
10117     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10118     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10119     \Hy@UseNameKey{Direction}\@pdfdirection
10120     \Hy@UseNameKey{ViewArea}\@pdfviewarea
10121     \Hy@UseNameKey{ViewClip}\@pdfviewclip
10122     \Hy@UseNameKey{PrintArea}\@pdfprintarea
10123     \Hy@UseNameKey{PrintClip}\@pdfprintclip
10124     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10125     \Hy@UseNameKey{Duplex}\@pdfduplex
10126     \ifx\@pdfpicktraybypdfsize\@empty
10127     \else
10128       /PickTrayByPDFSize \@pdfpicktraybypdfsize
10129     \fi
10130     \ifx\@pdfprintpagerange\@empty
10131     \else
10132       /PrintPageRange[\@pdfprintpagerange]%
10133     \fi
10134     \ifx\@pdfnumcopies\@empty
10135     \else
10136       /NumCopies \@pdfnumcopies
10137     \fi
10138   }%
10139   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10140   \@pdfm@mark{%

```



```

10141 docview<<%
10142   \ifx\@pdfstartpage\@empty
10143   \else
10144     \ifx\@pdfstartview\@empty
10145     \else
10146       /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10147     \fi
10148   \fi
10149   \ifx\@baseurl\@empty
10150   \else
10151     /URI<</Base(\Hy@pstringB)>>%
10152   \fi
10153   /PageMode/\@pdfpagemode
10154   \ifx\Hy@temp\@empty
10155   \else
10156     /ViewerPreferences<<\Hy@temp>>%
10157   \fi
10158   \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10159   \ifx\@pdflang\relax
10160   \else
10161     /Lang(\@pdflang)%
10162   \fi
10163 >>%
10164 }%
10165 \ifx\@pdfpagescrop\@empty
10166 \else
10167   \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
10168 \fi
10169 }
10170 </dvipdfm | xetex>
10171 < *dvipdfm | xetex>

```

\hyper@pagetransition

```

10172 \def\hyper@pagetransition{%
10173   \ifx\@pdfpagetransition\relax
10174   \else
10175     \ifx\@pdfpagetransition\@empty
10176     \else
10177       \special{pdf:put @thispage %
10178         <</Trans<</S/\@pdfpagetransition>>>>%
10179       }%
10180     \fi
10181   \fi
10182 }

```

\hyper@pageduration

```

10183 \def\hyper@pageduration{%
10184   \ifx\@pdfpageduration\relax
10185   \else
10186     \ifx\@pdfpageduration\@empty
10187     \else
10188       \special{pdf:put @thispage %
10189         <</Dur \@pdfpageduration>>%
10190     }%

```

```

10191   \fi
10192   \fi
10193 }

10194 \g@addto@macro\Hy@EveryPageBoxHook{%
10195   \hyper@pagetransition
10196   \hyper@pageduration
10197 }

10198 </dvipdfm | xetex>

```

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

```

10199 <*dvipdfm>
10200 \AtBeginShipoutFirst{%
10201   \ifHy@setpagesize
10202     \begingroup
10203     \ifnum\mag=\@m
10204       \ifdim\stockwidth>\z@
10205         \ifdim\stockheight>\z@
10206           \special{papersize=\the\stockwidth,\the\stockheight}%
10207         \else
10208           \ifdim\paperwidth>\z@
10209             \ifdim\paperheight>\z@
10210               \special{papersize=\the\paperwidth,\the\paperheight}%
10211             \fi
10212           \fi
10213         \fi
10214       \else
10215         \ifdim\stockwidth=\z@
10216           \ifdim\paperwidth>\z@
10217             \ifdim\paperheight>\z@
10218               \special{papersize=\the\paperwidth,\the\paperheight}%
10219             \fi
10220           \fi
10221         \fi
10222       \fi
10223     \fi
10224   \endgroup
10225 \fi
10226 \Hy@DisableOption{setpagesize}%
10227 }

10228 </dvipdfm>

```

44.6 VTeX typesetting system

Provided by MicroPress, May 1998. They require VTeX version 6.02 or newer; see <http://www.micropress-inc.com/> for details.

```

10229 <*vtexhtml>
10230 \providecommand*\XR@ext}{htm}
10231 \RequirePackage{vtexhtml}
10232 \newif\if@Localurl
10233 \let\PDF@FinishDoc\@empty
10234 \def\PDF@SetupDoc{%
10235   \ifx\@baseurl\@empty

```

```

10236 \else
10237 \special{!direct <base href="@baseurl">}%
10238 \fi
10239 }
10240 \def\@urltype{url}
10241 \def\hyper@link#1#2#3{%
10242 \Hy@VerboseLinkStart{#1}{#2}%
10243 \leavevmode
10244 \special{!direct <a href=%
10245 \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10246 #3\Hy@xspace@end
10247 \special{!direct </a>}%
10248 }
10249 \def\hyper@linkurl#1#2{%
10250 \begingroup
10251 \hyper@chars
10252 \leavevmode
10253 \MathBSuppress=1\relax
10254 \special{!direct <a href=%
10255 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10256 #1\Hy@xspace@end
10257 \MathBSuppress=0\relax
10258 \special{!direct </a>}%
10259 \endgroup
10260 }
10261 \def\hyper@linkfile#1#2#3{%
10262 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
10263 }
10264 \def\hyper@linkstart#1#2{%
10265 \Hy@VerboseLinkStart{#1}{#2}%
10266 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
10267 \@Localurltrue
10268 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10269 \else
10270 \@Localurlfalse
10271 \begingroup
10272 \hyper@chars
10273 \special{!aref \HyperDestNameFilter{#2}}%
10274 \endgroup
10275 \fi
10276 }
10277 \def\hyper@linkend{%
10278 \if@Localurl
10279 \special{!endaref}%
10280 \else
10281 \special{!direct </a>}%
10282 \fi
10283 }
10284 \Hy@WrapperDef\hyper@anchorstart#1{%
10285 \Hy@SaveLastskip
10286 \Hy@VerboseAnchor{#1}%
10287 \begingroup
10288 \hyper@chars
10289 \special{!aname #1}%

```

```

10290 \special{!direct <a name=%
10291 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10292 \endgroup
10293 \Hy@activeanchortrue
10294 }
10295 \def\hyper@anchorend{%
10296 \special{!direct </a>}%
10297 \Hy@activeanchorfalse
10298 \Hy@RestoreLastskip
10299 }
10300 \Hy@WrapperDef\hyper@anchor#1{%
10301 \Hy@SaveLastskip
10302 \Hy@VerboseAnchor{#1}%
10303 \begingroup
10304 \let\protect=\string
10305 \hyper@chars
10306 \leavevmode
10307 \special{!aname #1}%
10308 \special{!direct <a name=%
10309 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10310 \endgroup
10311 \Hy@activeanchortrue
10312 \bgroup\anchor@spot\egroup
10313 \special{!direct </a>}%
10314 \Hy@activeanchorfalse
10315 \Hy@RestoreLastskip
10316 }
10317 \def\@Form[#1]{%
10318 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10319 }
10320 \let\@endForm\@empty
10321 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10322 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10323 }
10324 \def\@TextField[#1]#2{% parameters, label
10325 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10326 }
10327 \def\@CheckBox[#1]#2{% parameters, label
10328 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
10329 }
10330 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10331 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10332 }
10333 \def\@PushButton[#1]#2{% parameters, label
10334 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10335 }
10336 \def\@Reset[#1]#2{%
10337 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10338 }
10339 \def\@Submit[#1]#2{%
10340 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10341 }
10342 \</vtexhtml>
10343 \<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.

```

10344 \ifcsname mediaheight\endcsname
10345 \ifHy@setpagesize
10346   \providecommand*\VTexInitMediaSize{%
10347     \ifnum\mag=\@m
10348       \ifdim\stockwidth>\z@
10349         \ifdim\stockheight>\z@
10350           \setlength\mediaheight\stockheight
10351           \setlength\mediawidth\stockwidth
10352         \else
10353           \ifdim\paperwidth>\z@
10354             \ifdim\paperheight>\z@
10355               \setlength\mediaheight\paperheight
10356               \setlength\mediawidth\paperwidth
10357             \fi
10358           \fi
10359         \fi
10360       \else
10361         \ifdim\stockwidth=\z@
10362           \ifdim\paperwidth>\z@
10363             \ifdim\paperheight>\z@
10364               \setlength\mediaheight\paperheight
10365               \setlength\mediawidth\paperwidth
10366             \fi
10367           \fi
10368         \fi
10369       \fi
10370     \fi
10371   }%
10372   \Hy@AtBeginDocument{\VTexInitMediaSize}%
10373 \fi
10374 \Hy@DisableOption{setpagesize}%
10375 \fi

```

Older versions of VTeX require `xyz` in lower case.

```

10376 \providecommand*\@pdfview{xyz}
10377 \providecommand*\@pdfborder{0 0 1}
10378 \providecommand*\@pdfborderstyle{}
10379 \let\CurrentBorderColor\@linkbordercolor
10380 \Hy@WrapperDef\hyper@anchor#1{%
10381   \Hy@SaveLastskip
10382   \Hy@VerboseAnchor{#1}%
10383   \begingroup
10384     \let\protect=\string
10385     \hyper@chars
10386     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10387   \endgroup
10388   \Hy@activeanchortrue
10389   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10390   \Hy@activeanchorfalse
10391   \Hy@RestoreLastskip
10392 }

```

```

10393 \Hy@WrapperDef\hyper@anchorstart#1{%
10394 \Hy@SaveLastskip
10395 \Hy@VerboseAnchor{#1}%
10396 \begingroup
10397 \hyper@chars
10398 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10399 \endgroup
10400 \Hy@activeanchortrue
10401 }
10402 \def\hyper@anchorend{%
10403 \Hy@activeanchorfalse
10404 \Hy@RestoreLastskip
10405 }
10406 \def\@urltype{url}
10407 \def\Hy@undefinedname{UNDEFINED}
10408 \def\hyper@linkstart#1#2{%
10409 \Hy@VerboseLinkStart{#1}{#2}%
10410 \Hy@pstringdef\Hy@pstringURI{#2}%
10411 \expandafter\Hy@colorlink\csname @#1color\endcsname
10412 \@ifundefined{@#1bordercolor}{%
10413 \let\CurrentBorderColor\relax
10414 }{%
10415 \edef\CurrentBorderColor{%
10416 \csname @#1bordercolor\endcsname
10417 }%
10418 }%
10419 \def\Hy@tempa{#1}%
10420 \ifx\Hy@tempa\@urltype
10421 \special{!%
10422 aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10423 \ifHy@href@ismap
10424 /IsMap true%
10425 \fi
10426 \Hy@href@nextactionraw
10427 >,%
10428 a=<%
10429 \ifHy@pdfa /F 4\fi
10430 \Hy@setpdfborder
10431 \ifx\CurrentBorderColor\relax
10432 \else
10433 /C [\CurrentBorderColor]%
10434 \fi
10435 >%
10436 }%
10437 \else
10438 \protected@edef\Hy@testname{#2}%
10439 \ifx\Hy@testname\@empty
10440 \Hy@Warning{%
10441 Empty destination name,\MessageBreak
10442 using ``\Hy@undefinedname'%
10443 }%
10444 \let\Hy@testname\Hy@undefinedname
10445 \fi
10446 \special{!%

```

```

10447   aref \expandafter\HyperDestNameFilter
10448     \expandafter{\Hy@testname};%
10449   a=<%
10450     \ifHy@pdfa /F 4\fi
10451     \Hy@setpdfborder
10452     \ifx\CurrentBorderColor\relax
10453     \else
10454       /C [\CurrentBorderColor]%
10455     \fi
10456   >%
10457 }%
10458 \fi
10459 }
10460 \def\hyper@linkend{%
10461   \special{!endaref}%
10462   \Hy@endcolorlink
10463 }
10464 \def\hyper@linkfile#1#2#3{%
10465   \leavevmode
10466   \def\Hy@pstringF{#2}%
10467   \Hy@CleanupFile\Hy@pstringF
10468   \special{!%
10469     aref <%
10470       \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi\fi
10471       f=\Hy@pstringF>#3;%
10472     a=<%
10473       \ifHy@pdfa /F 4\fi
10474       \Hy@setpdfborder
10475       \ifx\@filebordercolor\relax
10476       \else
10477         /C [\@filebordercolor]%
10478       \fi
10479     >%
10480   }%
10481   \Hy@colorlink\@filecolor
10482   #1\Hy@xspace@end
10483   \Hy@endcolorlink
10484   \special{!endaref}%
10485 }
10486 \def\hyper@linkurl#1#2{%
10487   \begingroup
10488     \Hy@pstringdef\Hy@pstringURI{#2}%
10489     \hyper@chars
10490     \leavevmode
10491     \special{!%
10492       aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10493       \ifHy@href@ismap
10494         /IsMap true%
10495       \fi
10496       \Hy@href@nextactionraw
10497     >;%
10498     a=<%
10499       \ifHy@pdfa /F 4\fi
10500       \Hy@setpdfborder

```

```

10501     \ifx\@urlbordercolor\relax
10502     \else
10503         /C [\@urlbordercolor]%
10504     \fi
10505     >%
10506 }%
10507 \Hy@colorlink\@urlcolor
10508     #1\Hy@xspace@end
10509 \Hy@endcolorlink
10510 \special{!endaref}%
10511 \endgroup
10512 }
10513 \def\hyper@link#1#2#3{%
10514     \Hy@VerboseLinkStart{#1}{#2}%
10515     \@ifundefined{@#1bordercolor}{%
10516         \let\CurrentBorderColor\relax
10517     }{%
10518         \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
10519     }%
10520     \leavevmode
10521     \protected@edef\Hy@testname{#2}%
10522     \ifx\Hy@testname\@empty
10523         \Hy@Warning{%
10524             Empty destination name,\MessageBreak
10525             using ``\Hy@undefinedname'%
10526         }%
10527         \let\Hy@testname\Hy@undefinedname
10528     \fi
10529     \special{!%
10530         aref \expandafter\HyperDestNameFilter
10531             \expandafter{\Hy@testname};%
10532         a=<%
10533             \ifHy@pdfa /F 4\fi
10534             \Hy@setpdfborder
10535             \ifx\CurrentBorderColor\relax
10536                 \else
10537                     /C [\CurrentBorderColor]%
10538             \fi
10539         >%
10540     }%
10541     \expandafter
10542     \Hy@colorlink\csname @#1color\endcsname
10543     #3\Hy@xspace@end
10544     \Hy@endcolorlink
10545     \special{!endaref}%
10546 }
10547 \def\hyper@image#1#2{%
10548     \hyper@linkurl{#2}{#1}%
10549 }
10550 \def\@hyper@launch run:#1\#2#3{%
10551     \Hy@pstringdef\Hy@pstringF{#1}%
10552     \Hy@pstringdef\Hy@pstringP{#3}%
10553     \leavevmode
10554     \special{!aref %

```



```

10555 <u=%
10556 /Type/Action%
10557 /S/Launch%
10558 /F(\Hy@pstringF)%
10559 \Hy@SetNewWindow
10560 \ifx\#3\%
10561 \else
10562 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10563 \fi
10564 \Hy@href@nextactionraw
10565 >;%
10566 a=<%
10567 \ifHy@pdfa /F 4\fi
10568 \Hy@setpdfborder
10569 \ifx\@runbordercolor\relax
10570 \else
10571 /C[\@runbordercolor]%
10572 \fi
10573 >%
10574 }%
10575 \Hy@colorlink\@runcolor
10576 #2\Hy@xspace@end
10577 \Hy@endcolorlink
10578 \special{!endaref}%
10579 }
10580 \def\Acrobatmenu#1#2{%
10581 \EdefEscapeName\Hy@temp@menu{#1}%
10582 \Hy@Acrobatmenu{#1}{#2}{%
10583 \special{!%
10584 aref <u=/S /Named /N /\Hy@temp@menu>;%
10585 a=<%
10586 \ifHy@pdfa /F 4\fi
10587 \Hy@setpdfborder
10588 \ifx\@menubordercolor\relax
10589 \else
10590 /C[\@menubordercolor]%
10591 \fi
10592 >%
10593 }%
10594 \Hy@colorlink\@menucolor
10595 #2\Hy@xspace@end
10596 \Hy@endcolorlink
10597 \special{!endaref}%
10598 }%
10599 }

```

The following code (transition effects) is made by Alex Kostin.

The code below makes sense for VTeX 7.02 or later.

Please never use \@ifundefined{VTeXversion}{..}{..} *globally*.

```

10600 \ifnum\Hy@VTeXversion<702 %
10601 \else
10602 \def\hyper@pagetransition{%
10603 \ifx\@pdfpagetransition\relax
10604 \else

```

```
10605 \ifx\@pdfpagetransition\@empty
```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```
10606 \else
```

```
10607 \hvtex@parse@trans\@pdfpagetransition
```

```
10608 \fi
```

```
10609 \fi
```

```
10610 }%
```

I have to write an “honest” parser to convert raw PDF code into V_TE_X \special.
(AVK)

Syntax of V_TE_X \special{!trans <transition_effect>}::

```
<transition_effect> ::= <transition_style>[,<transition_duration>]
```

```
<transition_style> ::= <Blinds_effect> | <Box_effect> |
```

```
<Dissolve_effect> | <Glitter_effect> |
```

```
<Split_effect> | <Wipe_effect>
```

```
<Blinds_effect> ::= B[<effect_dimension>]
```

```
<Box_effect> ::= X[<effect_motion>]
```

```
<Dissolve_effect> ::= D
```

```
<Glitter_effect> ::= G[<effect_direction>]
```

```
<Split_effect> ::= S[<effect_motion>][<effect_dimension>]
```

```
<Wipe_effect> ::= W[<effect_direction>]
```

```
<Replace_effect> ::= R
```

```
<effect_direction> ::= <number>
```

```
<effect_dimension> ::= H | V
```

```
<effect_motion> ::= I | O
```

```
<transition_duration> ::= <number>
```

Transition codes:

```
10611 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
```

```
10612 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
```

```
10613 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
```

```
10614 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
```

```
10615 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
```

```
10616 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
```

```
10617 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%
```

Optional parameters:

```
10618 \def\hvtex@par@dimension{/Dm}%
```

```
10619 \def\hvtex@par@direction{/Di}%
```

```
10620 \def\hvtex@par@duration{/D}%
```

```
10621 \def\hvtex@par@motion{/M}%
```

Tokenizer:

```
10622 \def\hvtex@gettoken{%
```

```
10623 \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
```

```
10624 }%
```

Notice that tokens in the input buffer must be space delimited.

```
10625 \def\hvtex@gettoken@#1 #2\@nil{%
```

```
10626 \edef\hvtex@token{#1}%
```

```
10627 \edef\hvtex@buffer{#2}%
```

```
10628 }%
```

```
10629 \def\hvtex@parse@trans#1{%
```

Initializing code:

```

10630 \let\hvtex@trans@code\@empty
10631 \let\hvtex@param@dimension\@empty
10632 \let\hvtex@param@direction\@empty
10633 \let\hvtex@param@duration\@empty
10634 \let\hvtex@param@motion\@empty
10635 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

10636 \hvtex@gettoken
10637 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

10638 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

10639 \else
10640 \hvtex@gettoken
10641 \fi
10642 \fi
10643 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

10644 \hvtex@trans@params
10645 }%

```

Reentrant macro to parse optional parameters.

```

10646 \def\hvtex@trans@params{%
10647 \ifx\hvtex@buffer\@empty
10648 \else
10649 \hvtex@gettoken
10650 \let\hvtex@trans@par\hvtex@token
10651 \ifx\hvtex@buffer\@empty
10652 \else
10653 \hvtex@gettoken
10654 \ifx\hvtex@trans@par\hvtex@par@duration

```

/D is the effect duration in seconds. V_T_EX special takes it in milliseconds.

```

10655 \let\hvtex@param@duration\hvtex@token
10656 \else \ifx\hvtex@trans@par\hvtex@par@motion

```

/M can be either /I or /O

```

10657 \expandafter\edef\expandafter\hvtex@param@motion
10658 \expandafter{\expandafter\@gobble\hvtex@token}%
10659 \else \ifx\hvtex@trans@par\hvtex@par@dimension

```

/Dm can be either /H or /V

```

10660 \expandafter\edef\expandafter\hvtex@param@dimension
10661 \expandafter{\expandafter\@gobble\hvtex@token}%
10662 \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).

```

10663 \let\hvtex@param@direction\hvtex@token
10664 \fi\fi\fi\fi
10665 \fi
10666 \fi

```

```

10667 \ifx\hvtex@buffer\@empty
10668 \let\next\hvtex@produce@trans
10669 \else
10670 \let\next\hvtex@trans@params
10671 \fi
10672 \next
10673 }%

```

Merge <transition_effect> and issue the special when possible. Too lazy to validate optional parameters.

```

10674 \def\hvtex@produce@trans{%
10675 \let\vtex@trans@special\@empty
10676 \if S\hvtex@trans@code
10677 \edef\vtex@trans@special{\hvtex@trans@code
10678 \hvtex@param@dimension\hvtex@param@motion}%
10679 \else\if B\hvtex@trans@code
10680 \edef\vtex@trans@special{%
10681 \hvtex@trans@code\hvtex@param@dimension
10682 }%
10683 \else\if X\hvtex@trans@code
10684 \edef\vtex@trans@special{%
10685 \hvtex@trans@code\hvtex@param@motion
10686 }%
10687 \else\if W\hvtex@trans@code
10688 \edef\vtex@trans@special{%
10689 \hvtex@trans@code\hvtex@param@direction
10690 }%
10691 \else\if D\hvtex@trans@code
10692 \let\vtex@trans@special\hvtex@trans@code
10693 \else\if R\hvtex@trans@code
10694 \let\vtex@trans@special\hvtex@trans@code
10695 \else\if G\hvtex@trans@code
10696 \edef\vtex@trans@special{%
10697 \hvtex@trans@code\hvtex@param@direction
10698 }%
10699 \fi\fi\fi\fi\fi\fi
10700 \ifx\vtex@trans@special\@empty
10701 \else
10702 \ifx\hvtex@param@duration\@empty
10703 \else
10704 \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

10705 \multiply\dimen@\@m
10706 \edef\vtex@trans@special{%
10707 \vtex@trans@special,\strip@pt\dimen@
10708 }%
10709 \fi

```

And all the mess is just for this.

```

10710 \special{!trans \vtex@trans@special}%
10711 \fi
10712 }%
10713 \def\hyper@pageduration{%
10714 \ifx\@pdfpageduration\relax

```

```

10715 \else
10716 \ifx\@pdfpageduration\@empty
10717 \special{!duration-}%
10718 \else
10719 \special{!duration \@pdfpageduration}%
10720 \fi
10721 \fi
10722 }%
10723 \g@addto@macro\Hy@EveryPageBoxHook{%
10724 \hyper@pagetransition
10725 \hyper@pageduration
10726 }%
10727 \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
10728 \ifx\@pdfproducer\relax
10729 \def\@pdfproducer{VTeX}%
10730 \ifnum\Hy@VTeXversion>\z@
10731 \count@\VTeXversion
10732 \divide\count@ 100 %
10733 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
10734 \multiply\count@ -100 %
10735 \advance\count@\VTeXversion
10736 \edef\@pdfproducer{%
10737 \@pdfproducer
10738 .\ifnum\count@<10 0\fi\the\count@
10739 \ifx\VTeXOS\@undefined\else
10740 \ifnum\VTeXOS>0 %
10741 \ifnum\VTeXOS<6 %
10742 \space(%
10743 \ifcase\VTeXOS
10744 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
10745 \fi
10746 )%
10747 \fi
10748 \fi
10749 \fi
10750 ,\space
10751 \ifnum\OpMode=\@one PDF\else PS\fi
10752 \space backend%
10753 \ifx\gexmode\@undefined\else
10754 \ifnum\gexmode>\z@\space with GeX\fi
10755 \fi
10756 }%
10757 \fi

```

10758 \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).

```
10759 \def\PDF@SetupDoc{%
10760   \ifx\@pdfpagescrop\@empty
10761   \else
10762     \special{!pdfinfo b=<\@pdfpagescrop>}%
10763   \fi
10764   \ifx\@pdfstartpage\@empty
10765   \else
10766     \ifx\@pdfstartview\@empty
10767     \else
10768       \special{!onopen Page\@pdfstartpage}%
10769     \fi
10770   \fi
10771   \special{!pdfinfo p=</\@pdfpagemode>}%
10772   \ifx\@baseurl\@empty
10773   \else
10774     \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
10775   \fi
10776   \special{!pdfinfo v=<<<%
10777     \ifHy@pdftoolbar\else /HideToolbar true\fi
10778     \ifHy@pdfmenubar\else /HideMenubar true\fi
10779     \ifHy@pdfwindowui\else /HideWindowUI true\fi
10780     \ifHy@pdfwindow /FitWindow true\fi
10781     \ifHy@pdfcenterwindow /CenterWindow true\fi
10782     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10783     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10784     \Hy@UseNameKey{Direction}\@pdfdirection
10785     \Hy@UseNameKey{ViewArea}\@pdfviewarea
10786     \Hy@UseNameKey{ViewClip}\@pdfviewclip
10787     \Hy@UseNameKey{PrintArea}\@pdfprintarea
10788     \Hy@UseNameKey{PrintClip}\@pdfprintclip
10789     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10790     \Hy@UseNameKey{Duplex}\@pdfduplex
10791     \ifx\@pdfpicktraybypdfsize\@empty
10792     \else
10793       /PickTrayByPDFSize \@pdfpicktraybypdfsize
10794     \fi
10795     \ifx\@pdfprintpagerange\@empty
```

```

10796 \else
10797 /PrintPageRange[\@pdfprintpagerange]%
10798 \fi
10799 \ifx\@pdfnumcopies\@empty
10800 \else
10801 /NumCopies \@pdfnumcopies
10802 \fi
10803 >>>}%
10804 \ifx\@pdfpagelayout\@empty
10805 \else
10806 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
10807 \fi
10808 }%
10809 \HyInfo@AddonUnsupportedtrue
10810 \define@key{Hyp}{pdfcreationdate}{%
10811 \Hy@Warning{%
10812 VTeX does not support pdfcreationdate.\MessageBreak
10813 Therefore its setting is ignored%
10814 }%
10815 }
10816 \define@key{Hyp}{pdfmoddate}{%
10817 \Hy@Warning{%
10818 VTeX does not support pdfmoddate.\MessageBreak
10819 Therefore its setting is ignored%
10820 }%
10821 }
10822 \def\PDF@FinishDoc{%
10823 \Hy@UseMaketitleInfos
10824 \HyInfo@TrappedUnsupported
10825 \special{!pdfinfo a=<\@pdfauthor>}%
10826 \special{!pdfinfo t=<\@pdftitle>}%
10827 \special{!pdfinfo s=<\@pdfsubject>}%
10828 \special{!pdfinfo c=<\@pdfcreator>}%
10829 \ifx\@pdfproducer\relax
10830 \else
10831 \special{!pdfinfo r=<\@pdfproducer>}%
10832 \fi
10833 \special{!pdfinfo k=<\@pdfkeywords>}%
10834 \Hy@DisableOption{pdfauthor}%
10835 \Hy@DisableOption{pdftitle}%
10836 \Hy@DisableOption{pdfsubject}%
10837 \Hy@DisableOption{pdfcreator}%
10838 \Hy@DisableOption{addtopdfcreator}%
10839 \Hy@DisableOption{pdfcreationdate}%
10840 \Hy@DisableOption{pdfcreationdate}%
10841 \Hy@DisableOption{pdfmoddate}%
10842 \Hy@DisableOption{pdfproducer}%
10843 \Hy@DisableOption{pdfkeywords}%
10844 \Hy@DisableOption{pdftrapped}%
10845 \Hy@DisableOption{pdfinfo}%
10846 }
10847 </vtex>

```

44.7 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.

```
10848 <dviwindo>\def\literalps@out#1{\special{ps:#1}}}%  
10849 <packageEnd>\providecommand*{\Hy@DistillerDestFix}{}  
10850 <*pdfmark | dviwindo>  
10851 \def\Hy@DistillerDestFix{%  
10852   \begingroup  
10853     \let\x\literalps@out
```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```
10854   \ifnum \@ifundefined{OpMode}{0}{}%  
10855     \@ifundefined{gexmode}{0}{}%  
10856     \ifnum\gexmode>0 \OpMode\else 0\fi  
10857   }>1 %  
10858   \def\x##1{%  
10859     \immediate\special{!=##1}}%  
10860   }%  
10861   \fi  
10862   \x{%  
10863     /product where{%  
10864       pop %  
10865       product(Distiller)search{%  
10866         pop pop pop %  
10867         version(.)search{%  
10868           exch pop exch pop%  
10869           (3011)eq{%  
10870             gsave %  
10871             newpath 0 0 moveto closepath clip%  
10872             /Courier findfont 10 scalefont setfont %  
10873             72 72 moveto(.)show %  
10874             grestore%  
10875           }if%  
10876           }{pop}ifelse%  
10877           }{pop}ifelse%  
10878         }if%  
10879       }%  
10880     \endgroup  
10881   }  
10882 </pdfmark | dviwindo>
```

44.8 Direct pdfmark support

Drivers that load `pdfmark.def` have to provide the correct macro definitions of

<code>\@pdfproducer</code>	for document information
<code>\literalps@out</code>	PostScript output
<code>\headerps@out</code>	PostScript output that goes in the header area

and the correct definitions of the following PostScript procedures:

<code>H.S</code>	start of anchor, link or rect
<code>#1 H.A</code>	end of anchor, argument=baselineskip in pt
<code>#1 H.L</code>	end of link, argument=baselineskip in pt
<code>H.R</code>	end of rect
<code>H.B</code>	raw rect code

```

10883 (*pdfmark)
10884 \Hy@breaklinks@unsupported
10885 \def\HyPat@ObjRef{%
10886   \[~{}]+\}%
10887 }
10888 \Hy@WrapperDef\hyper@anchor#1{%
10889   \Hy@SaveLastskip
10890   \Hy@VerboseAnchor{#1}%
10891   \begingroup
10892     \pdfmark[\anchor@spot]{%
10893       pdfmark=/DEST,%
10894       linktype=anchor,%
10895       View=/\@pdfview \@pdfviewparams,%
10896       DestAnchor={#1}%
10897     }%
10898   \endgroup
10899   \Hy@RestoreLastskip
10900 }
10901 \ifundefined{hyper@anchorstart}{\endinput}
10902 \Hy@WrapperDef\hyper@anchorstart#1{%
10903   \Hy@SaveLastskip
10904   \Hy@VerboseAnchor{#1}%
10905   \literalps@out{H.S}%
10906   \Hy@AllowHyphens
10907   \xdef\hyper@currentanchor{#1}%
10908   \Hy@activeanchortrue
10909 }
10910 \def\hyper@anchorend{%
10911   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
10912   \pdfmark{%
10913     pdfmark=/DEST,%
10914     linktype=anchor,%
10915     View=/\@pdfview \@pdfviewparams,%
10916     DestAnchor=\hyper@currentanchor,%
10917   }%
10918   \Hy@activeanchorfalse
10919   \Hy@RestoreLastskip
10920 }
10921 \def\hyper@linkstart#1#2{%
10922   \Hy@VerboseLinkStart{#1}{#2}%
10923   \ifHy@breaklinks
10924     \else
10925     \leavevmode

```

```

10926 \ifmmode
10927   \def\Hy@LinkMath{$}%
10928 \else
10929   \let\Hy@LinkMath\@empty
10930 \fi
10931 \Hy@SaveSpaceFactor
10932 \hbox\bgroup
10933 \Hy@RestoreSpaceFactor
10934 \Hy@LinkMath
10935 \fi
10936 \expandafter\Hy@colorlink\csname @#1color\endcsname
10937 \literalps@out{H.S}%
10938 \Hy@AllowHyphens
10939 \xdef\hyper@currentanchor{#2}%
10940 \gdef\hyper@currentlinktype{#1}%
10941 }
10942 \def\hyper@linkend{%
10943   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
10944   \@ifundefined{@\hyper@currentlinktype bordercolor}{%
10945     \let\Hy@tempcolor\relax
10946   }{%
10947     \edef\Hy@tempcolor{%
10948       \csname @\hyper@currentlinktype bordercolor\endcsname
10949     }%
10950   }%
10951   \pdfmark{%
10952     pdfmark=/ANN,%
10953     linktype=link,%
10954     Subtype=/Link,%
10955     PDFAFlags=4,%
10956     Dest=\hyper@currentanchor,%
10957     AcroHighlight=\@pdfhighlight,%
10958     Border=\@pdfborder,%
10959     BorderStyle=\@pdfborderstyle,%
10960     Color=\Hy@tempcolor,%
10961     Raw=H.B%
10962   }%
10963   \Hy@endcolorlink
10964   \ifHy@breaklinks
10965   \else
10966     \Hy@LinkMath
10967     \Hy@SaveSpaceFactor
10968     \egroup
10969     \Hy@RestoreSpaceFactor
10970   \fi
10971 }

```

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.

```

10972 \begingroup
10973   \catcode`P=12 %
10974   \catcode`T=12 %
10975   \lowercase{\endgroup

```

```

10976 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
10977 }
10978 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

10979 \def\hyper@pagetransition{%
10980 \ifx\@pdfpagetransition\relax
10981 \else
10982 \ifx\@pdfpagetransition\@empty
10983 % 1. Does an old entry have to be deleted?
10984 % 2. If 1=yes, how to delete?
10985 \else
10986 \pdfmark{%
10987 pdfmark=/PUT,%
10988 Raw={%
10989 \string{ThisPage\string}%
10990 <</Trans << /S /\@pdfpagetransition\space >> >>%
10991 }%
10992 }%
10993 \fi
10994 \fi
10995 }

```

\hyper@pageduration

```

10996 \def\hyper@pageduration{%
10997 \ifx\@pdfpageduration\relax
10998 \else
10999 \ifx\@pdfpageduration\@empty
11000 % 1. Does an old entry have to be deleted?
11001 % 2. If 1=yes, how to delete?
11002 \else
11003 \pdfmark{%
11004 pdfmark=/PUT,%
11005 Raw={%
11006 \string{ThisPage\string}%
11007 <</Dur \@pdfpageduration>>%
11008 }%
11009 }%
11010 \fi
11011 \fi
11012 }

11013 \g@addto@macro\Hy@EveryPageBoxHook{%
11014 \hyper@pagetransition
11015 \hyper@pageduration
11016 }

11017 \def\hyper@image#1#2{%
11018 \hyper@linkurl{#2}{#1}%
11019 }
11020 \def\Hy@undefinedname{UNDEFINED}
11021 \def\hyper@link#1#2#3{%
11022 \Hy@VerboseLinkStart{#1}{#2}%
11023 \@ifundefined{@#1bordercolor}{%
11024 \let\Hy@tempcolor\relax

```

```

11025 }{%
11026 \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11027 }%
11028 \begingroup
11029 \protected@edef\Hy@testname{#2}%
11030 \ifx\Hy@testname\@empty
11031 \Hy@Warning{%
11032 Empty destination name,\MessageBreak
11033 using ``\Hy@undefinedname'%
11034 }%
11035 \let\Hy@testname\Hy@undefinedname
11036 \fi
11037 \pdfmark[{#3}]{%
11038 Color=\Hy@tempcolor,%
11039 linktype={#1},%
11040 AcroHighlight=\@pdfhighlight,%
11041 Border=\@pdfborder,%
11042 BorderStyle=\@pdfborderstyle,%
11043 pdfmark=/ANN,%
11044 Subtype=/Link,%
11045 PDFAMFlags=4,%
11046 Dest=\Hy@testname
11047 }%
11048 \endgroup
11049 }
11050 \newtoks\pdf@docset
11051 \def\PDF@FinishDoc{%
11052 \Hy@UseMaketitleInfos
11053 \Hy@Info@GenerateAddons
11054 \let\Hy@temp\@empty
11055 \ifx\@pdfcreationdate\@empty
11056 \else
11057 \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11058 \fi
11059 \ifx\@pdfmoddate\@empty
11060 \else
11061 \expandafter\def\expandafter\Hy@temp\expandafter{%
11062 \Hy@temp
11063 ModDate=\@pdfmoddate,%
11064 }%
11065 \fi
11066 \ifx\@pdfproducer\relax
11067 \else
11068 \expandafter\def\expandafter\Hy@temp\expandafter{%
11069 \Hy@temp
11070 Producer=\@pdfproducer,%
11071 }%
11072 \fi
11073 \expandafter
11074 \pdfmark\expandafter{%
11075 \Hy@temp
11076 pdfmark=/DOCINFO,%
11077 Title=\@pdftitle,%
11078 Subject=\@pdfsubject,%

```

```

11079   Creator=\@pdfcreator,%
11080   Author=\@pdfauthor,%
11081   Keywords=\@pdfkeywords,%
11082   Trapped=\@pdftrapped
11083 }%
11084 \ifx\HyInfo@Addons\@empty
11085 \else
11086   \pdfmark{%
11087     pdfmark=/DOCINFO,%
11088     Raw={\HyInfo@Addons}%
11089   }%
11090 \fi
11091 \Hy@DisableOption{pdfauthor}%
11092 \Hy@DisableOption{pdftitle}%
11093 \Hy@DisableOption{pdfsubject}%
11094 \Hy@DisableOption{pdfcreator}%
11095 \Hy@DisableOption{addtopdfcreator}%
11096 \Hy@DisableOption{pdfcreationdate}%
11097 \Hy@DisableOption{pdfcreationdate}%
11098 \Hy@DisableOption{pdfmoddate}%
11099 \Hy@DisableOption{pdfproducer}%
11100 \Hy@DisableOption{pdfkeywords}%
11101 \Hy@DisableOption{pdftrapped}%
11102 \Hy@DisableOption{pdfinfo}%
11103 }
11104 \def\PDF@SetupDoc{%
11105   \def\Hy@temp{}%
11106   \ifx\@pdfstartpage\@empty
11107   \else
11108     \ifx\@pdfstartview\@empty
11109     \else
11110       \edef\Hy@temp{%
11111         ,Page=\@pdfstartpage
11112         ,View=\@pdfstartview
11113       }%
11114     \fi
11115   \fi
11116   \edef\Hy@temp{%
11117     \noexpand\pdfmark{%
11118       pdfmark=/DOCVIEW,%
11119       PageMode=/\@pdfpagemode
11120     }\Hy@temp
11121   }%
11122 }%
11123 \Hy@temp
11124 \ifx\@pdfpagescrop\@empty
11125 \else
11126   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11127 \fi
11128 \edef\Hy@temp{%
11129   \ifHy@pdftoolbar\else /HideToolbar true\fi
11130   \ifHy@pdfmenubar\else /HideMenubar true\fi
11131   \ifHy@pdfwindowui\else /HideWindowUI true\fi
11132   \ifHy@pdfwindow /FitWindow true\fi

```

```

11133 \ifHy@pdfcenterwindow /CenterWindow true\fi
11134 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11135 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11136 \Hy@UseNameKey{Direction}\@pdfdirection
11137 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11138 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11139 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11140 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11141 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11142 \Hy@UseNameKey{Duplex}\@pdfduplex
11143 \ifx\@pdfpicktraybypdfsize\@empty
11144 \else
11145 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11146 \fi
11147 \ifx\@pdfprintpagerange\@empty
11148 \else
11149 /PrintPageRange[\@pdfprintpagerange]%
11150 \fi
11151 \ifx\@pdfnumcopies\@empty
11152 \else
11153 /NumCopies \@pdfnumcopies
11154 \fi
11155 }%
11156 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11157 \pdfmark{%
11158 pdfmark=/PUT,%
11159 Raw={%
11160 \string{Catalog\string}<<%
11161 \ifx\Hy@temp\@empty
11162 \else
11163 /ViewerPreferences<<\Hy@temp>>%
11164 \fi
11165 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11166 \ifx\@pdflang\relax
11167 \else
11168 /Lang(\@pdflang)%
11169 \fi
11170 \ifx\@baseurl\@empty
11171 \else
11172 /URI<</Base(\Hy@pstringB)>>%
11173 \fi
11174 >>%
11175 }%
11176 }%
11177 }
11178 </pdfmark>
11179 <*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.

```

11180 \newif\ifHy@pdfmarkerror
11181 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
11182 \def\pdfmark@[#1]#2{%
11183   \Hy@pdfmarkerrorfalse
11184   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11185   \@processme
11186   \let\pdf@type\relax
11187   \let\pdf@objdef\@empty
11188   \kvsetkeys{PDF}{#2}%
11189   \ifHy@pdfmarkerror
11190   \else
11191     \ifx\pdf@type\relax
11192       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11193       \ifx\#1\%
11194         \else
11195           \pdf@rect{#1}%
11196         \fi
11197       \else
11198         \ifx\#1\%
11199           \literalps@out{%
11200             [%
11201             \ifx\pdf@objdef\@empty
11202             \else
11203               /_objdef\string{\pdf@objdef\string}%
11204             \fi
11205             \the\pdf@toks\space\pdf@type\space pdfmark%
11206             ]%
11207           \else
11208             \@ifundefined{@\pdf@linktype color}{%
11209               \Hy@colorlink\@linkcolor
11210             }{%
11211               \expandafter\Hy@colorlink
11212               \csname @\pdf@linktype color\endcsname
11213             }%
11214             \pdf@rect{#1}%
11215             \literalps@out{%
11216               [%
11217               \ifx\pdf@objdef\@empty
11218               \else
11219                 /_objdef\string{\pdf@objdef\string}%
11220               \fi
11221               \the\pdf@toks\space\pdf@type\space pdfmark%
11222               ]%
11223               \Hy@endcolorlink
11224             \fi
11225           \fi
11226         \fi
11227 }

```

The complicated bit is working out the right enclosing rectangle of some piece of \TeX text, needed by the `/Rect` key. This solution originates with Toby Thain (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}
```

```
11228 \newsavebox{\pdf@box}
11229 \providecommand*{\Hy@setouterhbox}{\sbox}
11230 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
11231 \def\Hy@DEST{/DEST}
11232 \def\pdf@rect#1{%
11233   \begingroup
11234   \chardef\x=1 %
11235   \def\Hy@temp{#1}%
11236   \ifx\Hy@temp\@empty
11237     \chardef\x=0 %
11238   \else
11239     \def\y{\anchor@spot}%
11240     \ifx\Hy@temp\y
11241       \def\y{\relax}%
11242     \ifx\anchor@spot\y
11243       \chardef\x=0 %
11244     \fi
11245   \fi
11246   \fi
11247   \expandafter\endgroup
11248   \ifcase\x
11249     \literalps@out{H.S}%
11250     \literalps@out{H.R}%
11251   \else
11252     \leavevmode
11253     \Hy@SaveSpaceFactor
11254     \ifmmode
11255       \def\Hy@LinkMath{$}%
11256     \else
11257       \let\Hy@LinkMath\@empty
11258     \fi
11259     \ifHy@breaklinks
11260       \Hy@setouterhbox\pdf@box{%
11261         \Hy@RestoreSpaceFactor
11262         \Hy@LinkMath
11263         \Hy@AllowHyphens#1\Hy@xspace@end
11264         \Hy@LinkMath
11265         \Hy@SaveSpaceFactor
11266       }%
11267     \else
11268       \sbox\pdf@box{%
11269         \Hy@RestoreSpaceFactor
11270         \Hy@LinkMath
11271         #1\Hy@xspace@end
11272         \Hy@LinkMath
11273         \Hy@SaveSpaceFactor
```



```

11274 }%
11275 \fi
11276 \dimen@ht\pdf@box
11277 \ifdim\dp\pdf@box=\z@
11278 \literalps@out{H.S}%
11279 \else
11280 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11281 \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...).

```

11282 \ifHy@breaklinks
11283 \ifhmode
11284 \Hy@breaklinksunhbox\pdf@box
11285 \else
11286 \box\pdf@box
11287 \fi
11288 \else
11289 \expandafter\box\pdf@box
11290 \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

11291 \ifdim\dimen@=\z@
11292 \literalps@out{H.R}%
11293 \else
11294 \raise\dimen@\hbox{\literalps@out{H.R}}%
11295 \fi
11296 \Hy@RestoreSpaceFactor
11297 \fi
11298 \ifx\pdf@type\Hy@DEST
11299 \else
11300 \pdf@addtoksx{H.B}%
11301 \fi
11302 }

```

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.

```

11303 \newtoks\pdf@toks
11304 \newtoks\pdf@defaulttoks
11305 \pdf@defaulttoks={}
11306 \def\pdf@addtoks#1#2{%
11307 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
11308 \@processme
11309 }
11310 \def\pdf@addtoksx#1{%
11311 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11312 \@processme
11313 }
11314 \def\PDFdefaults#1{%

```

```

11315 \pdf@defaulttoks={#1}%
11316 }
This is the list of allowed keys. See the Acrobat manual for an explanation.
11317 % what is the type of pdfmark?
11318 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11319 % what is the link type?
11320 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
11321 \def\pdf@linktype{link}
11322 % named object?
11323 \define@key{PDF}{objdef}{\edef\pdf@objdef{#1}}
11324 \let\pdf@objdef\@empty
11325 % parameter is a stream of PDF
11326 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11327 % parameter is a name
11328 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11329 % parameter is a array
11330 \define@key{PDF}{Border}{%
11331 \edef\Hy@temp{#1}%
11332 \ifx\Hy@temp\@empty
11333 \else
11334 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
11335 \fi
11336 }
11337 \let\Hy@BorderArrayPatch\@empty
11338 % parameter is a dictionary
11339 \define@key{PDF}{BorderStyle}{%
11340 \edef\Hy@temp{#1}%
11341 \ifx\Hy@temp\@empty
11342 \else
11343 \pdf@addtoks{<<#1>>}{BS}%
11344 \fi
11345 }
11346 % parameter is a array
11347 \define@key{PDF}{Color}{%
11348 \ifx\relax#1\relax
11349 \else
11350 \pdf@addtoks{[#1]}{Color}% hash-ok
11351 \fi
11352 }
11353 % parameter is a string
11354 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11355 % parameter is a integer
11356 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11357 % parameter is a array
11358 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
11359 % parameter is a string
11360 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
11361 % parameter is a string or file
11362 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11363 % parameter is a destination
11364 \define@key{PDF}{Dest}{%
11365 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11366 \ifx\Hy@pstringDest\@empty
11367 \Hy@pdfmarkerrortrue

```

```

11368 \Hy@Warning{Destination with empty name ignored}%
11369 \else
11370 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11371 \fi
11372 }
11373 \define@key{PDF}{DestAnchor}{%
11374 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11375 \ifx\Hy@pstringDest\@empty
11376 \Hy@pdfmarkerrortrue
11377 \Hy@Warning{Destination with empty name ignored}%
11378 \else
11379 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11380 \fi
11381 }
11382 % parameter is a string
11383 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11384 % parameter is a string
11385 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
11386 % parameter is a int
11387 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11388 \define@key{PDF}{PDFAFlags}{%
11389 \ifHy@pdfa
11390 \pdf@addtoks{#1}{F}%
11391 \fi
11392 }
11393 % parameter is a name
11394 \define@key{PDF}{AcroHighlight}{%
11395 \begingroup
11396 \edef\x{#1}%
11397 \expandafter\endgroup\ifx\x\@empty
11398 \else
11399 \pdf@addtoks{#1}{H}%
11400 \fi
11401 }
11402 % parameter is a string
11403 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
11404 % parameter is a string
11405 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
11406 % parameter is a string
11407 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11408 % parameter is a string
11409 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
11410 % parameter is a Boolean
11411 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11412 % parameter is a integer or name
11413 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11414 % parameter is a name
11415 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11416 % parameter is a string
11417 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
11418 % parameter is a array
11419 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
11420 % parameter is a integer
11421 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}

```

```

11422 % parameter is a name
11423 \define@key{PDF}{Subtype}{\pdf@addtoks{(#1)}{Subtype}}
11424 % parameter is a string
11425 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
11426 % parameter is a string
11427 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
11428 % parameter is a string
11429 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
11430 % parameter is an array
11431 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
11432 % parameter is a string
11433 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

11434 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
11435 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
11436 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
11437 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11438 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
11439 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
11440 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
11441 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11442 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
11443 \define@key{PDF}{URI}{\pdf@addtoks{(#1)}{URI}}
11444 \define@key{PDF}{Trapped}{%
11445   \edef\Hy@temp{#1}%
11446   \ifx\Hy@temp\@empty
11447     \else
11448       \pdf@addtoks{/#1}{Trapped}%
11449   \fi
11450 }
11451
11452 </pdfmarkbase>
11453 <*pdfmark>
11454 \def\Acrobatmenu#1#2{%
11455   \EdefEscapeName\Hy@temp@menu{#1}%
11456   \Hy@Acrobatmenu{#1}{#2}{%
11457     \pdfmark[{#2}]{%
11458       linktype=menu,%
11459       pdfmark=/ANN,%
11460       AcroHighlight=\@pdfhighlight,%
11461       Border=\@pdfborder,%
11462       BorderStyle=\@pdfborderstyle,%
11463       Color=\@menubordercolor,%
11464       Action={<</Subtype/Named/N/\Hy@temp@menu>>},%
11465       Subtype=/Link,%
11466       PDFAFlags=4%
11467     }%
11468   }%
11469 }

```

And now for some useful examples:

```

11470 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}}
11471 \def\PDFNextPage@[#1]#2{%
11472   \pdfmark[{#2}]{%

```

```

11473   #1,%
11474   Border=\@pdfborder,%
11475   BorderStyle=\@pdfborderstyle,%
11476   Color=.2 .1 .5,%
11477   pdfmark=/ANN,%
11478   Subtype=/Link,%
11479   PDFAFlags=4,%
11480   Page=/Next%
11481 }%
11482 }
11483 \def\PDFPreviousPage{%
11484   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
11485 }
11486 \def\PDFPreviousPage@[#1]#2{%
11487   \pdfmark[#{#2}]{%
11488     #1,%
11489     Border=\@pdfborder,%
11490     BorderStyle=\@pdfborderstyle,%
11491     Color=.4 .4 .1,%
11492     pdfmark=/ANN,%
11493     Subtype=/Link,%
11494     PDFAFlags=4,%
11495     Page=/Prev%
11496   }%
11497 }
11498 \def\PDFOpen#1{%
11499   \pdfmark{#1,pdfmark=/DOCVIEW}%
11500 }

```

This will only work if you use Distiller 2.1 or higher.

```

11501 \def\hyper@linkurl#1#2{%
11502   \begingroup
11503     \Hy@pstringdef\Hy@pstringURI{#2}%
11504     \hyper@chars
11505     \leavevmode
11506     \pdfmark[#{#1}]{%
11507       pdfmark=/ANN,%
11508       linktype=url,%
11509       AcroHighlight=\@pdfhighlight,%
11510       Border=\@pdfborder,%
11511       BorderStyle=\@pdfborderstyle,%
11512       Color=\@urlbordercolor,%
11513       Action={<<%
11514         /Subtype/URI%
11515         /URI(\Hy@pstringURI)%
11516         \ifHy@href@ismap
11517         /IsMap true%
11518       \fi
11519       >>},%
11520       Subtype=/Link,%
11521       PDFAFlags=4%
11522     }%
11523   \endgroup
11524 }
11525 \def\hyper@linkfile#1#2#3{%

```

```

11526 \begingroup
11527 \def\Hy@pstringF{#2}%
11528 \Hy@CleanupFile\Hy@pstringF
11529 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11530 \Hy@pstringdef\Hy@pstringD{#3}%
11531 \Hy@MakeRemoteAction
11532 \leavevmode
11533 \pdfmark[{#1}]{%
11534   pdfmark=/ANN,%
11535   Subtype=/Link,%
11536   PDFAFlags=4,%
11537   AcroHighlight=\@pdfhighlight,%
11538   Border=\@pdfborder,%
11539   BorderStyle=\@pdfborderstyle,%
11540   linktype=file,%
11541   Color=\@filebordercolor,%
11542   Action={%
11543     <<%
11544     /S/GoToR%
11545     \Hy@SetNewWindow
11546     /F(\Hy@pstringF)%
11547     /D%
11548     \ifx\#3\%
11549       [\Hy@href@page\@pdfremotestartview]%
11550     \else
11551       (\Hy@pstringD)cvn%
11552     \fi
11553     \Hy@href@nextactionraw
11554     >>%
11555   }%
11556 }%
11557 \endgroup
11558 }
11559 \def\@hyper@launch run:#1\#2#3{%
11560 \begingroup
11561 \Hy@pstringdef\Hy@pstringF{#1}%
11562 \Hy@pstringdef\Hy@pstringP{#3}%
11563 \leavevmode
11564 \pdfmark[{#2}]{%
11565   pdfmark=/ANN,%
11566   Subtype=/Link,%
11567   PDFAFlags=4,%
11568   AcroHighlight=\@pdfhighlight,%
11569   Border=\@pdfborder,%
11570   BorderStyle=\@pdfborderstyle,%
11571   linktype=run,%
11572   Color=\@runbordercolor,%
11573   Action={%
11574     <<%
11575     /S/Launch%
11576     \Hy@SetNewWindow
11577     /F(\Hy@pstringF)%
11578     \ifx\#3\%
11579     \else

```

```

11580      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
11581      \fi
11582      \Hy@href@nextactionraw
11583      >>%
11584      }%
11585      }%
11586 \endgroup
11587 }
11588 </pdfmark>

```

Unfortunately, some parts of the pdfmark PostScript code depend on vagaries of the dvi driver. We isolate here all the problems.

44.9 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.

```

11589 <*dvips>
11590 \providecommand*\XR@ext\{pdf}
11591 \let\Hy@raisedlink\@empty
11592 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
11593 \def\headerps@out#1{\special{! #1}}%
11594 \input{pdfmark.def}%
11595 \ifx\@pdfproducer\relax
11596 \def\@pdfproducer{dvips + Distiller}%
11597 \fi
11598 \providecommand*\@pdfborder{0 0 1}
11599 \providecommand*\@pdfborderstyle{}
11600 \providecommand*\@pdfview{XYZ}
11601 \providecommand*\@pdfviewparams{ H.V}
11602 \def\Hy@BorderArrayPatch{BorderArrayPatch}

11603 \g@addto@macro\Hy@FirstPageHook{%
11604 \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.

```

11605 /DvipsToPDF{72.27 mul Resolution div} def%
11606 /PDFToDvips{72.27 div Resolution mul} def%
11607 /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.

```

11608   product (Ghostscript) search {pop pop pop revision 927 gt}%
11609   {pop false} ifelse%
11610   {%
11611     /BorderArrayPatch{} def%
11612   }%
11613   {%
11614     /BorderArrayPatch{%
11615       [exch{%
11616         dup dup type/integertype eq exch type/realtype eq or%
11617         {BPToDvips}if%
11618       }forall]%
11619     }def%
11620   } 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.

```

11621   /HyperBorder {1 PDFToDvips} def%
11622   /H.V {pdf@hoff pdf@voff null} def%
11623   /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

```

11624   /H.S {%
11625     currentpoint %
11626     HyperBorder add /pdf@lly exch def %
11627     dup DvipsToPDF 72 add /pdf@hoff exch def %
11628     HyperBorder sub /pdf@llx exch def%
11629   } def%

```

The calculation of upper left y is done without raising the point in \TeX , by simply adding on the current `\baselineskip` to the current y . This is usually too much, so we remove a notional 2 points.

We have to see what the current baselineskip is, and convert it to the dvips coordinate system.

Argument: baselineskip in pt. The x and y coordinates of the current point, minus the baselineskip

```

11630   /H.L {%
11631     2 sub dup%
11632     /HyperBasePt exch def %
11633     PDFToDvips /HyperBaseDvips exch def %
11634     currentpoint %
11635     HyperBaseDvips sub /pdf@ury exch def%
11636     /pdf@urx exch def%
11637   } def%
11638   /H.A {%
11639     H.L %
11640   % |pdf@voff| = the distance from the top of the page to a point

```



```

11641 % |\baselineskip| above the current point in PDF coordinates
11642     currentpoint exch pop %
11643     vsize 72 sub exch DvipsToPDF %
11644     HyperBasePt sub % baseline skip
11645     sub /pdf@voff exch def%
11646 } def%
11647 /H.R {%
11648     currentpoint %
11649     HyperBorder sub /pdf@ury exch def %
11650     HyperBorder add /pdf@urx exch def %
11651 % |/pdf@voff| = the distance from the top of the page to the current point, in
11652 % PDF coordinates
11653     currentpoint exch pop vsize 72 sub %
11654     exch DvipsToPDF sub /pdf@voff exch def%
11655 } def%
11656 }%
11657 }
11658 \AtBeginShipoutFirst{%
11659     \ifHy@setpagesize
11660     \begingroup
11661     \ifnum\mag=\@m
11662     \ifdim\stockwidth>\z@
11663     \ifdim\stockheight>\z@
11664     \special{papersize=\the\stockwidth,\the\stockheight}%
11665     \else
11666     \ifdim\paperwidth>\z@
11667     \ifdim\paperheight>\z@
11668     \special{papersize=\the\paperwidth,\the\paperheight}%
11669     \fi
11670     \fi
11671     \fi
11672     \else
11673     \ifdim\stockwidth=\z@
11674     \ifdim\paperwidth>\z@
11675     \ifdim\paperheight>\z@
11676     \special{papersize=\the\paperwidth,\the\paperheight}%
11677     \fi
11678     \fi
11679     \fi
11680     \fi
11681     \fi
11682     \endgroup
11683     \fi
11684     \Hy@DisableOption{setpagesize}%
11685 }
11686 \def\setpdfinkmargin#1{%
11687     \begingroup
11688     \setlength{\dimen@}{#1}%
11689     \literalps@out{%
11690         /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
11691     }%
11692     \endgroup
11693 }

```

11694 \langle /dvips \rangle

44.10 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.

```

11695  $\langle$ *vtexpdfmark $\rangle$ 
11696 \providecommand*\XR@ext>{pdf}
11697 \let\Hy@raisedlink\@empty
11698 \def\literals@out#1{\special{pS:#1}}%
11699 \def\headerps@out#1{\immediate\special{pS:#1}}%
11700 \input{pdfmark.def}%
11701 \ifx\@pdfproducer\relax
11702   \ifnum\OpMode=\@ne
11703     \def\@pdfproducer{VTeX}%
11704   \else
11705     \def\@pdfproducer{VTeX + Distiller}%
11706   \fi
11707 \fi
11708 \providecommand*\@pdfborder{0 0 1}
11709 \providecommand*\@pdfborderstyle{}
11710 \providecommand*\@pdfview{XYZ}
11711 \providecommand*\@pdfviewparams{ H.V}

11712 \g@addto@macro\Hy@FirstPageHook{%
11713   \headerps@out{%
11714     /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.

```

11715   /HyperBorder {1} def%
11716   /H.V {pdf@hoff pdf@voff null} def%
11717   /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: pdf@lly = $Y_c - \text{HyperBorder}$, pdf@hoff = $X_c + 72$, pdf@llx = $X_c - \text{HyperBorder}$

```

11718   /H.S {%
11719     currentpoint %
11720     HyperBorder sub%
11721     /pdf@lly exch def %
11722     dup 72 add /pdf@hoff exch def %
11723     HyperBorder sub%
11724     /pdf@llx exch def%
11725   } def%

```

The x and y coordinates of the current point, minus the \baselineskip: pdf@ury = $Y_c + \text{HyperBasePt} + \text{HyperBorder}$, pdf@urx = $X_c + \text{HyperBorder}$

```

11726   /H.L {%
11727     2 sub%
11728     /HyperBasePt exch def %
11729     currentpoint %

```

```

11730   HyperBasePt add HyperBorder add%
11731   /pdf@ury exch def %
11732   HyperBorder add%
11733   /pdf@urx exch def%
11734   } def%
11735   /H.A {%
11736   H.L %
11737   currentpoint exch pop %
11738   vsize 72 sub exch %
11739   HyperBasePt add add%
11740   /pdf@voff exch def%
11741   } def%
pdf@ury =  $Y_c$  + HyperBorder, pdf@urx =  $X_c$  + HyperBorder
11742   /H.R {%
11743   currentpoint %
11744   HyperBorder add%
11745   /pdf@ury exch def %
11746   HyperBorder add%
11747   /pdf@urx exch def %
11748   currentpoint exch pop vsize 72 sub add%
11749   /pdf@voff exch def%
11750   } def%
11751   }%
11752   }
11753   \def\setpdfinkmargin#1{%
11754   \begingroup
11755   \setlength{\dimen@}{#1}%
11756   \literalps@out{%
11757   /HyperBorder{\strip@pt\dimen@}def%
11758   }%
11759   \endgroup
11760   }
11761   \</vtxpdfmark>

```

44.11 Textures

```

11762   \<*textures>
11763   \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.

```

11764   \begingroup
11765   \obeylines %
11766   \gdef\Hy@ps@CR{\noexpand
11767   }%
11768   \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`.

```
11769 \def\literalps@out#1{%
11770   \special{postscript 0 0 transform}%
11771   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
11772 }%
11773 %
```

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.

```
11774 \def\headerps@out#1{%
11775   \special{%
11776     prepostscript TeXdict begin\Hy@ps@CR
11777       #1\Hy@ps@CR
11778     end%
11779   }%
11780 }%
11781 %
```

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.

```
11782 \g@addto@macro\Hy@FirstPageHook{%
11783   \headerps@out{%
11784     /betterpdfmark {%
11785       systemdict begin %
11786         dup /BP eq%
11787         {cleartomark gsave nulldevice []}%
11788         {dup /EP eq%
11789           {cleartomark cleartomark grestore}%
11790           {cleartomark}%
11791           ifelse%
11792         }ifelse %
11793       end%
11794     }def\Hy@ps@CR
11795     ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
11796   }% end of \headerps@out
11797 }% end of \AtBeginShipoutFirst
11798 %
11799 \input{pdfmark.def}%
11800 %
11801 \ifx\@pdfproducer\relax
11802   \def\@pdfproducer{Textures + Distiller}%
11803 \fi
```

```

11804 \providecommand*\@pdfborder{0 0 1}
11805 \providecommand*\@pdfborderstyle{}
11806 \providecommand*\@pdfview{XYZ}
11807 \providecommand*\@pdfviewparams{ H.V}
11808 %

```

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 .

```

11809 \Hy@AtBeginDocument{%
11810   \headerps@out{%

```

`Textures` lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

11811   /vsize {\Hy@pageheight} def%
11812   /DvipsToPDF {} def%
11813   /PDFToDvips {} def%
11814   /BPToDvips {} def%
11815   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
11816   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
11817   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
11818   /H.S {%
11819     currentpoint %
11820     HyperBorder add /pdf@lly exch def %
11821     dup DvipsToPDF 72 add /pdf@hoff exch def %
11822     HyperBorder sub /pdf@llx exch def%
11823   } def\Hy@ps@CR
11824   /H.L {%
11825     2 sub %
11826     PDFToDvips /HyperBase exch def %
11827     currentpoint %
11828     HyperBase sub /pdf@ury exch def%
11829     /pdf@urx exch def%
11830   } def\Hy@ps@CR
11831   /H.A {%
11832     H.L %
11833     currentpoint exch pop %
11834     vsize 72 sub exch DvipsToPDF %
11835     HyperBase sub % baseline skip
11836     sub /pdf@voff exch def%
11837   } def\Hy@ps@CR
11838   /H.R {%
11839     currentpoint %
11840     HyperBorder sub /pdf@ury exch def %
11841     HyperBorder add /pdf@urx exch def %
11842     currentpoint exch pop vsize 72 sub %
11843     exch DvipsToPDF sub /pdf@voff exch def%
11844   } def\Hy@ps@CR
11845 }%
11846 }

11847 \def\setpdfinkmargin#1{%
11848   \begingroup

```

```

11849 \setlength{\dimen@}{#1}%
11850 \literalps@out{%
11851   /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
11852 }%
11853 \endgroup
11854 }

11855 \Hy@AtBeginDocument{%
11856   \ifHy@colorlinks
11857     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
11858   \fi
11859 }

```

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.

```

11860 \expandafter\let\expandafter\keepPDF@SetupDoc
11861   \csname PDF@SetupDoc\endcsname
11862 \def\PDF@SetupDoc{%
11863   \ifx\@baseurl\@empty
11864     \else
11865       \special{html:<base href="\@baseurl">}%
11866     \fi
11867   \keepPDF@SetupDoc
11868 }

11869 \Hy@WrapperDef\hyper@anchor#1{%
11870   \Hy@SaveLastskip
11871   \Hy@VerboseAnchor{#1}%
11872   \begingroup
11873     \let\protect=\string
11874     \special{html:<a name=%
11875       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11876   \endgroup
11877   \Hy@activeanchortrue
11878   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11879   \special{html:</a>}%
11880   \Hy@activeanchorfalse
11881   \Hy@RestoreLastskip
11882 }

11883 \Hy@WrapperDef\hyper@anchorstart#1{%
11884   \Hy@SaveLastskip
11885   \Hy@VerboseAnchor{#1}%
11886   \begingroup
11887     \hyper@chars
11888     \special{html:<a name=%
11889       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11890   \endgroup
11891   \Hy@activeanchortrue
11892 }

11893 \def\hyper@anchorend{%
11894   \special{html:</a>}%
11895   \Hy@activeanchorfalse
11896   \Hy@RestoreLastskip
11897 }

11898 \def\@urltype{url}

```

```

11899 \def\hyper@linkstart#1#2{%
11900   \Hy@VerboseLinkStart{#1}{#2}%
11901   \expandafter\Hy@colorlink\csname @#1color\endcsname
11902   \def\Hy@tempa{#1}%
11903   \ifx\Hy@tempa\@urlltype
11904     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11905   \else
11906     \begingroup
11907       \hyper@chars
11908       \special{%
11909         html:<a href=%
11910         \hyper@quote\#\Hy@DestNameFilter{#2}\hyper@quote>%
11911       }%
11912     \endgroup
11913   \fi
11914 }
11915 \def\hyper@linkend{%
11916   \special{html:</a>}%
11917   \Hy@endcolorlink
11918 }
11919 \def\hyper@linkfile#1#2#3{%
11920   \hyper@linkurl{#1}{%
11921     \Hy@linkfileprefix#2\ifx\#3\\ \else\#3\fi
11922   }%
11923 }
11924 \def\hyper@linkurl#1#2{%
11925   \leavevmode
11926   \ifHy@raiselinks
11927     \Hy@SaveSpaceFactor
11928     \Hy@SaveSavedSpaceFactor
11929     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
11930     \Hy@RestoreSavedSpaceFactor
11931     \@linkdim\dp\@tempboxa
11932     \lower\@linkdim\hbox{%
11933       \hyper@chars
11934       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11935     }%
11936     \Hy@colorlink\@urlcolor
11937     \Hy@RestoreSpaceFactor
11938     #1\Hy@xspace@end
11939     \Hy@SaveSpaceFactor
11940     \@linkdim\ht\@tempboxa
11941     \advance\@linkdim by -6.5\p@
11942     \raise\@linkdim\hbox{\special{html:</a>}}%
11943     \Hy@endcolorlink
11944     \Hy@RestoreSpaceFactor
11945   \else
11946     \begingroup
11947       \hyper@chars
11948       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11949       \Hy@colorlink\@urlcolor#1\Hy@xspace@end
11950       \special{html:</a>}%
11951       \Hy@endcolorlink
11952     \endgroup

```

```

11953 \fi
11954 }
Very poor implementation of \hyper@link without considering #1.
11955 \def\hyper@link#1#2#3{%
11956 \Hy@VerboseLinkStart{#1}{#2}%
11957 \hyper@linkurl{#3}{\#}\HyperDestNameFilter{#2}}%
11958 }
11959 \def\hyper@image#1#2{%
11960 \begingroup
11961 \hyper@chars
11962 \special{html:<img src=\hyper@quote#1\hyper@quote>}%
11963 \endgroup
11964 }
11965 </textures>

```

44.12 dvipsone

```

11966 % \subsection{dvipsone driver}
11967 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
11968 % |\special| commands.
11969 (*dvipsone)
11970 \providecommand*\XR@ext}{pdf}
11971 \let\Hy@raisedlink\@empty
11972 \providecommand*\@pdfborder{0 0 1}
11973 \providecommand*\@pdfborderstyle{}
11974 \def\literalps@out#1{\special{ps:#1}}%
11975 \def\headerps@out#1{\special{headertext=#1}}%
11976 \input{pdfmark.def}%
11977 \HyInfo@AddonUnsupportedtrue
11978 \def\PDF@FinishDoc{%
11979 \Hy@UseMaketitleInfos
11980 \HyInfo@TrappedUnsupported
11981 \special{PDF: Keywords \@pdfkeywords}%
11982 \special{PDF: Title \@pdftitle}%
11983 \special{PDF: Creator \@pdfcreator}%
11984 \ifx\@pdfcreationdate\@empty
11985 \else
11986 \special{PDF: CreationDate \@pdfcreationdate}%
11987 \fi
11988 \ifx\@pdfmoddate\@empty
11989 \else
11990 \special{PDF: ModDate \@pdfmoddate}%
11991 \fi
11992 \special{PDF: Author \@pdfauthor}%
11993 \ifx\@pdfproducer\relax
11994 \else
11995 \special{PDF: Producer \@pdfproducer}%
11996 \fi
11997 \special{PDF: Subject \@pdfsubject}%
11998 \Hy@DisableOption{pdfauthor}%
11999 \Hy@DisableOption{pdftitle}%
12000 \Hy@DisableOption{pdfsubject}%
12001 \Hy@DisableOption{pdfcreator}%

```



```

12002 \Hy@DisableOption{addtopdfcreator}%
12003 \Hy@DisableOption{pdfcreationdate}%
12004 \Hy@DisableOption{pdfcreationdate}%
12005 \Hy@DisableOption{pdfmoddate}%
12006 \Hy@DisableOption{pdfproducer}%
12007 \Hy@DisableOption{pdfkeywords}%
12008 \Hy@DisableOption{pdftrapped}%
12009 \Hy@DisableOption{pdfinfo}%
12010 }
12011 \def\PDF@SetupDoc{%
12012 \def\Hy@temp{}%
12013 \ifx\@pdfstartpage\@empty
12014 \else
12015 \ifx\@pdfstartview\@empty
12016 \else
12017 \edef\Hy@temp{%
12018 ,Page=\@pdfstartpage
12019 ,View=\@pdfstartview
12020 }%
12021 \fi
12022 \fi
12023 \edef\Hy@temp{%
12024 \noexpand\pdfmark{%
12025 pdfmark=/DOCVIEW,%
12026 PageMode=/\@pdfpagemode
12027 \Hy@temp
12028 }%
12029 }%
12030 \Hy@temp
12031 \ifx\@pdfpagescrop\@empty
12032 \else
12033 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
12034 \fi
12035 \edef\Hy@temp{%
12036 \ifHy@pdftoolbar\else /HideToolbar true\fi
12037 \ifHy@pdfmenubar\else /HideMenubar true\fi
12038 \ifHy@pdfwindowui\else /HideWindowUI true\fi
12039 \ifHy@pdfwindow /FitWindow true\fi
12040 \ifHy@pdfcenterwindow /CenterWindow true\fi
12041 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12042 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12043 \Hy@UseNameKey{Direction}\@pdfdirection
12044 \Hy@UseNameKey{ViewArea}\@pdfviewarea
12045 \Hy@UseNameKey{ViewClip}\@pdfviewclip
12046 \Hy@UseNameKey{PrintArea}\@pdfprintarea
12047 \Hy@UseNameKey{PrintClip}\@pdfprintclip
12048 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12049 \Hy@UseNameKey{Duplex}\@pdfduplex
12050 \ifx\@pdfpicktraybypdfsize\@empty
12051 \else
12052 /PickTrayByPDFSize \@pdfpicktraybypdfsize
12053 \fi
12054 \ifx\@pdfprintpagerange\@empty
12055 \else

```

```

12056     /PrintPageRange[\@pdfprintpagerange]%
12057     \fi
12058     \ifx\@pdfnumcopies\@empty
12059     \else
12060     /NumCopies \@pdfnumcopies
12061     \fi
12062 }%
12063 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12064 \pdfmark{%
12065     pdfmark=/PUT,%
12066     Raw={%
12067         \string{Catalog\string}<<%
12068         \ifx\Hy@temp\@empty
12069         \else
12070         /ViewerPreferences<<\Hy@temp>>%
12071         \fi
12072         \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12073         \ifx\@pdflang\relax
12074         \else
12075         /Lang(\@pdflang)%
12076         \fi
12077         \ifx\@baseurl\@empty
12078         \else
12079         /URI<</Base(\Hy@pstringB)>>%
12080         \fi
12081     >>%
12082 }%
12083 }%
12084 }
12085 \providecommand*\@pdfview{XYZ}
12086 \providecommand*\@pdfviewparams{ %
12087     gsave revscl currentpoint grestore %
12088     72 add exch pop null exch null%
12089 }
12090 \def\Hy@BorderArrayPatch{BorderArrayPatch}

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called `pdf@llx` `pdf@lly` `pdf@urx` `pdf@ury`, which are the coordinates of the bounding rectangle of the link, and `pdf@hoff` `pdf@voff` which are the PDF page offsets. These latter are currently not used in the dvipsone setup. The `Rect` pair are called at the LL and UR corners of a box known to \TeX .

```

12091 \g@addto@macro\Hy@FirstPageHook{%
12092     \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

12093     /DvipsToPDF { 65781 div } def%
12094     /PDFToDvips { 65781 mul } def%
12095     /BPToDvips{65781 mul}def%
12096     /HyperBorder { 1 PDFToDvips } def%
12097     /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.

```

12098     /BorderArrayPatch{%

```

```

12099 [exch{%
12100     dup dup type/integertype eq exch type/realttype eq or%
12101     {BPToDvips}if%
12102     }forall]%
12103 }def%
12104 /H.S {%
12105     currentpoint %
12106     HyperBorder add /pdf@lly exch def %
12107     dup DvipsToPDF 72 add /pdf@hoff exch def %
12108     HyperBorder sub /pdf@llx exch def%
12109 } def%
12110 /H.L {%
12111     2 sub %
12112     PDFToDvips /HyperBase exch def %
12113     currentpoint %
12114     HyperBase sub /pdf@ury exch def%
12115     /pdf@urx exch def%
12116 } def%
12117 /H.A {%
12118     H.L %
12119     currentpoint exch pop %
12120     HyperBase sub % baseline skip
12121     DvipsToPDF /pdf@voff exch def%
12122 } def%
12123 /H.R {%
12124     currentpoint %
12125     HyperBorder sub /pdf@ury exch def %
12126     HyperBorder add /pdf@urx exch def %
12127     currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12128 } def%
12129 }%
12130 }

12131 \def\setpdfinkmargin#1{%
12132     \begingroup
12133     \setlength{\dimen@}{#1}%
12134     \literalps@out{%
12135         /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
12136     }%
12137     \endgroup
12138 }

12139 </dvipsone>

```

44.13 TeX4ht

```

12140 <*tex4ht>
12141 \providecommand*\XR@ext>{html}
12142 \let\Hy@raisedlink\@empty
12143 \@ifpackageloaded{tex4ht}{%
12144     \Hy@InfoNoLine{tex4ht is already loaded}%
12145 }{%
12146     \RequirePackage[hTeX4ht]{tex4ht}%
12147 }
12148 \hyperlinkfileprefix{}
12149 \let\PDF@FinishDoc\@empty

```

```

12150 \def\PDF@SetupDoc{%
12151   \ifx\@baseurl\@empty
12152   \else
12153     \special{t4ht=<base href="\@baseurl">}%
12154   \fi
12155 }
12156 \Hy@WrapperDef\hyper@anchor#1{%
12157   \Hy@SaveLastskip
12158   \Hy@VerboseAnchor{#1}%
12159   \begingroup
12160     \let\protect=\string
12161     \special{t4ht=<a name=%
12162       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12163   \endgroup
12164   \Hy@Activeanchortrue
12165   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12166   \special{t4ht=</a>}%
12167   \Hy@Activeanchorfalse
12168   \Hy@RestoreLastskip
12169 }
12170 \Hy@WrapperDef\hyper@anchorstart#1{%
12171   \Hy@SaveLastskip
12172   \Hy@VerboseAnchor{#1}%
12173   \begingroup
12174     \hyper@chars\special{t4ht=<a name=%
12175       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12176   \endgroup
12177   \Hy@Activeanchortrue
12178 }
12179 \def\hyper@anchorend{%
12180   \special{t4ht=</a>}%
12181   \Hy@Activeanchorfalse
12182   \Hy@RestoreLastskip
12183 }
12184 \def\@urltype{url}
12185 \def\hyper@linkstart#1#2{%
12186   \Hy@VerboseLinkStart{#1}{#2}%
12187   \expandafter\Hy@colorlink\csname @#1color\endcsname
12188   \def\Hy@tempa{#1}%
12189   \ifx\Hy@tempa\@urltype
12190     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12191   \else
12192     \begingroup
12193       \hyper@chars
12194       \special{t4ht=<a href=%
12195         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
12196     \endgroup
12197   \fi
12198 }
12199 \def\hyper@linkend{%
12200   \special{t4ht=</a>}%
12201   \Hy@endcolorlink
12202 }
12203 \def\hyper@linkfile#1#2#3{%

```

```

12204 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
12205 }
12206 \def\hyper@linkurl#1#2{%
12207 \leavevmode
12208 \ifHy@raiselinks
12209 \Hy@SaveSpaceFactor
12210 \Hy@SaveSavedSpaceFactor
12211 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12212 \Hy@RestoreSavedSpaceFactor
12213 \@linkdim\dp\@tempboxa
12214 \lower\@linkdim\hbox{%
12215 \begingroup
12216 \hyper@chars
12217 \special{%
12218 t4ht=<a href=\hyper@quote#2\hyper@quote>%
12219 }%
12220 \endgroup
12221 }%
12222 \Hy@colorlink\@urlcolor
12223 \Hy@RestoreSpaceFactor
12224 #1\Hy@xspace@end
12225 \Hy@SaveSpaceFactor
12226 \Hy@endcolorlink
12227 \@linkdim\ht\@tempboxa
12228 \advance\@linkdim by -6.5\p@
12229 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12230 \Hy@RestoreSpaceFactor
12231 \else
12232 \begingroup
12233 \hyper@chars
12234 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12235 \Hy@colorlink\@urlcolor
12236 #1\Hy@xspace@end
12237 \Hy@endcolorlink
12238 \special{t4ht=</a>}%
12239 \endgroup
12240 \fi
12241 }

```

Poor implementation of \hyper@link without considering #1.

```

12242 \def\hyper@link#1#2#3{%
12243 \Hy@VerboseLinkStart{#1}{#2}%
12244 \hyper@linkurl{#3}{\# \Hy@HyperDestNameFilter{#2}}%
12245 }
12246 \def\hyper@image#1#2{%
12247 \begingroup
12248 \hyper@chars
12249 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12250 \endgroup
12251 }
12252 \let\autoref\ref
12253 \ifx \rEfLiNK \UnDef
12254 \def\rEfLiNK #1#2{#2}%
12255 \fi
12256 \let\backref\@gobble

```

Fix for tex4ht.

```
12257 \AtBeginDocument{%
12258   \expandafter
12259   \let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
12260   \expandafter\def\csname Make:Label\endcsname#1#2{%
12261     \ifhmode
12262       \Hy@SaveSpaceFactor
12263     \else
12264       \global\Hy@SavedSpaceFactor=1000 %
12265     \fi
12266     \Hy@OrgMakeLabel{#1}{%
12267       \Hy@RestoreSpaceFactor
12268       #2\Hy@xspace@end%
12269     \Hy@SaveSpaceFactor
12270   }%
12271   \Hy@RestoreSpaceFactor
12272 }%
12273 }
12274 </tex4ht>
12275 <*tex4htcfg>
12276 \IfFileExists{\jobname.cfg}{\endinput}{}
12277 \Preamble{html}
12278   \begin{document}%
12279 \EndPreamble
12280 \def\TeX{\TeX}
12281 \def\OMEGA{\Omega}
12282 \def\LaTeX{\LaTeX}
12283 \def\LaTeXe{\LaTeX2e}
12284 \def\eTeX{e-TeX}
12285 \def\MF{Metafont}
12286 \def\MP{MetaPost}
12287 </tex4htcfg>
```

45 Driver-specific form support

45.1 pdfmarks

change 2020-06-20: added /Euro to encoding

```
12288 <*pdfmark>
12289 \long\def\@Form[#1]{%
12290 \g@addto@macro\Hy@FirstPageHook{%
12291   \headerps@out{%
12292 [%
12293   /__objdef{pdfDocEncoding}%
12294   /type/dict%
12295   /OBJ pdfmark%
12296 [%
12297   {pdfDocEncoding}%
12298   <<%
12299   /Type/Encoding%
12300   /Differences[%
12301     24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
12302     /tilde %
12303     39/quotesingle %
```

12304 96/grave %
12305 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12306 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12307 /quotedblbase/quotedblleft/quotedblright/quoteleft%
12308 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
12309 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12310 160/Euro %
12311 164/currency %
12312 166/brokenbar %
12313 168/dieresis/copyright/ordfeminine %
12314 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12315 /twosuperior/threesuperior/acute/mu %
12316 183/periodcentered/cedilla/onesuperior/ordmasculine %
12317 188/onequarter/onehalf/threequarters %
12318 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12319 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12320 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12321 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12322 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12323 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
12324 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12325 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
12326 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
12327 /ucircumflex/udieresis/yacute/thorn/ydieresis%
12328]%
12329 >>%
12330 /PUT pdfmark%
12331 [%
12332 /_objdef{ZaDb}%
12333 /type/dict%
12334 /OBJ pdfmark%
12335 [%
12336 {ZaDb}%
12337 <<%
12338 /Type/Font%
12339 /Subtype/Type1%
12340 /Name/ZaDb%
12341 /BaseFont/ZapfDingbats%
12342 >>%
12343 /PUT pdfmark%
12344 [%
12345 /_objdef{Helv}%
12346 /type/dict%
12347 /OBJ pdfmark%
12348 [%
12349 {Helv}%
12350 <<%
12351 /Type/Font%
12352 /Subtype/Type1%
12353 /Name/Helv%
12354 /BaseFont/Helvetica%
12355 /Encoding{pdfDocEncoding}%
12356 >>%
12357 /PUT pdfmark%

```

12358 [%
12359  /_objdef{aform}%
12360  /type/dict%
12361 /OBJ pdfmark%
12362 [%
12363  /_objdef{afields}%
12364  /type/array%
12365 /OBJ pdfmark%
12366 [%
12367  /_objdef{corder}%
12368  /type/array%
12369 /OBJ pdfmark%
12370 {%
12371  [%
12372    /BBox[0 0 100 100]%
12373    /_objdef{Check}%
12374    /BP pdfmark %
12375    1 0 0 setrgbcolor%
12376    /ZapfDingbats 80 selectfont %
12377    20 20 moveto%
12378    (4)show%
12379    [/EP pdfmark%
12380    [%
12381      /BBox[0 0 100 100]%
12382      /_objdef{Cross}%
12383      /BP pdfmark %
12384      1 0 0 setrgbcolor%
12385      /ZapfDingbats 80 selectfont %
12386      20 20 moveto%
12387      (8)show%
12388      [/EP pdfmark%
12389      [%
12390        /BBox[0 0 250 100]%
12391        /_objdef{Submit}%
12392        /BP pdfmark %
12393        0.6 setgray %
12394        0 0 250 100 rectfill %
12395        1 setgray %
12396        2 2 moveto %
12397        2 98 lineto %
12398        248 98 lineto %
12399        246 96 lineto %
12400        4 96 lineto %
12401        4 4 lineto %
12402        fill %
12403        0.34 setgray %
12404        248 98 moveto %
12405        248 2 lineto %
12406        2 2 lineto %
12407        4 4 lineto %
12408        246 4 lineto %
12409        246 96 lineto %
12410        fill%
12411        /Helvetica 76 selectfont %

```



```

12412 0 setgray %
12413 8 22.5 moveto%
12414 (Submit)show%
12415 [/EP pdfmark%
12416 [%
12417 /BBox[0 0 250 100]%
12418 /_objdef{SubmitP}%
12419 /BP pdfmark %
12420 0.6 setgray %
12421 0 0 250 100 rectfill %
12422 0.34 setgray %
12423 2 2 moveto %
12424 2 98 lineto %
12425 248 98 lineto %
12426 246 96 lineto %
12427 4 96 lineto %
12428 4 4 lineto %
12429 fill %
12430 1 setgray %
12431 248 98 moveto %
12432 248 2 lineto %
12433 2 2 lineto %
12434 4 4 lineto %
12435 246 4 lineto %
12436 246 96 lineto %
12437 fill%
12438 /Helvetica 76 selectfont %
12439 0 setgray %
12440 10 20.5 moveto%
12441 (Submit)show%
12442 [/EP pdfmark%
12443 } ?pdfmark%
12444 [%
12445 {aform}%
12446 <<%
12447 /Fields{afields}%
12448 /DR<<%
12449 /Font<<%
12450 /ZaDb{ZaDb}%
12451 /Helv{Helv}%
12452 >>%
12453 >>%
12454 /DA(/Helv 10 Tf 0 g)%
12455 /CO{corder}%
12456 \ifHy@pdfa
12457 \else
12458 \ifHyField@NeedAppearances
12459 /NeedAppearances true%
12460 \fi
12461 \fi
12462 >>%
12463 /PUT pdfmark%
12464 [%
12465 {Catalog}%

```

```

12466 <<%
12467 /AcroForm{aform}%
12468 >>%
12469 /PUT pdfmark%
12470 }}%
12471 \kvsetkeys{Form}{#1}%
12472 }
12473 \let\@endForm\@empty
12474 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12475 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12476 }

12477 \newcount\HyField@AnnotCount
12478 \HyField@AnnotCount=\z@
12479 \def\HyField@AdvanceAnnotCount{%
12480 \global\advance\HyField@AnnotCount\@ne
12481 }
12482 \def\HyField@TheAnnotCount{%
12483 \the\HyField@AnnotCount
12484 }

12485 \edef\Fld@pageobjref{/P\string{ThisPage\string}}
12486 \def\HyField@AddToFields#1{%
12487 \pdfmark{%
12488 pdfmark=/APPEND,%
12489 Raw={%
12490 \string{afields\string}%
12491 \string{#1\HyField@TheAnnotCount\string}%
12492 }%
12493 }%
12494 \ifx\Fld@calculate@code\@empty
12495 \else
12496 \pdfmark{%
12497 pdfmark=/APPEND,%
12498 Raw={%
12499 \string{corder\string}%
12500 \string{#1\HyField@TheAnnotCount\string}%
12501 }%
12502 }%
12503 \fi
12504 }

12505 \def\@TextField[#1]#2{% parameters, label
12506 \def\Fld@name{#2}%
12507 \let\Fld@default\@empty
12508 \let\Fld@value\@empty
12509 \def\Fld@width{\DefaultWidthofText}%
12510 \def\Fld@height{%
12511 \ifFld@multiline
12512 \DefaultHeightofTextMultiline
12513 \else
12514 \DefaultHeightofText
12515 \fi
12516 }%
12517 \begingroup
12518 \expandafter\HyField@SetKeys\expandafter{%

```

```

12519 \DefaultOptionsofText,#1%
12520 }%
12521 \HyField@FlagsText
12522 \ifFld@hidden\def\Fld@width{1sp}\fi
12523 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12524 \HyField@AdvanceAnnotCount
12525 \LayoutTextField{#2}{%
12526 \leavevmode
12527 \Hy@escapeform\PDFForm@Text
12528 \pdfmark{\MakeTextField{\Fld@width}{\Fld@height}}{%
12529 pdfmark=/ANN,%
12530 objdef=text\HyField@TheAnnotCount,%
12531 Raw={\PDFForm@Text}%
12532 }%
12533 }%
12534 \HyField@AddToFields{text}%
12535 \endgroup
12536 }
12537 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12538 \def\Fld@name{#2}%
12539 \let\Fld@default\relax
12540 \let\Fld@value\relax
12541 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12542 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12543 \begingroup
12544 \Fld@menulength=0 %
12545 \@tempdima\z@
12546 \@for\@curropt:=#3\do{%
12547 \expandafter\Fld@checkequals\@curropt==\%
12548 \Hy@StepCount\Fld@menulength
12549 \settowidth{\@tempdimb}{\@currDisplay}%
12550 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12551 }%
12552 \advance\@tempdima by 15\p@
12553 \begingroup
12554 \HyField@SetKeys{#1}%
12555 \edef\x{\endgroup
12556 \noexpand\expandafter
12557 \noexpand\HyField@SetKeys
12558 \noexpand\expandafter{%
12559 \expandafter\noexpand\cname DefaultOptionsof%
12560 \ifFld@radio
12561 Radio%
12562 \else
12563 \ifFld@combo
12564 \ifFld@popdown
12565 PopdownBox%
12566 \else
12567 ComboBox%
12568 \fi
12569 \else
12570 ListBox%
12571 \fi
12572 \fi

```

```

12573     \endcsname
12574   }%
12575 } \x
12576 \HyField@SetKeys{#1}%
12577 \ifFld@hidden\def\Fld@width{1sp}\fi
12578 \ifx\Fld@value\relax
12579   \let\Fld@value\Fld@default
12580 \fi
12581 \LayoutChoiceField{#2}{%
12582   \ifFld@radio
12583     \HyField@FlagsRadioButton
12584     \@@Radio{#3}%
12585   \else
12586     \begingroup
12587     \HyField@FlagsChoice
12588     \ifdim\Fld@width<\@tempdima
12589       \ifdim\@tempdima<1cm\@tempdima1cm\fi
12590       \edef\Fld@width{\the\@tempdima}%
12591     \fi
12592     \ifFld@combo
12593     \else
12594       \@tempdima=\the\Fld@menulength\Fld@charsize
12595       \advance\@tempdima by \Fld@borderwidth bp %
12596       \advance\@tempdima by \Fld@borderwidth bp %
12597       \edef\Fld@height{\the\@tempdima}%
12598     \fi
12599     \@@ListBox{#3}%
12600   \endgroup
12601 \fi
12602 }%
12603 \endgroup
12604 }
12605 \def\@@Radio#1{%
12606   \Fld@listcount=0 %
12607   \EdefEscapeName\Fld@default{\Fld@default}%
12608   \@for\@curropt:=#1\do{%
12609     \expandafter\Fld@checkequals\@curropt==\%
12610     \EdefEscapeName\@currValue{\@currValue}%
12611     \Hy@StepCount\Fld@listcount
12612     \@currDisplay\space
12613     \Hy@escapeform\PDFForm@Radio
12614     \ifnum\Fld@listcount=1 %
12615       \HyField@AdvanceAnnotCount
12616     \fi
12617     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12618       pdfmark=/ANN,%
12619       objdef=\ifnum\Fld@listcount=1 radio\HyField@TheAnnotCount\fi,%
12620       Raw={%
12621         \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12622       }%
12623   } % deliberate space between radio buttons
12624   \ifnum\Fld@listcount=1 %
12625     \HyField@AddToFields{radio}%
12626   \fi

```

```

12627 }%
12628 }
12629 \newcount\Fld@listcount
12630 \def\@@ListBox#1{%
12631   \HyField@PDFChoices{#1}%
12632   \Hy@escapeform\PDFForm@List
12633   \HyField@AdvanceAnnotCount
12634   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12635     pdfmark=/ANN,%
12636     objdef=list\HyField@TheAnnotCount,%
12637     Raw={\PDFForm@List}%
12638   }%
12639   \HyField@AddToFields{list}%
12640 }
12641 \def\@PushButton[#1]#2{% parameters, label
12642   \def\Fld@name{#2}%
12643   \begingroup
12644     \expandafter\HyField@SetKeys\expandafter{%
12645       \DefaultOptionsofPushButton,#1%
12646     }%
12647     \ifHy@pdfa
12648       \Hy@Error{%
12649         PDF/A: Push button with JavaScript is prohibited%
12650       }\@ehc
12651       \LayoutPushButtonField{%
12652         \leavevmode
12653         \MakeButtonField{#2}%
12654       }%
12655     \else
12656       \HyField@FlagsPushButton
12657       \ifFld@hidden\def\Fld@width{1sp}\fi
12658       \HyField@AdvanceAnnotCount
12659       \LayoutPushButtonField{%
12660         \leavevmode
12661         \Hy@escapeform\PDFForm@Push
12662         \pdfmark[\MakeButtonField{#2}]{%
12663           pdfmark=/ANN,%
12664           objdef=push\HyField@TheAnnotCount,%
12665           Raw={\PDFForm@Push}%
12666         }%
12667       }%
12668       \HyField@AddToFields{push}%
12669     \fi
12670   \endgroup
12671 }
12672 \def\@Submit[#1]#2{%
12673   \def\Fld@width{\DefaultWidthofSubmit}%
12674   \def\Fld@height{\DefaultHeightofSubmit}%
12675   \begingroup
12676     \expandafter\HyField@SetKeys\expandafter{%
12677       \DefaultOptionsofSubmit,#1%
12678     }%
12679     \HyField@FlagsPushButton
12680     \HyField@FlagsSubmit

```

```

12681 \ifFld@hidden\def\Fld@width{1sp}\fi
12682 \Hy@escapeform\PDFForm@Submit
12683 \HyField@AdvanceAnnotCount
12684 \pdfmark[\MakeButtonField{#2}]{%
12685   pdfmark=/ANN,%
12686   objdef=submit\HyField@TheAnnotCount,%
12687   Raw={\PDFForm@Submit /AP<</N{Submit}/D{SubmitP}>>}}%
12688 }%
12689 \HyField@AddToFields{submit}%
12690 \endgroup
12691 }
12692 \def\@Reset[#1]#2{%
12693   \def\Fld@width{\DefaultWidthofReset}%
12694   \def\Fld@height{\DefaultHeightofReset}%
12695   \begingroup
12696     \expandafter\HyField@SetKeys\expandafter{%
12697       \DefaultOptionsofReset,#1%
12698     }%
12699     \leavevmode
12700     \ifHy@pdfa
12701       \Hy@Error{%
12702         PDF/A: Reset action is prohibited%
12703       }\@ehc
12704       \MakeButtonField{#2}%
12705     \else
12706       \HyField@FlagsPushButton
12707       \ifFld@hidden\def\Fld@width{1sp}\fi
12708       \Hy@escapeform\PDFForm@Reset
12709       \HyField@AdvanceAnnotCount
12710       \pdfmark[\MakeButtonField{#2}]{%
12711         pdfmark=/ANN,%
12712         objdef=reset\HyField@TheAnnotCount,%
12713         Raw={\PDFForm@Reset}%
12714       }%
12715       \HyField@AddToFields{reset}%
12716     \fi
12717   \endgroup
12718 }%
12719 \def\@CheckBox[#1]#2{% parameters, label
12720   \def\Fld@name{#2}%
12721   \def\Fld@default{0}%
12722   \begingroup
12723     \def\Fld@width{\DefaultWidthofCheckBox}%
12724     \def\Fld@height{\DefaultHeightofCheckBox}%
12725     \expandafter\HyField@SetKeys\expandafter{%
12726       \DefaultOptionsofCheckBox,#1%
12727     }%
12728     \HyField@FlagsCheckBox
12729     \ifFld@hidden\def\Fld@width{1sp}\fi
12730     \HyField@AdvanceAnnotCount
12731     \LayoutCheckField{#2}{%
12732       \leavevmode
12733       \Hy@escapeform\PDFForm@Check
12734       \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%

```

```

12735     pdfmark=/ANN,%
12736     objdef=check\HyField@TheAnnotCount,%
12737     Raw={\PDFForm@Check}%
12738   }%
12739 }%
12740 \HyField@AddToFields{check}%
12741 \endgroup
12742 }
12743 </pdfmark>

```

45.2 HyperTeX

```

12744 <*hypertex>
12745 \def\@Form[#1]{%
12746   \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12747 }
12748 \let\@endForm\@empty
12749 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12750   \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
12751 }
12752 \def\@TextField[#1]#2{% parameters, label
12753   \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
12754 }
12755 \def\@CheckBox[#1]#2{% parameters, label
12756   \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
12757 }
12758 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12759   \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
12760 }
12761 \def\@PushButton[#1]#2{% parameters, label
12762   \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
12763 }
12764 \def\@Reset[#1]#2{%
12765   \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12766 }
12767 \def\@Submit[#1]#2{%
12768   \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12769 }
12770 </hypertex>

```

45.3 TeX4ht

```

12771 <*tex4ht>
12772 \def\@Form[#1]{%
12773   \kvsetkeys{Form}{#1}%
12774   \HCode{<form action="\Form@action" method="\Form@method">}%
12775 }
12776 \def\@endForm{\HCode{</form>}}
12777 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12778   \Hy@Message{Sorry, TeX4ht does not support gauges}%
12779 }
12780 \def\@TextField[#1]#2{% parameters, label
12781   \let\Hy@reserved@a\@empty
12782   \def\Fld@name{#2}%
12783   \let\Fld@default\@empty

```

```

12784 \bgroup
12785 \Field@toks={ }%
12786 \kvsetkeys{Field}{#1}%
12787 \HCode{<label for="\Fld@name">#2</label>}%
12788 \ifFld@password
12789 \@@PasswordField
12790 \else
12791 \@@TextField
12792 \fi
12793 \egroup
12794 }
12795 \def\@@PasswordField{%
12796 \HCode{%
12797 <input type="password" %
12798 id="\Fld@name" %
12799 name="\Fld@name" %
12800 \ifFld@hidden type="hidden" \fi
12801 value="\Fld@default" %
12802 \the\Field@toks
12803 >%
12804 }%
12805 }
12806 \def\@@TextField{%
12807 \ifFld@multiline
12808 \HCode{<textarea %
12809 \ifFld@readonly readonly \fi
12810 id="\Fld@name" %
12811 name="\Fld@name" %
12812 \ifFld@hidden type="hidden" \fi
12813 \the\Field@toks>%
12814 }%
12815 \Fld@default
12816 \HCode{</textarea>}%
12817 \else
12818 \HCode{<input type="text" %
12819 \ifFld@readonly readonly \fi
12820 id="\Fld@name" %
12821 name="\Fld@name" %
12822 \ifFld@hidden type="hidden" \fi
12823 value="\Fld@default" %
12824 \the\Field@toks>%
12825 }%
12826 \fi
12827 }
12828 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12829 \def\Fld@name{#2}%
12830 \let\Fld@default\@empty
12831 \let\Hy@reserved@a\relax
12832 \begingroup
12833 \expandafter\Fld@findlength#3\\%
12834 \Field@toks={ }%
12835 \kvsetkeys{Field}{#1}%
12836 #2%
12837 \ifFld@radio

```



```

12838     \expandafter\@@Radio#3\\%
12839     \else
12840         \expandafter\@@Menu#3\\%
12841     \fi
12842 \endgroup
12843 }
12844 \def\Fld@findlength#1\\{%
12845     \Fld@menulength=0 %
12846     \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
12847 }
12848 \def\@@Menu#1\\{%
12849     \HCode{<select size="\the\Fld@menulength" %
12850         name="\Fld@name" %
12851         \the\Field@toks>%
12852     }%
12853     \@for\@curropt:=#1\do{%
12854         \expandafter\Fld@checkequals\@curropt==\\%
12855         \HCode{<option %
12856             \ifx\@curropt\Fld@default selected \fi
12857             value="\@currValue">\@currDisplay</option>%
12858         }%
12859     }%
12860     \HCode{</select>}%
12861 }
12862 \def\@@Radio#1\\{%
12863     \@for\@curropt:=#1\do{%
12864         \expandafter\Fld@checkequals\@curropt==\\%
12865         \HCode{<input type="radio" %
12866             \ifx\@curropt\Fld@default checked \fi
12867             name="\Fld@name" %
12868             value="\@currValue" %
12869             \the\Field@toks>%
12870         }%
12871         \@currDisplay
12872     }%
12873 }
12874 \def\@PushButton[#1]#2{% parameters, label
12875     \def\Fld@name{#2}%
12876     \bgroup
12877     \Field@toks={ }%
12878     \kvsetkeys{Field}{#1}%
12879     \HCode{<input type="button" %
12880         name="\Fld@name" %
12881         value="#2" %
12882         \the\Field@toks>%
12883     }%
12884     \HCode{</button>}%
12885     \egroup
12886 }
12887 \def\@Submit[#1]#2{%
12888     \HCode{<button type="submit">#2</button>}%
12889 }
12890 \def\@Reset[#1]#2{%
12891     \HCode{<button type="reset">#2</button>}%

```

```

12892 }
12893 \def\@CheckBox[#1]#2{% parameters, label
12894   \let\Hy@reserved@a\@empty
12895   \def\Fld@name{#2}%
12896   \def\Fld@default{0}%
12897   \bgroup
12898     \Field@toks={ }%
12899     \kvsetkeys{Field}{#1}%
12900     \HCode{<input type="checkbox" %
12901       \ifFld@checked checked \fi
12902       \ifFld@disabled disabled \fi
12903       \ifFld@readonly readonly \fi
12904       name="\Fld@name" %
12905       \ifFld@hidden type="hidden" \fi
12906       value="\Fld@default" %
12907       \the\Field@toks>%
12908     #2%
12909   }%
12910 \egroup
12911 }
12912 </tex4ht>

```

45.4 pdfTeX

```

12913 (*pdfTeX)
12914 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12915   \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
12916 }
12917 \def\MakeFieldObject#1#2{\sbox0{#1}%
12918   \immediate\pdfxform0 %
12919   \expandafter\edef\csname #2Object\endcsname{%
12920     \the\pdflastxform\space 0 R%
12921   }%
12922 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}}%
12923 }%
12924 \let\HyField@afields\@empty
12925 \let\HyField@cofields\@empty
12926 \@ifundefined{pdflastlink}
12927 {%
12928   \let\HyField@AddToFields\relax
12929   \PackageInfo{hyperref}{%
12930     You need pdfTeX 1.40.0 for setting the /Fields entry.%
12931     \MessageBreak
12932     Adobe Reader/Acrobat accepts an empty /Field array,%
12933     \MessageBreak
12934     but other PDF viewers might complain%
12935   }}%
12936 {%
12937   \let\HyField@AuxAddToFields\@gobble
12938   \let\HyField@AuxAddToCoFields\@gobbletwo
12939   \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.

```

12940 \def\HyField@ABD@AuxAddToCoFields#1#2{%

```

```

12941 \begingroup
12942 \Hy@safe@activetrue
12943 \let\@secondoftwo\relax
12944 \ifx\HyField@cofields\@empty
12945 \xdef\HyField@cofields{%
12946 \@secondoftwo{#1}{ #2 0 R}%
12947 }%
12948 \else
12949 \let\@secondoftwo\relax
12950 \def\HyField@AddCoField###1##2###3{%
12951 \ifx##1\@empty
12952 \@secondoftwo{#1}{ #2 0 R}%
12953 \expandafter\@gobble
12954 \else
12955 \ifnum\pdfstrcmp{##2}{#1}>\z@
12956 \@secondoftwo{#1}{ #2 0 R}%
12957 \@secondoftwo{##2}{##3}%
12958 \expandafter\expandafter\expandafter\@gobble
12959 \else
12960 \@secondoftwo{##2}{##3}%
12961 \fi
12962 \fi
12963 \HyField@AddCoField
12964 }%
12965 \xdef\HyField@cofields{%
12966 \expandafter\HyField@AddCoField
12967 \HyField@cofields\@empty\@empty\@empty
12968 }%
12969 \fi
12970 \endgroup
12971 }%
12972 \Hy@AtBeginDocument{%
12973 \if@filesw
12974 \immediate\write\@mainaux{%
12975 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
12976 }%
12977 \immediate\write\@mainaux{%
12978 \string\providecommand\string\HyField@AuxAddToCoFields[2]{}%
12979 }%
12980 \fi
12981 \let\HyField@AfterAuxOpen\@firstofone
12982 \def\HyField@AuxAddToFields#1{%
12983 \xdef\HyField@afields{%
12984 \ifx\HyField@afields\@empty
12985 \else
12986 \HyField@afields
12987 \space
12988 \fi
12989 #1 0 R%
12990 }%
12991 }%
12992 \let\HyField@AuxAddToCoFields\HyField@ABD@AuxAddToCoFields
12993 }%
12994 \def\HyField@AddToFields{%

```

```

12995 \expandafter\HyField@@AddToFields\expandafter{%
12996 \the\pdfastlink
12997 }%
12998 \ifx\Fld@calculate@code\@empty
12999 \else
13000 \begingroup
13001 \Hy@safe@activetrue
13002 \edef\Hy@temp{%
13003 \endgroup
13004 \if@filesw
13005 \write\@mainaux{%
13006 \string\HyField@AuxAddToCoFields{%
13007 \Fld@calculate@sortkey
13008 }{%
13009 \the\pdfastlink
13010 }%
13011 }%
13012 \fi
13013 }%
13014 \Hy@temp
13015 \fi
13016 }%
13017 \def\HyField@@AddToFields#1{%
13018 \HyField@AfterAuxOpen{%
13019 \if@filesw
13020 \write\@mainaux{%
13021 \string\HyField@AuxAddToFields{#1}%
13022 }%
13023 \fi
13024 }%
13025 }%
13026 }
13027 \def\@Form[#1]{%
13028 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13029 \kvsetkeys{Form}{#1}%
13030 \pdf@ifdraftmode{}{%
13031 \Hy@FormObjects
13032 \ifnum\pdftexversion>13 %
13033 \pdfrefobj\OBJ@pdfdocencoding
13034 \pdfrefobj\OBJ@ZaDb
13035 \pdfrefobj\OBJ@Helv
13036 \fi
13037 \AtVeryEndDocument{%
13038 \immediate\pdfobj{%
13039 <<%
13040 /Fields[\HyField@afields]%
13041 \ifx\HyField@cofields\@empty
13042 \else
13043 /CO[\romannumeral-`\Q\HyField@cofields]%
13044 \fi
13045 /DR<<%
13046 /Font<<%
13047 /ZaDb \OBJ@ZaDb\space 0 R%
13048 /Helv \OBJ@Helv\space 0 R%

```

```

13049      >>%
13050      >>%
13051      /DA(/Helv 10 Tf 0 g)%
13052      \ifHy@pdfa
13053      \else
13054      \ifHyField@NeedAppearances
13055      /NeedAppearances true%
13056      \fi
13057      \fi
13058      >>%
13059      }%
13060      \edef\OBJ@acroform{\the\pdfflastobj}%
13061      \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
13062      }%
13063      }%
13064      \MakeFieldObject{%
Same as \ding{123} of package pifont.
13065      \begingroup
13066      \fontfamily{pzd}%
13067      \fontencoding{U}%
13068      \fontseries{m}%
13069      \fontshape{n}%
13070      \selectfont
13071      \char123 %
13072      \endgroup
13073      }{Ding}%
13074      \MakeFieldObject{%
13075      \fbox{\textcolor{yellow}{\textsf{Submit}}}%
13076      }{Submit}%
13077      \MakeFieldObject{%
13078      \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
13079      }{SubmitP}%
13080      }
13081      \let\@endForm\@empty
13082      \let\HyAnn@AbsPageLabel\@empty
13083      \let\Fld@pageobjref\@empty
13084      \@ifundefined{pdfpageref}{%
13085      }{%
13086      \@ifpackageloaded{zref-abspage}{%
13087      \newcount\HyAnn@Count
13088      \HyAnn@Count=\z@
13089      \def\HyAnn@AbsPageLabel{%
13090      \global\advance\HyAnn@Count by\@ne
13091      \zref@labelbyprops{HyAnn@\the\HyAnn@Count}{abspage}%
13092      \zref@refused{HyAnn@\the\HyAnn@Count}%
13093      }%
13094      \def\Fld@pageobjref{%
13095      \zref@ifrefundefined{HyAnn@\the\HyAnn@Count}{%
13096      }{%
13097      \zref@ifrefcontainsprop{HyAnn@\the\HyAnn@Count}{abspage}{%
13098      /P \pdfpageref
13099      \zref@extractdefault{HyAnn@\the\HyAnn@Count}{abspage}{1} %
13100      \space 0 R%
13101      }{%

```

```

13102     }%
13103     }%
13104     }%
13105   }{%
13106   }%
13107 }

13108 \def\@TextField[#1]#2{% parameters, label
13109   \def\Fld@name{#2}%
13110   \let\Fld@default\@empty
13111   \let\Fld@value\@empty
13112   \def\Fld@width{\DefaultWidthofText}%
13113   \def\Fld@height{%
13114     \ifFld@multiline
13115       \DefaultHeightofTextMultiline
13116     \else
13117       \DefaultHeightofText
13118     \fi
13119   }%
13120   \begingroup
13121     \expandafter\HyField@SetKeys\expandafter{%
13122       \DefaultOptionsofText,#1%
13123     }%
13124     \PDFForm@Name
13125     \HyField@FlagsText
13126     \ifFld@hidden\def\Fld@width{1sp}\fi
13127     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13128     \LayoutTextField{#2}{%
13129       \leavevmode
13130       \HyAnn@AbsPageLabel
13131       \Hy@escapeform\PDFForm@Text
13132       \pdfstartlink user {\PDFForm@Text}\relax
13133       \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
13134       \HyField@AddToFields
13135     }%
13136   \endgroup
13137 }

13138 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13139   \def\Fld@name{#2}%
13140   \let\Fld@default\relax
13141   \let\Fld@value\relax
13142   \def\Fld@width{\DefaultWidthofChoiceMenu}%
13143   \def\Fld@height{\DefaultHeightofChoiceMenu}%
13144   \begingroup
13145     \Fld@menulength=0 %
13146     \@tempdima\z@
13147     \@for\@curropt:=#3\do{%
13148       \expandafter\Fld@checkequals\@curropt==\%
13149       \Hy@StepCount\Fld@menulength
13150       \settowidth{\@tempdimb}{\@currDisplay}%
13151       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13152     }%
13153     \advance\@tempdima by 15\p@
13154     \begingroup
13155       \HyField@SetKeys{#1}%

```

```

13156 \edef\x{\endgroup
13157 \noexpand\expandafter
13158 \noexpand\HyField@SetKeys
13159 \noexpand\expandafter{%
13160 \expandafter\noexpand\csname DefaultOptionsof%
13161 \ifFld@radio
13162 Radio%
13163 \else
13164 \ifFld@combo
13165 \ifFld@popdown
13166 PopdownBox%
13167 \else
13168 ComboBox%
13169 \fi
13170 \else
13171 ListBox%
13172 \fi
13173 \fi
13174 \endcsname
13175 }%
13176 }\x
13177 \HyField@SetKeys{#1}%
13178 \PDFForm@Name
13179 \ifFld@hidden\def\Fld@width{1sp}\fi
13180 \ifx\Fld@value\relax
13181 \let\Fld@value\Fld@default
13182 \fi
13183 \LayoutChoiceField{#2}-{%
13184 \ifFld@radio
13185 \HyField@FlagsRadioButton
13186 \@@Radio{#3}%
13187 \else
13188 \begingroup
13189 \HyField@FlagsChoice
13190 \ifdim\Fld@width<\@tempdima
13191 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13192 \edef\Fld@width{\the\@tempdima}%
13193 \fi
13194 \ifFld@combo
13195 \else
13196 \@tempdima=\the\Fld@menulength\Fld@charsize
13197 \advance\@tempdima by \Fld@borderwidth bp %
13198 \advance\@tempdima by \Fld@borderwidth bp %
13199 \edef\Fld@height{\the\@tempdima}%
13200 \fi
13201 \@@ListBox{#3}%
13202 \endgroup
13203 \fi
13204 }%
13205 \endgroup
13206 }
13207 \def\@@Radio#1{%
13208 \Fld@listcount=0 %
13209 \EdefEscapeName\Fld@default{\Fld@default}%

```

```

13210 \@for\@curropt:=#1\do{%
13211   \expandafter\Fld@checkequals\@curropt==\\%
13212   \EdefEscapeName\@currValue{\@currValue}%
13213   \Hy@StepCount\Fld@listcount
13214   \@currDisplay\space
13215   \leavevmode
13216   \HyAnn@AbsPageLabel
13217   \Hy@escapeform\PDFForm@Radio
13218   \pdfstartlink user {%
13219     \PDFForm@Radio
13220     /AP<<%
13221     /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.

```

13222     /\@currValue\space \DingObject
13223     >>%
13224     >>%
13225   }%
13226   \relax
13227   \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
13228   \ifnum\Fld@listcount=1 %
13229     \HyField@AddToFields
13230   \fi
13231   \space % deliberate space between radio buttons
13232 }%
13233 }
13234 \newcount\Fld@listcount
13235 \def\@@ListBox#1{%
13236   \HyField@PDFChoices{#1}%
13237   \leavevmode
13238   \HyAnn@AbsPageLabel
13239   \Hy@escapeform\PDFForm@List
13240   \pdfstartlink user {\PDFForm@List}\relax
13241   \MakeChoiceField{\Fld@width}{\Fld@height}%
13242   \pdfendlink
13243   \HyField@AddToFields
13244 }
13245 \def\@PushButton[#1]#2{% parameters, label
13246   \def\Fld@name{#2}%
13247   \begingroup
13248     \expandafter\HyField@SetKeys\expandafter{%
13249       \DefaultOptionsofPushButton,#1%
13250     }%
13251     \PDFForm@Name
13252     \ifHy@pdfa
13253       \Hy@Error{%
13254         PDF/A: Push button with JavaScript is prohibited%
13255       }\@ehc
13256     \LayoutPushButtonField{%
13257       \leavevmode
13258       \MakeButtonField{#2}%
13259     }%

```



```

13260 \else
13261 \HyField@FlagsPushButton
13262 \ifFld@hidden\def\Fld@width{1sp}\fi
13263 \LayoutPushButtonField{%
13264 \leavevmode
13265 \HyAnn@AbsPageLabel
13266 \Hy@escapeform\PDFForm@Push
13267 \pdfstartlink user {\PDFForm@Push}\relax
13268 \MakeButtonField{#2}%
13269 \pdfendlink
13270 \HyField@AddToFields
13271 }%
13272 \fi
13273 \endgroup
13274 }
13275 \def\@Submit[#1]#2{%
13276 \def\Fld@width{\DefaultWidthofSubmit}%
13277 \def\Fld@height{\DefaultHeightofSubmit}%
13278 \begingroup
13279 \expandafter\HyField@SetKeys\expandafter{%
13280 \DefaultOptionsofSubmit,#1%
13281 }%
13282 \HyField@FlagsPushButton
13283 \HyField@FlagsSubmit
13284 \ifFld@hidden\def\Fld@width{1sp}\fi
13285 \leavevmode
13286 \HyAnn@AbsPageLabel
13287 \Hy@escapeform\PDFForm@Submit
13288 \pdfstartlink user {%
13289 \PDFForm@Submit
13290 /AP<</N \SubmitObject/D \SubmitPObject>>%
13291 }%
13292 \relax
13293 \MakeButtonField{#2}%
13294 \pdfendlink
13295 \HyField@AddToFields
13296 \endgroup
13297 }
13298 \def\@Reset[#1]#2{%
13299 \def\Fld@width{\DefaultWidthofReset}%
13300 \def\Fld@height{\DefaultHeightofReset}%
13301 \begingroup
13302 \expandafter\HyField@SetKeys\expandafter{%
13303 \DefaultOptionsofReset,#1%
13304 }%
13305 \leavevmode
13306 \ifHy@pdfa
13307 \Hy@Error{%
13308 PDF/A: Reset action is prohibited%
13309 }\@ehc
13310 \MakeButtonField{#2}%
13311 \else
13312 \HyField@FlagsPushButton
13313 \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

13314 \HyAnn@AbsPageLabel
13315 \Hy@escapeform\PDFForm@Reset
13316 \pdfstartlink user {\PDFForm@Reset}\relax
13317 \MakeButtonField{#2}%
13318 \pdfendlink
13319 \HyField@AddToFields
13320 \fi
13321 \endgroup
13322 }
13323 \def\@CheckBox[#1]#2{% parameters, label
13324 \def\Fld@name{#2}%
13325 \def\Fld@default{0}%
13326 \begingroup
13327 \def\Fld@width{\DefaultWidthofCheckBox}%
13328 \def\Fld@height{\DefaultHeightofCheckBox}%
13329 \expandafter\HyField@SetKeys\expandafter{%
13330 \DefaultOptionsofCheckBox,#1%
13331 }%
13332 \PDFForm@Name
13333 \HyField@FlagsCheckBox
13334 \ifFld@hidden\def\Fld@width{1sp}\fi
13335 \LayoutCheckField{#2}{%
13336 \leavevmode
13337 \HyAnn@AbsPageLabel
13338 \Hy@escapeform\PDFForm@Check
13339 \pdfstartlink user {\PDFForm@Check}\relax
13340 \MakeCheckField{\Fld@width}{\Fld@height}%
13341 \pdfendlink
13342 \HyField@AddToFields
13343 }%
13344 \endgroup
13345 }
13346 \def\Hy@FormObjects{%
13347 \pdfobj {%
13348 <<%
13349 /Type/Encoding%
13350 /Differences[%
13351 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13352 /ring/tilde %
13353 39/quotesingle %
13354 96/grave %
13355 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13356 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13357 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13358 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13359 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13360 160/Euro %
13361 164/currency %
13362 166/brokenbar %
13363 168/dieresis/copyright/ordfeminine %
13364 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13365 /twosuperior/threesuperior/acute/mu %
13366 183/periodcentered/cedilla/onesuperior/ordmasculine %
13367 188/onequarter/onehalf/threequarters %

```

```

13368      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13369      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13370      /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13371      /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13372      /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13373      /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13374      /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13375      /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13376      /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
13377      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
13378    ]%
13379    >>%
13380  }%
13381  \xdef\OBJ@pdfdocencoding{\the\pdfastobj}%
13382  \pdfobj{%
13383    <<%
13384      /Type/Font%
13385      /Subtype/Type1%
13386      /Name/ZaDb%
13387      /BaseFont/ZapfDingbats%
13388    >>%
13389  }%
13390  \xdef\OBJ@ZaDb{\the\pdfastobj}%
13391  \pdfobj{%
13392    <<%
13393      /Type/Font%
13394      /Subtype/Type1%
13395      /Name/Helv%
13396      /BaseFont/Helvetica%
13397      /Encoding \OBJ@pdfdocencoding\space 0 R%
13398    >>%
13399  }%
13400  \xdef\OBJ@Helv{\the\pdfastobj}%
13401  \global\let\Hy@FormObjects\relax
13402 }
13403 </pdfTeX>

```

45.5 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.

```
13404 <*\dvipdfm | xetex>
```

\@Gauge

```

13405 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13406   \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13407 }

```

\@Form

```

13408 \def\@Form[#1]{%
13409   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13410   \kvsetkeys{Form}{#1}%
13411   \Hy@FormObjects
13412   \@pdfm@mark{obj @afields []}%

```

```

13413 \@pdfm@mark{obj @corder []}%
13414 \@pdfm@mark{%
13415   obj @aform <<%
13416   /Fields @afields%
13417   /DR<<%
13418   /Font<<%
13419   /ZaDb @OBJZaDb%
13420   /Helv @OBJHelv%
13421   >>%
13422   >>%
13423   /DA(/Helv 10 Tf 0 g)%
13424   /CO @corder%
13425   \ifHy@pdfa
13426   \else
13427     \ifHyField@NeedAppearances
13428       /NeedAppearances true%
13429     \fi
13430   \fi
13431   >>%
13432 }%
13433 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
13434 }

\@endForm

13435 \let\@endForm\@empty

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.
13436 \def\dvipdfm@setdim{%
13437   height \the\ht\pdfm@box\space
13438   width \the\wd\pdfm@box\space
13439   depth \the\dp\pdfm@box\space
13440 }

\HyField@AnnotCount
13441 \newcount\HyField@AnnotCount
13442 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount
13443 \def\HyField@AdvanceAnnotCount{%
13444   \global\advance\HyField@AnnotCount\@ne
13445 }

\HyField@TheAnnotCount
13446 \def\HyField@TheAnnotCount{%
13447   \the\HyField@AnnotCount
13448 }

\Fld@pageobjref
13449 \def\Fld@pageobjref{/P @thispage}%

\HyField@AddToFields
13450 \def\HyField@AddToFields#1{%
13451   \@pdfm@mark{put @afields @#1\HyField@TheAnnotCount}%

```

```

13452 \ifx\Fld@calculate@code\@empty
13453 \else
13454 \@pdfm@mark{put @corder @#1\HyField@TheAnnotCount}%
13455 \fi
13456 }

```

\@TextField

```

13457 \def\@TextField[#1]#2{% parameters, label
13458 \def\Fld@name{#2}%
13459 \let\Fld@default\@empty
13460 \let\Fld@value\@empty
13461 \def\Fld@width{\DefaultWidthofText}%
13462 \def\Fld@height{%
13463 \ifFld@multiline
13464 \DefaultHeightofTextMultiline
13465 \else
13466 \DefaultHeightofText
13467 \fi
13468 }%
13469 \begingroup
13470 \expandafter\HyField@SetKeys\expandafter{%
13471 \DefaultOptionsofText,#1%
13472 }%
13473 \PDFForm@Name
13474 \HyField@FlagsText
13475 \ifFld@hidden\def\Fld@width{1sp}\fi
13476 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13477 \setbox\pdfm@box=\hbox{%
13478 \MakeTextField{\Fld@width}{\Fld@height}%
13479 }%
13480 \HyField@AdvanceAnnotCount
13481 \LayoutTextField{#2}{%
13482 \leavevmode
13483 \Hy@escapeform\PDFForm@Text
13484 \@pdfm@mark{%
13485 ann @text\HyField@TheAnnotCount\space
13486 \dvipdfm@setdim << \PDFForm@Text >>%
13487 }%
13488 }%
13489 \unhbox\pdfm@box
13490 \HyField@AddToFields{text}%
13491 % record in @afields array
13492 \endgroup
13493 }

```

\@ChoiceMenu

```

13494 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13495 \def\Fld@name{#2}%
13496 \let\Fld@default\relax
13497 \let\Fld@value\relax
13498 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13499 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13500 \begingroup
13501 \Fld@menulength=0 %

```

```

13502 \@tempdima\z@
13503 \@for\@curropt:=#3\do{%
13504   \expandafter\Fld@checkequals\@curropt==\\%
13505   \Hy@StepCount\Fld@menulength
13506   \settowidth{\@tempdimb}{\@currDisplay}%
13507   \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13508 }%
13509 \advance\@tempdima by 15\p@
13510 \begingroup
13511   \HyField@SetKeys{#1}%
13512 \edef\x{\endgroup
13513   \noexpand\expandafter
13514   \noexpand\HyField@SetKeys
13515   \noexpand\expandafter{%
13516     \expandafter\noexpand\csname DefaultOptionsof%
13517       \ifFld@radio
13518         Radio%
13519       \else
13520         \ifFld@combo
13521         \ifFld@popdown
13522         PopdownBox%
13523       \else
13524         ComboBox%
13525       \fi
13526     \else
13527     ListBox%
13528     \fi
13529   \fi
13530   \endcsname
13531 }%
13532 }\x
13533 \HyField@SetKeys{#1}%
13534 \PDFForm@Name
13535 \ifFld@hidden\def\Fld@width{1sp}\fi
13536 \ifx\Fld@value\relax
13537   \let\Fld@value\Fld@default
13538 \fi
13539 \LayoutChoiceField{#2}{%
13540   \ifFld@radio
13541     \HyField@FlagsRadioButton
13542     \@@Radio{#3}%
13543   \else
13544     \begingroup
13545     \HyField@FlagsChoice
13546     \ifdim\Fld@width<\@tempdima
13547       \ifdim\@tempdima<1cm\@tempdima1cm\fi
13548       \edef\Fld@width{\the\@tempdima}%
13549     \fi
13550     \ifFld@combo
13551     \else
13552       \@tempdima=\the\Fld@menulength\Fld@charsize
13553       \advance\@tempdima by \Fld@borderwidth bp %
13554       \advance\@tempdima by \Fld@borderwidth bp %
13555       \edef\Fld@height{\the\@tempdima}%

```

```

13556         \fi
13557         \@@Listbox{#3}%
13558     \endgroup
13559 \fi
13560 }%
13561 \endgroup
13562 }

\@@Radio
13563 \def\@@Radio#1{%
13564     \Fld@listcount=0 %
13565     \EdefEscapeName\Fld@default{\Fld@default}%
13566     \setbox\pdfm@box=\hbox{%
13567         \MakeRadioField{\Fld@width}{\Fld@height}%
13568     }%
13569     \@for\@curropt:=#1\do{%
13570         \expandafter\Fld@checkequals\@curropt==\%
13571         \EdefEscapeName\@currValue{\@currValue}%
13572         \Hy@StepCount\Fld@listcount
13573         \@currDisplay\space
13574         \leavevmode
13575         \Hy@escapeform\PDFForm@Radio
13576         \ifnum\Fld@listcount=1 %
13577             \HyField@AdvanceAnnotCount
13578         \fi
13579         \@pdfm@mark{%
13580             ann %
13581             \ifnum\Fld@listcount=1 %
13582                 @radio\HyField@TheAnnotCount%
13583             \space
13584         \fi
13585         \dvipdfm@setdim
13586         <<%
13587         \PDFForm@Radio
13588         /AP<</N<</\@currValue /null>>>>%
13589         >>%
13590     }%
13591     \unhcopy\pdfm@box\space% deliberate space between radio buttons
13592     \ifnum\Fld@listcount=1 %
13593         \HyField@AddToFields{radio}%
13594     \fi
13595 }%
13596 }

\Fld@listcount
13597 \newcount\Fld@listcount

\@@Listbox
13598 \def\@@Listbox#1{%
13599     \HyField@PDFChoices{#1}%
13600     \setbox\pdfm@box=\hbox{%
13601         \MakeChoiceField{\Fld@width}{\Fld@height}%
13602     }%
13603     \leavevmode

```

```

13604 \Hy@escapeform\PDFForm@List
13605 \HyField@AdvanceAnnotCount
13606 \@pdfm@mark{%
13607   ann @list\HyField@TheAnnotCount\space
13608   \dvipdfm@setdim
13609   <<\PDFForm@List>>%
13610 }%
13611 \unhbox\pdfm@box
13612 \HyField@AddToFields{list}%
13613 }

```

\@PushButton

```

13614 \def\@PushButton[#1]#2{% parameters, label
13615   \def\Fld@name{#2}%
13616   \begingroup
13617     \expandafter\HyField@SetKeys\expandafter{%
13618       \DefaultOptionsofPushButton,#1%
13619     }%
13620     \PDFForm@Name
13621     \ifHy@pdfa
13622       \Hy@Error{%
13623         PDF/A: Push button with JavaScript is prohibited%
13624       }\@ehc
13625       \LayoutPushButtonField{%
13626         \leavevmode
13627         \MakeButtonField{#2}%
13628       }%
13629     \else
13630       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13631       \HyField@FlagsPushButton
13632       \ifFld@hidden\def\Fld@width{1sp}\fi
13633       \HyField@AdvanceAnnotCount
13634       \LayoutPushButtonField{%
13635         \leavevmode
13636         \Hy@escapeform\PDFForm@Push
13637         \@pdfm@mark{%
13638           ann @push\HyField@TheAnnotCount\space
13639           \dvipdfm@setdim
13640           <<\PDFForm@Push>>%
13641         }%
13642       }%
13643       \unhbox\pdfm@box
13644       \HyField@AddToFields{push}%
13645     \fi
13646   \endgroup
13647 }

```

\@Submit

```

13648 \def\@Submit[#1]#2{%
13649   \def\Fld@width{\DefaultWidthofSubmit}%
13650   \def\Fld@height{\DefaultHeightofSubmit}%
13651   \begingroup
13652     \expandafter\HyField@SetKeys\expandafter{%
13653       \DefaultOptionsofSubmit,#1%

```



```

13654 }%
13655 \HyField@FlagsPushButton
13656 \HyField@FlagsSubmit
13657 \ifFld@hidden\def\Fld@width{1sp}\fi
13658 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13659 \leavevmode
13660 \Hy@escapeform\PDFForm@Submit
13661 \HyField@AdvanceAnnotCount
13662 \@pdfm@mark{%
13663   ann @submit\HyField@TheAnnotCount\space
13664   \dvi pdfm@setdim
13665   <<\PDFForm@Submit>>%
13666 }%
13667 \unhbox\pdfm@box%
13668 \HyField@AddToFields{submit}%
13669 \endgroup
13670 }

```

\@Reset

```

13671 \def\@Reset[#1]#2{%
13672   \def\Fld@width{\DefaultWidthofReset}%
13673   \def\Fld@height{\DefaultHeightofReset}%
13674   \begingroup
13675     \expandafter\HyField@SetKeys\expandafter{%
13676       \DefaultOptionsofReset,#1%
13677     }%
13678     \leavevmode
13679     \ifHy@pdfa
13680       \Hy@Error{%
13681         PDF/A: Reset action is prohibited%
13682       }\@ehc
13683       \MakeButtonField{#2}%
13684     \else
13685       \HyField@FlagsPushButton
13686       \ifFld@hidden\def\Fld@width{1sp}\fi
13687       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13688       \Hy@escapeform\PDFForm@Reset
13689       \HyField@AdvanceAnnotCount
13690       \@pdfm@mark{%
13691         ann @reset\HyField@TheAnnotCount\space
13692         \dvi pdfm@setdim
13693         <<\PDFForm@Reset>>%
13694       }%
13695       \unhbox\pdfm@box
13696       \HyField@AddToFields{reset}%
13697     \fi
13698   \endgroup
13699 }

```

\@CheckBox

```

13700 \def\@CheckBox[#1]#2{% parameters, label
13701   \def\Fld@name{#2}%
13702   \def\Fld@default{0}%
13703   \begingroup

```

```

13704 \def\Fld@width{\DefaultWidthofCheckBox}%
13705 \def\Fld@height{\DefaultHeightofCheckBox}%
13706 \expandafter\HyField@SetKeys\expandafter{%
13707 \DefaultOptionsofCheckBox,#1%
13708 }%
13709 \PDFForm@Name
13710 \HyField@FlagsCheckBox
13711 \ifFld@hidden\def\Fld@width{1sp}\fi
13712 \setbox\pdfm@box=\hbox{%
13713 \MakeCheckField{\Fld@width}{\Fld@height}%
13714 }%
13715 \HyField@AdvanceAnnotCount
13716 \LayoutCheckField{#2}{%
13717 \leavevmode
13718 \Hy@escapeform\PDFForm@Check
13719 \@pdfm@mark{%
13720 ann @check\HyField@TheAnnotCount\space
13721 \dvi pdfm@setdim
13722 <<\PDFForm@Check>>%
13723 }%
13724 \unhbox\pdfm@box
13725 \HyField@AddToFields{check}%
13726 }%
13727 \endgroup
13728 }

13729 \def\Hy@FormObjects{%
13730 \@pdfm@mark{obj @OBJpdfdocencoding%
13731 <<%
13732 /Type/Encoding%
13733 /Differences[%
13734 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
13735 39/quotesingle %
13736 96/grave %
13737 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13738 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13739 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13740 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
13741 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13742 160/Euro %
13743 164/currency %
13744 166/brokenbar %
13745 168/dieresis/copyright/ordfeminine %
13746 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13747 /twosuperior/threesuperior/acute/mu %
13748 183/periodcentered/cedilla/onesuperior/ordmasculine %
13749 188/onequarter/onehalf/threequarters %
13750 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13751 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13752 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
13753 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13754 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
13755 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
13756 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%

```

```

13757      /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
13758      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
13759      /thorn/ydieresis%
13760    ]%
13761  >>%
13762 }%
13763 \@pdfm@mark{obj @OBJZaDb%
13764  <<%
13765    /Type/Font%
13766    /Subtype/Type1%
13767    /Name/ZaDb%
13768    /BaseFont/ZapfDingbats%
13769  >>%
13770 }%
13771 \@pdfm@mark{obj @OBJHelv%
13772  <<%
13773    /Type/Font%
13774    /Subtype/Type1%
13775    /Name/Helv%
13776    /BaseFont/Helvetica%
13777    /Encoding @OBJpdfdocencoding%
13778  >>%
13779 }%
13780 \global\let\Hy@FormObjects\relax
13781 }
13782 </dvipdfm | xetex>

```

45.6 Common forms part

```

13783 (*pdfform)

\Fld@pageobjref

13784 \providecommand*{\Fld@pageobjref}{%

\Hy@escapestring

13785 \@ifundefined{pdf@escapestring}
13786 {%
13787   \let\Hy@escapestring\@firstofone
13788   \def\Hy@escapeform#1{%
13789     \ifHy@pdfescapeform
13790       \def\Hy@escapestring##1{%
13791         \noexpand\Hy@escapestring{\noexpand##1}%
13792       }%
13793       \edef\Hy@temp{#1}%
13794       \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
13795       \def\Hy@escapestring##1{%
13796         \@ifundefined{Hy@esc@\string##1}{%
13797           ##1%
13798           \ThisShouldNotHappen
13799         }{%
13800           \csname Hy@esc@\string##1\endcsname
13801         }%
13802       }%
13803     \else

```

```

13804     \let\Hy@escapestring\@firstofone
13805     \fi
13806   }%
13807   \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
13808     \ifx\|#3\|
13809       \else
13810         \expandafter
13811         \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
13812         \Hy@ReturnAfterFi{%
13813           \Hy@@escapeform#3\@nil
13814         }%
13815       \fi
13816     }%
13817   }{%
13818     \def\Hy@escapeform#1{%
13819       \ifHy@pdfescapeform
13820         \let\Hy@escapestring\pdfescapestring
13821       \else
13822         \let\Hy@escapestring\@firstofone
13823       \fi
13824     }%
13825     \Hy@escapeform{ }%
13826   }

```

\PDFForm@Name

```

13827 \def\PDFForm@Name{%
13828   \PDFForm@@Name\Fld@name
13829   \ifx\Fld@altname\relax
13830     \else
13831       \PDFForm@@Name\Fld@altname
13832     \fi
13833   \ifx\Fld@mappingname\relax
13834     \else
13835       \PDFForm@@Name\Fld@mappingname
13836     \fi
13837 }

```

\PDFForm@@Name

```

13838 \def\PDFForm@@Name#1{%
13839   \begingroup
13840   \ifnum\Hy@pdf@major@minor@version<105 % implementation note 117, PDF spec 1.7
13841     \ifHy@unicode
13842       \Hy@unicodetrue
13843     \fi
13844   \fi
13845   \pdfstringdef\Hy@gtemp#1%
13846   \endgroup
13847   \let#1\Hy@gtemp
13848 }

```

\Fld@additionalactions

```

13849 \def\Fld@@additionalactions{%
  K input (keystroke) format

```

```

13850 \ifx\Fld@keystroke@code\@empty
13851 \else
13852 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
13853 \fi

F display format
13854 \ifx\Fld@format@code\@empty
13855 \else
13856 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
13857 \fi

V validation
13858 \ifx\Fld@validate@code\@empty
13859 \else
13860 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
13861 \fi

C calculation
13862 \ifx\Fld@calculate@code\@empty
13863 \else
13864 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
13865 \fi

Fo receiving the input focus
13866 \ifx\Fld@onfocus@code\@empty
13867 \else
13868 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
13869 \fi

Bl loosing the input focus (blurred)
13870 \ifx\Fld@onblur@code\@empty
13871 \else
13872 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
13873 \fi

D pressing the mouse button (down)
13874 \ifx\Fld@onmousedown@code\@empty
13875 \else
13876 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
13877 \fi

U releasing the mouse button (up)
13878 \ifx\Fld@onmouseup@code\@empty
13879 \else
13880 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
13881 \fi

E cursor enters the annotation's active area.
13882 \ifx\Fld@onenter@code\@empty
13883 \else
13884 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
13885 \fi

X cursor exits the annotation's active area.
13886 \ifx\Fld@onexit@code\@empty
13887 \else
13888 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
13889 \fi

```

```

13890 }
13891 \def\Fld@additionalactions{%
13892   \if-\Fld@@additionalactions-%
13893   \else
13894     \ifHy@pdfa
13895     \else
13896       /AA<<\Fld@@additionalactions>>%
13897     \fi
13898   \fi
13899 }

```

\Fld@annotnames

```

13900 \def\Fld@annotnames{%
13901   /T(\Fld@name)%
13902   \ifx\Fld@altname\relax
13903   \else
13904     /TU(\Fld@altname)%
13905   \fi
13906   \ifx\Fld@mappingname\relax
13907   \else
13908     /TM(\Fld@mappingname)%
13909   \fi
13910 }

```

\PDFForm@Check

```

13911 \def\PDFForm@Check{%
13912   /Subtype/Widget%
13913   \Fld@annotflags
13914   \Fld@pageobjref
13915   \Fld@annotnames
13916   /FT/Btn%
13917   \Fld@flags
13918   /Q \Fld@align
13919   /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
13920   /AP<< /N <</Yes<<>>>> >> %new string /Yes is from below
13921   /MK<<%
13922     \ifnum\Fld@rotation=\z@
13923     \else
13924       /R \Fld@rotation
13925     \fi
13926     \ifx\Fld@bordercolor\relax
13927     \else
13928       /BC[\Fld@bordercolor]%
13929     \fi
13930     \ifx\Fld@bcolor\relax
13931     \else
13932       /BG[\Fld@bcolor]%
13933     \fi
13934     /CA(\Hy@escapestring{\Fld@cbsymbol})%
13935   >>%
13936   /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13937     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13938   /H/P%
13939   \ifFld@checked /V/Yes/AS/Yes\else /V/Off/AS/Off\fi

```

```

13940 \Fld@additionalactions
13941 }

```

\PDFForm@Push

```

13942 \ifHy@pdfa
13943 \else
13944 \def\PDFForm@Push{%
13945 /Subtype/Widget%
13946 \Fld@annotflags
13947 \Fld@pageobjref
13948 \Fld@annotnames
13949 /FT/Btn%
13950 \Fld@flags
13951 /H/P%
13952 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13953 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13954 \ifx\Fld@bordercolor\relax\else 1\fi
13955 \space
13956 \else
13957 /MK<<%
13958 \ifnum\Fld@rotation=\z@
13959 \else
13960 /R \Fld@rotation
13961 \fi
13962 \ifx\Fld@bordercolor\relax
13963 \else
13964 /BC[\Fld@bordercolor]%
13965 \fi
13966 >>%
13967 \fi
13968 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
13969 \Fld@additionalactions
13970 }%
13971 \fi

```

\PDFForm@List

```

13972 \def\PDFForm@List{%
13973 /Subtype/Widget%
13974 \Fld@annotflags
13975 \Fld@pageobjref
13976 \Fld@annotnames
13977 /FT/Ch%
13978 \Fld@flags
13979 /Q \Fld@align
13980 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13981 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13982 \ifx\Fld@bordercolor\relax\else 1\fi
13983 \ifx\Fld@bcolor\relax \else 1\fi
13984 \space
13985 \else
13986 /MK<<%
13987 \ifnum\Fld@rotation=\z@
13988 \else
13989 /R \Fld@rotation

```

```

13990    \fi
13991    \ifx\Fld@bordercolor\relax
13992    \else
13993        /BC[\Fld@bordercolor]%
13994    \fi
13995    \ifx\Fld@bcolor\relax
13996    \else
13997        /BG[\Fld@bcolor]%
13998    \fi
13999    >>%
14000    \fi
14001    /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14002        \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14003    \Fld@choices
14004    \Fld@additionalactions
14005 }

```

\PDFForm@Radio

```

14006 \def\PDFForm@Radio{%
14007   /Subtype/Widget%
14008   \Fld@annotflags
14009   \Fld@pageobjref
14010   \Fld@annotnames
14011   /FT/Btn%
14012   \Fld@flags
14013   /H/P%
14014   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14015   /MK<<%
14016     \ifnum\Fld@rotation=\z@
14017     \else
14018         /R \Fld@rotation
14019     \fi
14020     \ifx\Fld@bordercolor\relax
14021     \else
14022         /BC[\Fld@bordercolor]%
14023     \fi
14024     \ifx\Fld@bcolor\relax
14025     \else
14026         /BG[\Fld@bcolor]%
14027     \fi
14028     /CA(\Hy@escapestring{\Fld@radiosymbol})%
14029   >>%
14030   /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14031       \ifx\Fld@color\@empty\else\space\Fld@color\fi)%

```

New code, the default value is used for all buttons

```

14032   \ifx\Fld@default\@empty
14033       /V/Off%
14034       /DV/Off%
14035   \else
14036       /V/\Fld@default
14037       /DV/\Fld@default
14038   \fi
14039   \Fld@additionalactions
14040 }

```


\PDFForm@Text

```
14041 \def\PDFForm@Text{%
14042 /Subtype/Widget%
14043 \Fld@annotflags
14044 \Fld@pageobjref
14045 \Fld@annotnames
14046 /FT/Tx%
14047 \Fld@flags
14048 /Q \Fld@align
14049 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
14050 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14051     \ifx\Fld@bordercolor\relax\else 1\fi
14052     \ifx\Fld@bcolor\relax \else 1\fi
14053     \space
14054 \else
14055 /MK<<%
14056     \ifnum\Fld@rotation=\z@
14057     \else
14058     /R \Fld@rotation
14059     \fi
14060     \ifx\Fld@bordercolor\relax
14061     \else
14062     /BC[\Fld@bordercolor]%
14063     \fi
14064     \ifx\Fld@bcolor\relax
14065     \else
14066     /BG[\Fld@bcolor]%
14067     \fi
14068 >>%
14069 \fi
14070 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14071     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14072 /DV(\Hy@escapestring{\Fld@default})%
14073 /V(\Hy@escapestring{\Fld@value})%
14074 \Fld@additionalactions
14075 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
14076 }
```

\PDFForm@Submit

```
14077 \def\PDFForm@Submit{%
14078 /Subtype/Widget%
14079 \Fld@annotflags
14080 \Fld@pageobjref
14081 \Fld@annotnames
14082 /FT/Btn%
14083 \Fld@flags
14084 /H/P%
14085 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14086 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14087     \ifx\Fld@bordercolor\relax\else 1\fi
14088     \space
14089 \else
14090 /MK<<%
14091     \ifnum\Fld@rotation=\z@
```

```

14092     \else
14093         /R \Fld@rotation
14094     \fi
14095     \ifx\Fld@bordercolor\relax
14096     \else
14097         /BC[\Fld@bordercolor]%
14098     \fi
14099     >>%
14100 \fi
14101 /A<<%
14102 /S/SubmitForm%
14103 /F<<%
14104 /FS/URL%
14105 /F(\Hy@escapestring{\Form@action})%
14106 >>%
14107 \Fld@submitflags
14108 >>%
14109 \Fld@additionalactions
14110 }

```

\PDFForm@Reset

```

14111 \ifHy@pdfa
14112 \else
14113 \def\PDFForm@Reset{%
14114 /Subtype/Widget%
14115 \Fld@annotflags
14116 \Fld@pageobjref
14117 \Fld@annotnames
14118 /FT/Btn%
14119 \Fld@flags
14120 /H/P%
14121 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
14122 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14123     \ifx\Fld@bordercolor\relax\else 1\fi
14124     \space
14125 \else
14126 /MK<<%
14127     \ifnum\Fld@rotation=\z@
14128     \else
14129         /R \Fld@rotation
14130     \fi
14131     \ifx\Fld@bordercolor\relax
14132     \else
14133         /BC[\Fld@bordercolor]%
14134     \fi
14135 % /CA (Clear)
14136 % /AC (Done)
14137 >>%
14138 \fi
14139 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14140 /A<</S/ResetForm>>%
14141 \Fld@additionalactions
14142 }%
14143 \fi

```

```

14144 </pdfform>
14145 <*packageEnd>

```

46 Bookmarks in the PDF file

This was originally developed by Yannis Haralambous (it was the separate `repere.sty`); it needed the `repere` or `makebook.pl` post-processor to work properly. Now redundant, as it is done entirely in \LaTeX macros.

To write out the current section title, and its rationalized number, we have to intercept the `\@sect` command, which is rather dangerous. But how else to see the information we need? We do the *same* for `\@ssect`, giving anchors to unnumbered sections. This allows things like bibliographies to get bookmarks when used with a manual `\addcontentsline`

```

14146 \def\phantomsection{%
14147   \Hy@MakeCurrentHrefAuto{section*}%
14148   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
14149 }
14150 </packageEnd>

```

46.1 Bookmarks

```

14151 <*outlines>

```

This section was written by Heiko Oberdiek; the code replaces an earlier version by David Carlisle.

The first part of bookmark code is in section 6. Further documentation is available as paper and slides of the talk, that Heiko Oberdiek has given at the EuroTeX'99 meeting in Heidelberg. See `paper.pdf` and `slides.pdf` in the `doc` directory of `hyperref`.

When using the right-to-left typesetting based on $\varepsilon\text{-TeX}$, the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of $\varepsilon\text{-TeX}$'s implementation (that it processes the shipped out lines left-to-right, instead of the order in which they appear in the document). The wrong order will appear when the file contains two bookmarks on the same line typeset right-to-left.

To work around this problem, the `bookmark@seq@number` counter is used to write the bookmark's sequential number into a comment in the `\@outlinefile`, which could be used to post-process it to achieve the proper ordering of `\BOOKMARK` commands in that file.

```

14152 \def\Hy@writebookmark#1#2#3#4#5{%
14153   % section number, text, label, level, file
14154   \ifx\WriteBookmarks\relax%
14155     \else
14156       \ifnum#4>\Hy@bookmarksdepth\relax
14157         \else
14158           \@writetorep{#1}{#2}{#3}{#4}{#5}%
14159         \fi
14160       \fi
14161     }
14162 \def\Hy@currentbookmarklevel{0}
14163 \def\Hy@numberline#1{#1 }

```

```

14164 \def\@@writetorep#1#2#3#4#5{%
14165   \begingroup
14166   \edef\Hy@tempa{#5}%
14167   \ifx\Hy@tempa\Hy@bookmarkstype
14168     \edef\Hy@level{#4}%
14169     \ifx\Hy@levelcheck Y%
14170       \@tempcnta\Hy@level\relax
14171       \advance\@tempcnta by -1 %
14172       \ifnum\Hy@currentbookmarklevel<\@tempcnta
14173         \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
14174         \advance\@tempcnta by 1 %
14175         \Hy@Warning{%
14176           Difference (\the\@tempcnta) between bookmark levels is %
14177           greater \MessageBreak than one, level fixed%
14178         }%
14179         \@tempcnta\Hy@currentbookmarklevel
14180         \advance\@tempcnta by 1 %
14181         \edef\Hy@level{\the\@tempcnta}%
14182       \fi
14183     \else
14184       \global\let\Hy@levelcheck Y%
14185     \fi
14186     \global\let\Hy@currentbookmarklevel\Hy@level
14187     \@tempcnta\Hy@level\relax
14188     \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
14189     \advance\@tempcnta by -1 %
14190     \edef\Hy@tempa{#3}%
14191     \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
14192     \ifx\Hy@tempa\Hy@tempb
14193       \Hy@Warning{%
14194         The anchor of a bookmark and its parent's must not%
14195         \MessageBreak be the same. Added a new anchor%
14196       }%
14197     \phantomsection
14198   \fi
14199   \ifHy@bookmarksnumbered
14200     \let\numberline\Hy@numberline
14201     \let\booknumberline\Hy@numberline
14202     \let\partnumberline\Hy@numberline
14203     \let\chapternumberline\Hy@numberline
14204   \else
14205     \let\numberline\@gobble
14206     \let\booknumberline\@gobble
14207     \let\partnumberline\@gobble
14208     \let\chapternumberline\@gobble
14209   \fi
14210   \pdfstringdef\Hy@tempa{#2}%
14211   \HyPsd@SanitizeForOutFile\Hy@tempa
14212   \if@filesw
14213     \stepcounter{bookmark@seq@number}%
14214     \@ifundefined{@outlinefile}{%
14215       }{%
14216         \protected@write\@outlinefile{}{%
14217           \protect\BOOKMARK

```

```

14218      [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
14219      {\Hy@tempa}{\Hy@tempb}%
14220      \@percentchar\space\thebookmark@seq@number
14221      }%
14222      }%
14223      \fi
14224      \fi
14225      \endgroup
14226      }
14227      \newcounter{bookmark@seq@number}

14228      \begingroup
14229      \lccode`(`=`{%
14230      \lccode`)`=`}%
14231      \lccode`1`=\z@
14232      \lccode`2`=\z@
14233      \lccode`3`=\z@
14234      \lccode`5`=\z@
14235      \lccode`7`=\z@
14236      \lccode`#`=\z@
14237      \lccode`^`=\z@
14238      \lccode`_{`=\z@
14239      \lccode`\_`=\z@
14240      \lowercase{%
14241      \endgroup
14242      \def\HyPsd@SanitizeForOutFile#1{%
14243      \@onelevel@sanitize\Hy@tempa
14244      \escapechar`\\%
14245      \edef\Hy@tempa{%
14246      \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
14247      }%
14248      \edef\Hy@tempa{%
14249      \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
14250      }%
14251      }%
14252      \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
14253      #1%
14254      \ifx\\#2\\%
14255      \expandafter\@gobble
14256      \else
14257      \expandafter\@firstofone
14258      \fi
14259      {%
14260      \string\173%
14261      \HyPsd@SanitizeOut@BraceLeft#2\@nil
14262      }%
14263      }%
14264      \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
14265      #1%
14266      \ifx\\#2\\%
14267      \expandafter\@gobble
14268      \else
14269      \expandafter\@firstofone
14270      \fi
14271      {%

```

```

14272 \string\175%
14273 \HyPsd@SanitizeOut@BraceRight#2\@nil
14274 }%
14275 }%
14276 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

14277 \newcommand{\currentpdfbookmark}{%
14278 \pdfbookmark{\Hy@currentbookmarklevel}%
14279 }
14280 \newcommand{\subpdfbookmark}{%
14281 \@tempcnta\Hy@currentbookmarklevel
14282 \Hy@StepCount\@tempcnta
14283 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
14284 }
14285 \newcommand{\belowpdfbookmark}[2]{%
14286 \@tempcnta\Hy@currentbookmarklevel
14287 \Hy@StepCount\@tempcnta
14288 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
14289 \advance\@tempcnta by -1 %
14290 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
14291 }

```

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.

```

14292 \renewcommand\pdfbookmark[3][0]{%
14293 \Hy@writebookmark{#2}{#3.#1}{#1}{toc}%
14294 \hyper@anchorstart{#3.#1}\hyper@anchorend
14295 }
14296 \def\BOOKMARK{%
14297 \@ifnextchar{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
14298 }
14299 \def\@BOOKMARK[#1]{%
14300 \@ifnextchar{\@@BOOKMARK[{#1}]}{\@@BOOKMARK[{#1}][-]}%
14301 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfopdf` macros.

46.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

14302 \RequirePackage{rerunfilecheck}[2009/12/10]
14303 \def\Hy@OutlineRerunCheck{%
14304 \RerunFileCheck{\jobname.out}{%
14305 \immediate\closeout\@outlinefile
14306 }{%
14307 Rerun to get outlines right\MessageBreak
14308 or use package `bookmark'%
14309 }%
14310 }

```

46.1.2 Driver stuff

The VTEX section was written originally by VTEX, but then amended by Denis Girou (denis.girou@idris.fr), then by Taco Hoekwater (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.

14311 `*vtx`

14312 `\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.

14313 `\begingroup`

14314 `\catcode\`=12 %`

14315 `\ifnum\Hy@VTeXversion<650 %`

14316 `\catcode\`=12 %`

14317 `\gdef\hv@pdf@char#1#2#3{%`

14318 `\char`

14319 `\ifcase'#1#2#3 %`

14320 `"00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%`

14321 `\or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%`

14322 `\or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%`

14323 `\or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%`

14324 `\or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%`

14325 `\or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%`

14326 `\or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%`

14327 `\or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%`

14328 `\or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%`

14329 `\or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%`

14330 `\or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%`

14331 `\or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%`

14332 `\or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%`

14333 `\or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%`

14334 `\or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%`

14335 `\or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%`

14336 `\or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%`

14337 `\or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%`

14338 `\or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%`

14339 `\or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%`

14340 `\or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%`

14341 `\or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%`

14342 `\or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%`

14343 `\or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%`

14344 `\or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%`

14345 `\or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%`

14346 `\or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%`

14347 `\or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%`

14348 `\or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%`

14349 `\or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%`

14350 `\or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%`

14351 `\or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%`

14352 `\fi`

14353 `}%`

```

14354 \else
14355 \gdef\hv@pdf@char{\char'}%
14356 \fi
14357 \endgroup

```

\@@BOOKMARK

```

14358 \def\@@BOOKMARK[#1][#2]#3#4#5{%
14359 \expandafter\edef\csname @count@#3\endcsname{%
14360 \the\@serial@counter
14361 }%
14362 \edef\@mycount{\the\@serial@counter}%
14363 \Hy@StepCount\@serial@counter
14364 \edef\@parcount{%
14365 \expandafter\ifx\csname @count@#5\endcsname\relax
14366 0%
14367 \else
14368 \csname @count@#5\endcsname
14369 \fi
14370 }%
14371 \immediate\special{%
14372 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14373 s=\ifx#2-c\else o\fi,t=#4%
14374 }%
14375 }%

```

\ReadBookmarks

```

14376 \def\ReadBookmarks{%
14377 \begingroup
14378 \def\0{\hv@pdf@char 0}%
14379 \def\1{\hv@pdf@char 1}%
14380 \def\2{\hv@pdf@char 2}%
14381 \def\3{\hv@pdf@char 3}%
14382 \def\({}%
14383 \def\)}%
14384 \def\do##1{%
14385 \ifnum\catcode`##1=\active
14386 \@makeother##1%
14387 \else
14388 \ifnum\catcode`##1=6 %
14389 \@makeother##1%
14390 \fi
14391 \fi
14392 }%
14393 \dospecials
14394 \Hy@safe@activetrue
14395 \InputIfFileExists{jobname.out}{\}{}%
14396 \endgroup
14397 \ifx\WriteBookmarks\relax
14398 \else
14399 \if@filesw
14400 \newwrite\@outlinefile
14401 \Hy@OutlineRerunCheck
14402 \immediate\openout\@outlinefile=jobname.out\relax
14403 \fi

```



```

14404 \fi
14405 }

14406 </vtex>
14407 <*\vtex>
14408 \def\ReadBookmarks{%
14409 \pdf@ifdraftmode{}{%
14410 \begingroup
14411 \def\do##1{%
14412 \ifnum\catcode`##1=\active
14413 \@makeother##1%
14414 \else
14415 \ifnum\catcode`##1=6 %
14416 \@makeother##1%
14417 \fi
14418 \fi
14419 }%
14420 \dospecials
14421 \Hy@safe@activetrue
14422 \escapechar=`\%
14423 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14424 \calc@bm@number{##5}%
14425 }%
14426 \InputIfFileExists{jobname.out}{\relax}{\relax}%
14427 \ifx\WriteBookmarks\relax
14428 \global\let\WriteBookmarks\relax
14429 \fi
14430 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14431 \def\Hy@temp{##4}%
14432 <*\pdfTeX>
14433 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14434 \Hy@OutlineName{}\Hy@pstringName{%
14435 ##2\check@bm@number{##3}}%
14436 }{%
14437 \expandafter\strip@prefix\meaning\Hy@temp
14438 }%
14439 </pdfTeX>
14440 <*\pdfmark>
14441 \pdfmark{%
14442 pdfmark=/OUT,%
14443 Count={##2\check@bm@number{##3}},%
14444 Dest={##3},%
14445 Title=\expandafter\strip@prefix\meaning\Hy@temp
14446 }%
14447 </pdfmark>
14448 <*\dviPDFM|xetex>
14449 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14450 \@pdfm@mark{%
14451 outline \ifHy@DvipdfmxOutlineOpen
14452 [%
14453 \ifnum##21>\z@
14454 \else
14455 -%
14456 \fi

```

```

14457         l %
14458         \fi
14459         ##1<<%
14460         /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14461         /A<<%
14462         /S/GoTo%
14463         /D(\Hy@pstringName)%
14464         >>%
14465         >>%
14466         }%
14467 </dvipdfm | xetex>
14468     }%
14469     \begingroup
14470     \def\WriteBookmarks{0}%
14471     \InputIfFileExists{jobname.out}{-}{-}%
14472     \endgroup
14473     {%\escapechar\m@ne\InputIfFileExists{jobname.out}{-}{-}}%
14474     \endgroup
14475 }%
14476 \ifx\WriteBookmarks\relax
14477 \else
14478   \if@filesw
14479     \newwrite\@outlinefile
14480     \Hy@OutlineRerunCheck
14481     \immediate\openout\@outlinefile=jobname.out\relax
14482     \fi
14483   \fi
14484 }
14485 <*pdfTeX>
14486 \def\Hy@OutlineName#1#2#3#4{%
14487   \pdfoutline goto name{#2}count#3{#4}%
14488 }
14489 </pdfTeX>
14490 \def\check@bm@number#1{%
14491   \expandafter\ifx\csname B_#1\endcsname\relax
14492     0%
14493   \else
14494     \csname B_#1\endcsname
14495   \fi
14496 }
14497 \def\calc@bm@number#1{%
14498   \@tempcnta=\check@bm@number{#1}\relax
14499   \advance\@tempcnta by 1 %
14500   \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
14501 }
14502 </!vTeX>
14503 \ifHy@implicit
14504 \else
14505   \expandafter\endinput
14506 \fi
14507 </outlines>
14508 <*outlines | hypertex>
14509 \newlength\Hy@SectionHShift

```

```

14510 \def\Hy@SectionAnchorHref#1{%
14511   \ifx\protect\@typeset@protect
14512     \Hy@@SectionAnchor{#1}%
14513   \fi
14514 }
14515 \DeclareRobustCommand*\Hy@@SectionAnchor}[1]{%
14516   \leavevmode
14517   \hbox to 0pt{%
14518     \kern-\Hy@SectionHShift
14519     \Hy@raisedlink{%
14520       \hyper@anchorstart{#1}\hyper@anchorend
14521     }%
14522     \hss
14523   }%
14524 }
14525 \AddToNoCaseChangeList{\Hy@@SectionAnchor}
14526 \@ifundefined{hyper@nopatch@sectioning}
14527 {
14528   \let\H@old@ssect\@ssect
14529   \def\@ssect#1#2#3#4#5{%
14530     \Hy@MakeCurrentHrefAuto{section*}%
14531     \setlength{\Hy@SectionHShift}{#1}%
14532     \begingroup
14533       \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14534       \toks\tw@\expandafter{%
14535         \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14536         #5%
14537       }%
14538     \edef\x{\endgroup
14539       \the\toks@\the\toks\tw@}%
14540   }\x
14541 }
14542 \let\H@old@schapter\@schapter
14543 \def\@schapter#1{%
14544   \begingroup
14545     \let\@mkboth\@gobbletwo
14546     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14547     \Hy@raisedlink{%
14548       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14549     }%
14550   \endgroup
14551   \H@old@schapter{#1}%
14552 }

```

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:

```

14553 \@ifundefined{chapter}{-}{%
14554   \let\Hy@org@chapter\@chapter
14555   \def\@chapter{%
14556     \def\Hy@next{%
14557       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14558       \Hy@raisedlink{%
14559         \hyper@anchorstart{\@currentHref}\hyper@anchorend

```

```

14560 }%
14561 }%
14562 \ifnum\c@secnumdepth>\m@ne
14563 \ifundefined{if@mainmatter}%
14564 \iftrue{\csname if@mainmatter\endcsname}%
14565 \let\Hy@next\relax
14566 \fi
14567 \fi
14568 \Hy@next
14569 \Hy@org@chapter
14570 }%
14571 }

14572 \let\H@old@part\@part
14573 \ifundefined{chapter}
14574 {\let\Hy@secnum@part\z@}
14575 {\let\Hy@secnum@part\m@ne}
14576 \def\@part{%
14577 \ifnum\Hy@secnum@part>\c@secnumdepth
14578 \phantomsection
14579 \fi
14580 \H@old@part
14581 }

14582 \let\H@old@spart\@spart
14583 \def\@spart#1{%
14584 \Hy@MakeCurrentHrefAuto{part*}%
14585 \Hy@raisedlink{%
14586 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14587 }%
14588 \H@old@spart{#1}%
14589 }

14590 \let\H@old@sect\@sect
14591 \def\@sect#1#2#3#4#5#6[#7]#8{%
14592 \ifnum #2>\c@secnumdepth
14593 \expandafter\@firstoftwo
14594 \else
14595 \expandafter\@secondoftwo
14596 \fi
14597 {%
14598 \Hy@MakeCurrentHrefAuto{section*}%
14599 \setlength{\Hy@SectionHShift}{#3}%
14600 \begingroup
14601 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]}%
14602 \toks\tw@\expandafter{%
14603 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14604 #8%
14605 }%
14606 \edef\x{\endgroup
14607 \the\toks@\the\toks\tw@}%
14608 }\x
14609 }{%
14610 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]{#8}%
14611 }%
14612 }

```

```

14613 }{}
14614 </outlines | hypertext>
14615 <*outlines>

14616 \expandafter\def\csname Parent-4\endcsname{}
14617 \expandafter\def\csname Parent-3\endcsname{}
14618 \expandafter\def\csname Parent-2\endcsname{}
14619 \expandafter\def\csname Parent-1\endcsname{}
14620 \expandafter\def\csname Parent0\endcsname{}
14621 \expandafter\def\csname Parent1\endcsname{}
14622 \expandafter\def\csname Parent2\endcsname{}
14623 \expandafter\def\csname Parent3\endcsname{}
14624 \expandafter\def\csname Parent4\endcsname{}

14625 </outlines>

```

47 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

47.1 PD1 encoding

```

14626 <*pd1enc>
14627 \DeclareFontEncoding{PD1}{}{}

Accents
14628 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
14629 \DeclareTextAccent{\'}{PD1}{\textacute}
14630 \DeclareTextAccent{\~}{PD1}{\textasciicircum}
14631 \DeclareTextAccent{\~}{PD1}{\texttilde}
14632 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
14633 \DeclareTextAccent{\r}{PD1}{\textring}
14634 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
14635 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
14636 \DeclareTextAccent{\c}{PD1}{\textcedilla}
14637 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
14638 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
14639 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
14640 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
14641 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
14642 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\textasciicircum}
14643 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
14644 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
14645 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
14646 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
14647 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
14648 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
14649 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
14650 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
14651 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
14652 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
14653 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
14654 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\textasciicircum}

```

```

14655 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
14656 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
14657 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
14658 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
14659 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
14660 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
14661 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
14662 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
14663 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
14664 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
14665 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
14666 \DeclareTextCommand{\newtie}{PD1}[1]{%
14667 \TextSymbolUnavailable{\newtie{#1}}#1%
14668 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

14669 % U+0009 (CHARACTER TABULATION)
14670 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
14671 % U+000A (LINE FEED)
14672 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
14673 % U+000D (CARRIAGE RETURN)
14674 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

14675 % U+02D8 BREVE; breve
14676 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
14677 % U+02C7 CARON; caron
14678 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
14679 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
14680 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
14681 % U+02D9 DOT ABOVE; dotaccent
14682 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
14683 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
14684 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
14685 % U+02DB OGONEK; ogonek
14686 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
14687 % U+02DA RING ABOVE; ring
14688 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
14689 % U+02DC SMALL TILDE; ilde, *tilde
14690 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; *space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

14691 % U+0022 QUOTATION MARK; quotedbl

14692 \DeclareTextCommand{\textquotedbl}{PD1}{"}% \042 U+0022

14693 % U+0023 NUMBER SIGN; numbersign

14694 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023

14695 % U+0024 DOLLAR SIGN; dollar

14696 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024

14697 % U+0025 PERCENT SIGN; percent

14698 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025

14699 % U+0026 AMPERSAND; ampersand

14700 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

\047: U+0027 APOSTROPHE; quotesingle

14701 % U+0028 LEFT PARENTHESIS; parenleft
 14702 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028
 14703 % U+0029 RIGHT PARENTHESIS; parenright
 14704 \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
 14705 % U+002E FULL STOP; period
 14706 \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
 14707 % U+003C LESS-THAN SIGN; less
 14708 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C
 \075: U+003D EQUALS SIGN; equal
 14709 % U+003E GREATER-THAN SIGN; greater
 14710 \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
 14711 % U+005C REVERSE SOLIDUS; backslash
 14712 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
 14713 % "U+2216 SET MINUS" simulated by "U+005C REVERSE SOLIDUS"
 14714 \DeclareTextCommand{\textsetminus}{PD1}{\textbackslash}
 \135: U+005D RIGHT SQUARE BRACKET; bracketright
 14715 % U+005E CIRCUMFLEX ACCENT; asciicircum
 14716 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
 14717 % U+005F LOW LINE; underscore
 14718 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
 14719 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
 14720 % U+0060 GRAVE ACCENT; grave
 14721 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
 \141: U+0061 LATIN SMALL LETTER A; a
 ...
 \150: U+0068 LATIN SMALL LETTER H; h
 14722 % U+0069 LATIN SMALL LETTER I; i
 14723 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
 \152: U+006A LATIN SMALL LETTER J; j
 ...
 \172: U+007A LATIN SMALL LETTER Z; z
 14724 % U+007B LEFT CURLY BRACKET; braceleft
 14725 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B

14726 % U+007C VERTICAL LINE; *bar, verticalbar
 14727 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
 14728 % U+007D RIGHT CURLY BRACKET; braceright
 14729 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
 14730 % U+007E TILDE; asciitilde
 14731 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
 Slot \177 (0x7F) is undefined in PDFDocEncoding.
 14732 % U+2022 BULLET; bullet
 14733 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
 14734 % U+2020 DAGGER; dagger
 14735 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
 14736 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)
 14737 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
 14738 \DeclareTextCommand{\textddagger}{PD1}{\textdaggerdbl}
 14739 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 14740 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
 14741 % U+2014 EM DASH; emdash
 14742 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
 14743 % U+2013 EN DASH; endash
 14744 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
 14745 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 14746 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
 14747 % U+2044 FRACTION SLASH; fraction
 14748 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
 14749 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 ingleft
 14750 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039
 14751 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
 singright
 14752 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A
 14753 % U+2212 MINUS SIGN; minus
 14754 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
 14755 % U+2030 PER MILLE SIGN; perthousand
 14756 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
 14757 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 14758 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
 14759 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 14760 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
 14761 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 14762 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
 14763 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 14764 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
 14765 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 14766 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
 14767 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 14768 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
 14769 % U+2122 TRADE MARK SIGN; trademark
 14770 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
 14771 % U+FB01 LATIN SMALL LIGATURE FI; fi
 14772 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
 14773 % U+FB02 LATIN SMALL LIGATURE FL; fl
 14774 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
 14775 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
 14776 \DeclareTextCommand{\L}{PD1}{\225}% U+0141

14777 % U+0152 LATIN CAPITAL LIGATURE OE; OE
 14778 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
 14779 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
 14780 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
 14781 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 14782 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178
 14783 \DeclareTextCommand{\IJ}{PD1}{IJ}% ligature U+0049 U+004A
 14784 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 14785 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
 14786 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
 14787 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
 14788 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
 14789 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
 14790 % U+0153 LATIN SMALL LIGATURE OE; oe
 14791 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
 14792 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
 14793 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
 14794 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 14795 \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.
 14796 % U+20AC EURO SIGN; *Euro, euro
 14797 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
 14798 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 14799 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
 14800 % U+00A2 CENT SIGN; cent
 14801 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
 14802 % U+00A3 POUND SIGN; sterling
 14803 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
 14804 % U+00A4 CURRENCY SIGN; currency
 14805 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
 14806 % U+00A5 YEN SIGN; yen
 14807 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
 14808 % U+00A6 BROKEN BAR; brokenbar
 14809 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
 14810 % U+00A7 SECTION SIGN; section
 14811 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
 14812 % U+00A8 DIAERESIS; dieresis
 14813 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
 14814 % U+00A9 COPYRIGHT SIGN; copyright
 14815 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
 14816 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 14817 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
 14818 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetleft
 14819 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
 14820 \DeclareTextCommand{\guillemetleft}{PD1}{\253}% U+00AB
 14821 % U+00AC NOT SIGN; logicalnot
 14822 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
 14823 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not
 No glyph \255 in PDFDocEncoding.
 14824 % U+00AE REGISTERED SIGN; registered
 14825 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
 14826 % U+00AF MACRON; *macron, overscore

14827 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
14828 % U+00B0 DEGREE SIGN; degree
14829 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
14830 % U+00B1 PLUS-MINUS SIGN; plusminus
14831 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
14832 % U+00B2 SUPERSCRIPT TWO; twosuperior
14833 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}%* U+00B2
14834 % U+00B3 SUPERSCRIPT THREE; threesuperior
14835 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}%* U+00B3
14836 % U+00B4 ACUTE ACCENT; acute
14837 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
14838 % U+00B5 MICRO SIGN; mu, mul
14839 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
14840 % U+00B6 PILCROW SIGN; paragraph
14841 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
14842 % U+00B7 MIDDLE DOT; middot, *periodcentered
14843 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
14844 % U+00B8 CEDILLA; cedilla
14845 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
14846 % U+00B9 SUPERSCRIPT ONE; onesuperior
14847 \DeclareTextCommand{\textonesuperior}{PD1}{\271}%* U+00B9
14848 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
14849 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
14850 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetright
14851 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
14852 \DeclareTextCommand{\guillemetright}{PD1}{\273}% U+00BB
14853 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
14854 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
14855 % U+00BD VULGAR FRACTION ONE HALF; onehalf
14856 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
14857 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
14858 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
14859 % U+00BF INVERTED QUESTION MARK; questiondown
14860 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
14861 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
14862 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
14863 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
14864 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
14865 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
14866 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
14867 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
14868 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
14869 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
14870 \DeclareTextCompositeCommand{\\"}{PD1}{A}{\304}% U+00C4
14871 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
14872 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
14873 % U+00C6 LATIN CAPITAL LETTER AE; AE
14874 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
14875 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
14876 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
14877 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
14878 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
14879 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
14880 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9

14881 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
14882 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA
14883 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
14884 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB
14885 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
14886 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
14887 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
14888 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD
14889 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
14890 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE
14891 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
14892 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF
14893 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
14894 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
14895 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
14896 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
14897 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
14898 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
14899 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
14900 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
14901 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
14902 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
14903 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
14904 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
14905 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
14906 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
14907 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6
14908 % U+00D7 MULTIPLICATION SIGN; multiply
14909 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
14910 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
14911 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
14912 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
14913 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9
14914 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
14915 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA
14916 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
14917 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB
14918 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
14919 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC
14920 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
14921 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD
14922 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)
14923 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
14924 \DeclareTextCommand{\textThorn}{PD1}{\336}%* U+00DE
14925 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
14926 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
14927 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
14928 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0
14929 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
14930 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1
14931 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
14932 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2
14933 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
14934 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3

14935 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
14936 \DeclareTextCompositeCommand{"}{PD1}{a}{\344}% U+00E4
14937 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
14938 \DeclareTextCompositeCommand{r}{PD1}{a}{\345}% U+00E5
14939 % U+00E6 LATIN SMALL LETTER AE; ae
14940 \DeclareTextCommand{ae}{PD1}{\346}% U+00E6
14941 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
14942 \DeclareTextCompositeCommand{c}{PD1}{c}{\347}% U+00E7
14943 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
14944 \DeclareTextCompositeCommand{`}{PD1}{e}{\350}% U+00E8
14945 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
14946 \DeclareTextCompositeCommand{'}{PD1}{e}{\351}% U+00E9
14947 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
14948 \DeclareTextCompositeCommand{^}{PD1}{e}{\352}% U+00EA
14949 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
14950 \DeclareTextCompositeCommand{"}{PD1}{e}{\353}% U+00EB
14951 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
14952 \DeclareTextCompositeCommand{`}{PD1}{i}{\354}% U+00EC
14953 \DeclareTextCompositeCommand{`}{PD1}{i}{\354}% U+00EC
14954 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
14955 \DeclareTextCompositeCommand{'}{PD1}{i}{\355}% U+00ED
14956 \DeclareTextCompositeCommand{'}{PD1}{i}{\355}% U+00ED
14957 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
14958 \DeclareTextCompositeCommand{^}{PD1}{i}{\356}% U+00EE
14959 \DeclareTextCompositeCommand{^}{PD1}{i}{\356}% U+00EE
14960 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
14961 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF
14962 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF
14963 % U+00F0 LATIN SMALL LETTER ETH; eth
14964 \DeclareTextCommand{dh}{PD1}{\360}% U+00F0
14965 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
14966 \DeclareTextCompositeCommand{~}{PD1}{n}{\361}% U+00F1
14967 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
14968 \DeclareTextCompositeCommand{`}{PD1}{o}{\362}% U+00F2
14969 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
14970 \DeclareTextCompositeCommand{'}{PD1}{o}{\363}% U+00F3
14971 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
14972 \DeclareTextCompositeCommand{^}{PD1}{o}{\364}% U+00F4
14973 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
14974 \DeclareTextCompositeCommand{~}{PD1}{o}{\365}% U+00F5
14975 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
14976 \DeclareTextCompositeCommand{"}{PD1}{o}{\366}% U+00F6
14977 % U+00F7 DIVISION SIGN; divide
14978 \DeclareTextCommand{textdivide}{PD1}{\367}% U+00F7
14979 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
14980 \DeclareTextCommand{o}{PD1}{\370}% U+00F8
14981 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
14982 \DeclareTextCompositeCommand{`}{PD1}{u}{\371}% U+00F9
14983 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
14984 \DeclareTextCompositeCommand{'}{PD1}{u}{\372}% U+00FA
14985 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
14986 \DeclareTextCompositeCommand{^}{PD1}{u}{\373}% U+00FB
14987 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
14988 \DeclareTextCompositeCommand{"}{PD1}{u}{\374}% U+00FC

```

14989 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
14990 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD
14991 % U+00FE LATIN SMALL LETTER THORN; thorn; \th, \thorn (wasysym)
14992 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
14993 \DeclareTextCommand{\textthorn}{PD1}{\376}%* U+00FE
14994 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
14995 \DeclareTextCompositeCommand{"}{PD1}{y}{\377}% U+00FF
14996 \DeclareTextCommand{\ij}{PD1}{ij}% ligature U+0069 U+006A

```

Glyphs that consist of several characters.

```

14997 \DeclareTextCommand{\SS}{PD1}{SS}%
14998 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}%

```

Aliases (german.sty)

```

14999 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}%
15000 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}%
15001 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}%
15002 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}%
15003 \DeclareTextCommand{\textflqq}{PD1}{\guillemetleft}%
15004 \DeclareTextCommand{\textfrqq}{PD1}{\guillemetright}%
15005 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}%
15006 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}%

```

Aliases (math names)

```

15007 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}%
15008 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}%
15009 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}%
15010 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}%
15011 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}%
15012 \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).

```

15013 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
15014 \DeclareTextCompositeCommand{'}{PD1}{c}{c}% cacute
15015 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
15016 \DeclareTextCompositeCommand{'}{PD1}{n}{n}% nacute
15017 \DeclareTextCompositeCommand{'}{PD1}{s}{s}% sacute
15018 \DeclareTextCompositeCommand{'}{PD1}{z}{z}% zacute
15019 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
15020 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
15021 \DeclareTextCompositeCommand{'}{PD1}{C}{C}% Cacute
15022 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
15023 \DeclareTextCompositeCommand{'}{PD1}{N}{N}% Nacute
15024 \DeclareTextCompositeCommand{'}{PD1}{S}{S}% Sacute
15025 \DeclareTextCompositeCommand{'}{PD1}{Z}{Z}% Zacute
15026 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
15027 </pd1enc>

```

47.2 PU encoding

```

15028 <*puenc>
15029 \DeclareFontEncoding{PU}{}{}

```

47.2.1 NFSS2 accents

15030 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
15031 \DeclareTextCommand{\`}{PU}[1]{#1\83\000}% U+0300
15032 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
15033 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
15034 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
15035 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
15036 % U+0303 COMBINING TILDE; tildecmb, *tildecomb
15037 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
15038 % U+0304 COMBINING MACRON; macroncmb
15039 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
15040 % U+0306 COMBINING BREVE; brevecmb
15041 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
15042 \ifx\CYRDZE\@undefined \else
15043 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
15044 \fi
15045 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
15046 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
15047 % U+0308 COMBINING DIAERESIS; dieresiscmb
15048 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
15049 % U+030A COMBINING RING ABOVE; ringcmb
15050 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
15051 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
15052 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
15053 % U+030C COMBINING CARON; caroncmb
15054 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
15055 \end{puenc}
15056 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
15057 \puextra\DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
15058 \end{puenc}
15059 \ifx\CYRDZE\@undefined \else
15060 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
15061 \fi
15062 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
15063 \DeclareTextCommand{\textinvbreve}{PU}[1]{#1\83\021}% U+0311
15064 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
15065 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
15066 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
15067 % U+0324 COMBINING DIAERESIS BELOW; dieresisbelowcmb; \textsubum-
laut (tipa)
15068 \DeclareTextCommand{\textsubumlaut}{PU}[1]{#1\83\044}% U+0324
15069 % U+0325 COMBINING RING BELOW; ringbelowcmb; \textsubring (tipa)
15070 \DeclareTextCommand{\textsubring}{PU}[1]{#1\83\045}% U+0325
15071 % U+0327 COMBINING CEDILLA; cedillacmb
15072 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
15073 % U+0328 COMBINING OGONEK; ogonekcmb
15074 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
15075 % U+032D COMBINING CIRCUMFLEX ACCENT BELOW;
15076 % \textsubcircum (tipa)
15077 \DeclareTextCommand{\textsubcircum}{PU}[1]{#1\83\055}% U+032D
15078 % U+032E COMBINING BREVE BELOW; brevebelowcmb
15079 \DeclareTextCommand{\textsubbreve}{PU}[1]{#1\83\056}% U+032E
15080 % U+0330 COMBINING TILDE BELOW; tildebelowcmb; \textsubtilde (tipa)
15081 \DeclareTextCommand{\textsubtilde}{PU}[1]{#1\83\060}% U+0330
15082 % U+0331 COMBINING MACRON BELOW; macronbelowcmb

```

15083 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
15084 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-
      blecmb
15085 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
15086 % U+20DD COMBINING ENCLOSING CIRCLE
15087 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

```

Double accents.

```

15088 \DeclareTextCommand{\textacutemacron}{PU}[1]{#1\83\001\83\004}% U+0301 U+0304
15089 \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.

```

15090 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}%
15091 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}%
15092 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textasciicircum}%
15093 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}%
15094 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}%
15095 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}%
15096 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}%
15097 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}%
15098 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}%
15099 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}%
15100 \puenc)
15101 \puextra)\DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}%
15102 \*puenc)
15103 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}%
15104 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}%
15105 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}%
15106 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\@empty}{\83\021}% U+0311
15107 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\@empty}{\83\044}% U+0324
15108 \DeclareTextCompositeCommand{\textsubring}{PU}{\@empty}{\textringlow}%
15109 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\@empty}{\textcircum-
      low}%
15110 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\@empty}{\83\056}% U+032E
15111 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\@empty}{\texttildebelow}%
15112 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}%
15113 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}%
15114 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}%
15115 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}%
15116 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}%
15117 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\@empty}{\83\001\83\004}% U+0301 U
15118 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\@empty}{\83\000\83\004}% U+0300 U
15119 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciigrave}%
15120 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}%
15121 \DeclareTextCompositeCommand{\^}{PU}{\ }{\textasciicircum}%
15122 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}%
15123 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}%
15124 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}%
15125 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}%
15126 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}%
15127 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}%
15128 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}%
15129 \puenc)
15130 \puextra)\DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}%

```

15131 (*puenc)
 15132 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}%
 15133 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}%
 15134 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}%
 15135 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\ }{\ \83\021}}% U+0311
 15136 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\ }{\ \83\044}}% U+0324
 15137 \DeclareTextCompositeCommand{\textsubring}{PU}{\ }{\textringlow}%
 15138 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\ }{\textcircumlow}%
 15139 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\ }{\ \83\056}}% U+032E
 15140 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\ }{\texttildelow}%
 15141 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}%
 15142 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}%
 15143 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}%
 15144 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}%
 15145 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}%
 15146 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\ }{\ \83\001\83\004}}% U+0301 U+0304
 15147 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\ }{\ \83\000\83\004}}% U+0300 U+0304

Accents for capitals (see encoding TS1)

15148 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}%
 15149 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}%
 15150 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}%
 15151 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}%
 15152 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}%
 15153 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}%
 15154 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}%
 15155 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}%
 15156 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}%
 15157 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}%
 15158 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}%
 15159 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}%
 15160 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.\{#1}}%
 15161 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}%
 15162 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}%

47.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

15163 % U+0009 (CHARACTER TABULATION)
 15164 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
 15165 % U+000A (LINE FEED)
 15166 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
 15167 % U+000D (CARRIAGE RETURN)
 15168 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D
 \80\040: U+0020 SPACE; space, spacehackarabic
 \80\041: U+0021 EXCLAMATION MARK; exclam
 15169 % U+0022 QUOTATION MARK; quotedbl
 15170 \DeclareTextCommand{\textquotedbl}{PU}{\"}% \80\042 U+0022
 15171 % U+0023 NUMBER SIGN; numbersign
 15172 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
 15173 % U+0024 DOLLAR SIGN; dollar
 15174 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
 15175 %* \textdollar -> \mathdollar
 15176 %* \textdollar -> \EyesDollar (marvosym)
 15177 % U+0025 PERCENT SIGN; percent

15178 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
15179 % U+0026 AMPERSAND; ampersand
15180 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
15181 %* \textampersand -> \binampersand (stmaryrd)
15182 %* \textampersand -> \with (cml)
15183 % U+0027 APOSTROPHE; quotesingle
15184 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
15185 % U+0028 LEFT PARENTHESIS; parenleft
15186 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
15187 % U+0029 RIGHT PARENTHESIS; parenright
15188 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
15189 % U+002A ASTERISK; asterisk; (?)
15190 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A
15191 % U+002B PLUS SIGN; plus; \MVPlus (marvosym)
15192 \DeclareTextCommand{\textMVPlus}{PU}{\80\053}%* U+002B
15193 % U+002C COMMA; comma; \MVComma (marvosym)
15194 \DeclareTextCommand{\textMVComma}{PU}{\80\054}%* U+002C
15195 % U+002D HYPHEN-MINUS; hyphen; \MVMinus (marvosym)
15196 \DeclareTextCommand{\textMVMinus}{PU}{\80\055}%* U+002D
15197 % U+002E FULL STOP; period; \MVPeriod (marvosym)
15198 \DeclareTextCommand{\textMVPeriod}{PU}{\80\056}%* U+002E
15199 % U+002F SOLIDUS; slash; \MVDivision (marvosym)
15200 \DeclareTextCommand{\textMVDivision}{PU}{\80\057}%* U+002F
15201 % U+0030 DIGIT ZERO; zero; \MVZero (marvosym)
15202 \DeclareTextCommand{\textMVZero}{PU}{\80\060}%* U+0030
15203 % U+0031 DIGIT ONE; one; \MVOne (marvosym)
15204 \DeclareTextCommand{\textMVOne}{PU}{\80\061}%* U+0031
15205 % U+0032 DIGIT TWO; two; \MVTwo (marvosym)
15206 \DeclareTextCommand{\textMVTwo}{PU}{\80\062}%* U+0032
15207 % U+0033 DIGIT THREE; three; \MVThree (marvosym)
15208 \DeclareTextCommand{\textMVThree}{PU}{\80\063}%* U+0033
15209 % U+0034 DIGIT FOUR; four; \MVFour (marvosym)
15210 \DeclareTextCommand{\textMVFour}{PU}{\80\064}%* U+0034
15211 % U+0035 DIGIT FIVE; five; \MVFive (marvosym)
15212 \DeclareTextCommand{\textMVFive}{PU}{\80\065}%* U+0035
15213 % U+0036 DIGIT SIX; six; \MVSix (marvosym)
15214 \DeclareTextCommand{\textMVSix}{PU}{\80\066}%* U+0036
15215 % U+0037 DIGIT SEVEN; seven; \MVSeven (marvosym)
15216 \DeclareTextCommand{\textMVSeven}{PU}{\80\067}%* U+0037
15217 % U+0038 DIGIT EIGHT; eight; \MVEight (marvosym)
15218 \DeclareTextCommand{\textMVEight}{PU}{\80\070}%* U+0038
15219 % U+0039 DIGIT NINE; nine; \MVNine (marvosym)
15220 \DeclareTextCommand{\textMVNine}{PU}{\80\071}%* U+0039

\80\072: U+003A COLON; colon
\80\073: U+003B SEMICOLON; semicolon

15221 % U+003C LESS-THAN SIGN; less
15222 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C

\80\075: U+003D EQUALS SIGN; equal

15223 % U+003E GREATER-THAN SIGN; greater
15224 \DeclareTextCommand{\textgreater}{PU}{>}% \80\076 U+003E

\80\077: U+003F QUESTION MARK; question

15225 % U+0040 COMMERCIAL AT; at; \MVAt (marvosym)

```

15226 \DeclareTextCommand{\textMVAt}{PU}{\80\100}%* U+0040
\80\101: U+0041 LATIN CAPITAL LETTER A; A
...
\80\132: U+005A LATIN CAPITAL LETTER Z; Z
\80\133: U+005B LEFT SQUARE BRACKET; bracketleft
15227 % U+005C REVERSE SOLIDUS; backslash
15228 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
\80\135: U+005D RIGHT SQUARE BRACKET; bracketright
15229 % U+005E CIRCUMFLEX ACCENT; asciicircum
15230 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
15231 % U+005F LOW LINE; underscore
15232 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
15233 %* \textunderscore -> \mathunderscore (LaTeX)
15234 % U+0060 GRAVE ACCENT; grave
15235 \DeclareTextCommand{\textasciigrave}{PU}{\80\140}% U+0060
\80\141: U+0061 LATIN SMALL LETTER A; a
...
\80\150: U+0068 LATIN SMALL LETTER H; h
15236 % U+0069 LATIN SMALL LETTER I; i
15237 \DeclareTextCompositeCommand{\.}{PU}{i}{i}% \80\151 U+0069
15238 \DeclareTextCompositeCommand{\.}{PU}{i}{i}% \80\151 U+0069
\80\152: U+006A LATIN SMALL LETTER J; j
...
\80\172: U+007A LATIN SMALL LETTER Z; z
15239 % U+007B LEFT CURLY BRACKET; braceleft
15240 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
15241 % U+007C VERTICAL LINE; *bar, verticalbar
15242 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
15243 %* \textbar -> \textvtrline (tipa)
15244 % U+007D RIGHT CURLY BRACKET; braceright
15245 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
15246 % U+007E TILDE; asciitilde
15247 \DeclareTextCommand{\textasciitilde}{PU}{\80\176}% U+007E

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47.2.3 Latin-1 Supplement: U+0080 to U+00FF

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\80\240: U+00A0 NO-BREAK SPACE; nbspace, nonbreakingspace
15248 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
15249 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
15250 % U+00A2 CENT SIGN; cent
15251 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
15252 % U+00A3 POUND SIGN; sterling
15253 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
15254 %* \textsterling -> \mathsterling (LaTeX)
15255 %* \textsterling -> \pounds (LaTeX)
15256 % U+00A4 CURRENCY SIGN; currency
15257 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
15258 % U+00A5 YEN SIGN; yen
15259 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
15260 % U+00A6 BROKEN BAR; brokenbar
15261 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6

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15262 %* \textbrokenbar -> \brokenvert (wasysym)
15263 % U+00A7 SECTION SIGN; section
15264 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
15265 %* \textsection -> \mathsection (LaTeX)
15266 %* \textsection -> \S (LaTeX)
15267 % U+00A8 DIAERESIS; dieresis
15268 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
15269 % U+00A9 COPYRIGHT SIGN; copyright
15270 \DeclareTextCommand{\textcopyright}{PU}{\80\251}%* U+00A9
15271 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
15272 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
15273 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetleft
15274 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
15275 \DeclareTextCommand{\guillemetleft}{PU}{\80\253}% U+00AB
15276 % U+00AC NOT SIGN; logicalnot
15277 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
15278 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
\80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
15279 % U+00AE REGISTERED SIGN; registered
15280 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
15281 % U+00AF MACRON; *macron, overscore
15282 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
15283 % U+00B0 DEGREE SIGN; degree
15284 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
15285 % U+00B1 PLUS-MINUS SIGN; plusminus
15286 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
15287 % U+00B2 SUPERSCRIPT TWO; twosuperior
15288 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}%* U+00B2
15289 % U+00B3 SUPERSCRIPT THREE; threesuperior
15290 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}%* U+00B3
15291 % U+00B4 ACUTE ACCENT; acute
15292 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
15293 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4
15294 % U+00B5 MICRO SIGN; mu, mu1
15295 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
15296 % U+00B6 PILCROW SIGN; paragraph
15297 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
15298 %* \textparagraph -> \mathparagraph (LaTeX)
15299 % U+00B7 MIDDLE DOT; middot, *periodcentered
15300 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
15301 %* \textperiodcentered -> \MultiplicationDot (marvosym)
15302 %* \textperiodcentered -> \Squaredot (marvosym)
15303 % U+00B8 CEDILLA; cedilla
15304 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
15305 % U+00B9 SUPERSCRIPT ONE; onesuperior
15306 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}%* U+00B9
15307 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
15308 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
15309 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetright
15310 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
15311 \DeclareTextCommand{\guillemetright}{PU}{\80\273}% U+00BB
15312 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
15313 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
15314 % U+00BD VULGAR FRACTION ONE HALF; onehalf

15315 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
15316 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
15317 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
15318 % U+00BF INVERTED QUESTION MARK; questiondown
15319 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
15320 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
15321 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
15322 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
15323 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
15324 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
15325 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
15326 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
15327 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
15328 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
15329 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4
15330 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
15331 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
15332 % U+00C6 LATIN CAPITAL LETTER AE; AE
15333 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
15334 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
15335 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
15336 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
15337 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
15338 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
15339 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
15340 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
15341 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
15342 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
15343 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
15344 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
15345 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
15346 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
15347 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
15348 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
15349 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
15350 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
15351 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF
15352 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
15353 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
15354 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
15355 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
15356 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
15357 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
15358 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
15359 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
15360 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
15361 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4
15362 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
15363 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
15364 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
15365 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6
15366 % U+00D7 MULTIPLICATION SIGN; multiply
15367 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
15368 %* \textmultiply -> \vartimes (stmaryrd)

15369 %* \textmultiply -> \MVMultiplication (marvosym)
15370 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
15371 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
15372 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
15373 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
15374 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
15375 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
15376 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
15377 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB
15378 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
15379 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC
15380 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
15381 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
15382 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)
15383 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
15384 \DeclareTextCommand{\textThorn}{PU}{\80\336}%* U+00DE
15385 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
15386 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
15387 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
15388 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
15389 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
15390 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
15391 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
15392 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2
15393 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
15394 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
15395 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
15396 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4
15397 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
15398 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
15399 % U+00E6 LATIN SMALL LETTER AE; ae
15400 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
15401 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
15402 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
15403 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
15404 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
15405 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
15406 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
15407 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
15408 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA
15409 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
15410 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB
15411 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
15412 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
15413 \DeclareTextCompositeCommand{\~}{PU}{i}{\80\354}% U+00EC
15414 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
15415 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
15416 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\355}% U+00ED
15417 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
15418 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
15419 \DeclareTextCompositeCommand{\~}{PU}{i}{\80\356}% U+00EE
15420 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
15421 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
15422 \DeclareTextCompositeCommand{\~}{PU}{i}{\80\357}% U+00EF

15423 % U+00F0 LATIN SMALL LETTER ETH; eth
 15424 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
 15425 %* \dh -> \eth (wsuipa, phonetic)
 15426 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
 15427 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1
 15428 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
 15429 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2
 15430 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
 15431 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
 15432 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
 15433 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4
 15434 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
 15435 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
 15436 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
 15437 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6
 15438 % U+00F7 DIVISION SIGN; divide
 15439 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
 15440 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
 15441 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
 15442 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
 15443 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9
 15444 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
 15445 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
 15446 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 15447 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB
 15448 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 15449 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC
 15450 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 15451 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
 15452 % U+00FE LATIN SMALL LETTER THORN; thorn;
 15453 % \th, \thorn (wasysym), \textthorn (tipa)
 15454 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
 15455 \DeclareTextCommand{\textthorn}{PU}{\80\376}%* U+00FE
 15456 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 15457 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

47.2.4 Latin Extended-A: U+0080 to U+017F

15458 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
 15459 \DeclareTextCompositeCommand{=} {PU}{A}{\81\000}% U+0100
 15460 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
 15461 \DeclareTextCompositeCommand{=} {PU}{a}{\81\001}% U+0101
 15462 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
 15463 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
 15464 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
 15465 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
 15466 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
 15467 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
 15468 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
 15469 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
 15470 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
 15471 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
 15472 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
 15473 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107

15474 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
15475 \DeclareTextCompositeCommand{\~}{PU}{C}{\81\010}% U+0108
15476 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
15477 \DeclareTextCompositeCommand{\~}{PU}{c}{\81\011}% U+0109
15478 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent
15479 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
15480 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
15481 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
15482 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
15483 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
15484 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
15485 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
15486 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
15487 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
15488 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
15489 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
15490 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
15491 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
15492 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron;
15493 % \textcrd (tipa)
15494 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
15495 \DeclareTextCommand{\textcrd}{PU}{\81\021}% U+0111
15496 %* \textcrd -> \crossd (wsuipa)
15497 % An alternate glyph with the stroke through the bowl:
15498 %* \textcrd -> \textbard (tipa)
15499 %* \textcrd -> \bard (wsuipa)
15500 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
15501 \DeclareTextCompositeCommand{=}{PU}{E}{\81\022}% U+0112
15502 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
15503 \DeclareTextCompositeCommand{=}{PU}{e}{\81\023}% U+0113
15504 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
15505 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
15506 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
15507 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
15508 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
15509 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
15510 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
15511 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
15512 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
15513 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
15514 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
15515 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
15516 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
15517 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
15518 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
15519 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
15520 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
15521 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
15522 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
15523 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
15524 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
15525 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
15526 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve

15527 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
15528 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotac-
cent
15529 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
15530 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
15531 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
15532 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent
15533 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
15534 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
15535 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
15536 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
15537 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
15538 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
15539 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
15540 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
15541 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
15542 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar; \hbar (Ams)
15543 \DeclareTextCommand{\textthbar}{PU}{\81\047}%* U+0127
15544 %* \textthbar -> \textcrh (tipa)
15545 %* \textthbar -> \crossh (wsuipa)
15546 %* \textthbar -> \planck (phonetic)
15547 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
15548 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
15549 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
15550 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
15551 \DeclareTextCompositeCommand{\~}{PU}{\i}{\81\051}% U+0129
15552 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
15553 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
15554 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
15555 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
15556 \DeclareTextCompositeCommand{\=}{PU}{\i}{\81\053}% U+012B
15557 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
15558 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
15559 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
15560 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
15561 \DeclareTextCompositeCommand{\u}{PU}{\i}{\81\055}% U+012D
15562 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
15563 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
15564 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
15565 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
15566 \DeclareTextCompositeCommand{\k}{PU}{\i}{\81\057}% U+012F
15567 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
15568 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
15569 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
15570 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
15571 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
15572 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
15573 % U+0133 LATIN SMALL LIGATURE IJ; ij
15574 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
15575 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
15576 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
15577 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
15578 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135

15579 \DeclareTextCompositeCommand{\~}{PU}{j}{\81\065}% U+0135
 15580 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent
 cent
 15581 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
 15582 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
 15583 \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`.

15584 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
 15585 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
 15586 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
 15587 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
 15588 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
 15589 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
 15590 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent
 cent
 15591 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
 15592 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
 15593 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
 15594 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
 15595 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
 15596 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
 15597 \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`.

15598 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
 cent
 15599 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
 15600 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
 15601 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
 15602 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
 15603 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
 15604 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
 15605 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
 15606 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
 15607 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
 15608 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
 15609 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
 15610 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent
 cent
 15611 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
 15612 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
 15613 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
 15614 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
 15615 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
 15616 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
 15617 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
 15618 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn
 15619 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
 15620 % U+014A LATIN CAPITAL LETTER ENG; Eng

15621 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
15622 % U+014B LATIN SMALL LETTER ENG; eng
15623 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
15624 %* \ng -> \eng (wsuipa)
15625 %* \ng -> \engma (phonetic)
15626 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
15627 \DeclareTextCompositeCommand{=} {PU}{O}{\81\114}% U+014C
15628 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
15629 \DeclareTextCompositeCommand{=} {PU}{o}{\81\115}% U+014D
15630 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
15631 \DeclareTextCompositeCommand{\u} {PU}{O}{\81\116}% U+014E
15632 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
15633 \DeclareTextCompositeCommand{\u} {PU}{o}{\81\117}% U+014F
15634 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odbla-
cute, Ohungarumlaut
15635 \DeclareTextCompositeCommand{\H} {PU}{O}{\81\120}% U+0150
15636 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odbla-
cute, ohungarumlaut
15637 \DeclareTextCompositeCommand{\H} {PU}{o}{\81\121}% U+0151
15638 % U+0152 LATIN CAPITAL LIGATURE OE; OE
15639 \DeclareTextCommand{\OE} {PU}{\81\122}% U+0152
15640 % U+0153 LATIN SMALL LIGATURE OE; oe
15641 \DeclareTextCommand{\oe} {PU}{\81\123}% U+0153
15642 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
15643 \DeclareTextCompositeCommand{' } {PU}{R}{\81\124}% U+0154
15644 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
15645 \DeclareTextCompositeCommand{' } {PU}{r}{\81\125}% U+0155
15646 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaac-
cent
15647 \DeclareTextCompositeCommand{\c} {PU}{R}{\81\126}% U+0156
15648 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
15649 \DeclareTextCompositeCommand{\c} {PU}{r}{\81\127}% U+0157
15650 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
15651 \DeclareTextCompositeCommand{\v} {PU}{R}{\81\130}% U+0158
15652 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
15653 \DeclareTextCompositeCommand{\v} {PU}{r}{\81\131}% U+0159
15654 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
15655 \DeclareTextCompositeCommand{' } {PU}{S}{\81\132}% U+015A
15656 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
15657 \DeclareTextCompositeCommand{' } {PU}{s}{\81\133}% U+015B
15658 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
15659 \DeclareTextCompositeCommand{\^} {PU}{S}{\81\134}% U+015C
15660 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
15661 \DeclareTextCompositeCommand{\^} {PU}{s}{\81\135}% U+015D
15662 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
15663 \DeclareTextCompositeCommand{\c} {PU}{S}{\81\136}% U+015E
15664 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
15665 \DeclareTextCompositeCommand{\c} {PU}{s}{\81\137}% U+015F
15666 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
15667 \DeclareTextCompositeCommand{\v} {PU}{S}{\81\140}% U+0160
15668 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
15669 \DeclareTextCompositeCommand{\v} {PU}{s}{\81\141}% U+0161
15670 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-
cent

15671 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
15672 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
15673 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
15674 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
15675 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
15676 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
15677 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
15678 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
15679 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
15680 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
15681 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
15682 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
15683 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
15684 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
15685 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
15686 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
15687 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
15688 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
15689 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
15690 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
15691 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
15692 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
15693 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
15694 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
15695 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
15696 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
15697 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
15698 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut
15699 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
15700 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut
15701 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
15702 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
15703 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
15704 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
15705 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
15706 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
15707 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
15708 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
15709 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
15710 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
15711 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
15712 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
15713 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
15714 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
15715 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
15716 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
15717 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
15718 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
15719 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A
15720 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
15721 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
15722 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent

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15723 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
15724 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
15725 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
15726 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
15727 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
15728 % U+017F LATIN SMALL LETTER LONG S; longs, slong
15729 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

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47.2.5 Latin Extended-B: U+0180 to U+024F

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15730 % U+0180 LATIN SMALL LETTER B WITH STROKE; bstroke; \textcrb (tipa)
15731 \DeclareTextCommand{\textcrb}{PU}{\81\200}% U+0180
15732 %* \textcrb -> \crossb (wsuipa)
15733 % An alternate glyph with the stroke through the bowl:
15734 %* \textcrb -> \textbarb (tipa)
15735 %* \textcrb -> \barb (wsuipa)
15736 % U+0181 LATIN CAPITAL LETTER B WITH HOOK; Bhook; \hausab (pho-
      netic)
15737 \DeclareTextCommand{\texthausab}{PU}{\81\201}%* U+0181
15738 % U+0188 LATIN SMALL LETTER C WITH HOOK; chook; \texthtc (tipa)
15739 \DeclareTextCommand{\texthtc}{PU}{\81\210}% U+0188
15740 % U+018A LATIN CAPITAL LETTER D WITH HOOK; Dhook; \hausad (pho-
      netic)
15741 \DeclareTextCommand{\texthausad}{PU}{\81\212}%* U+018A
15742 % U+018E LATIN CAPITAL LETTER REVERSED E; Eversed
15743 \DeclareTextCommand{\textEversed}{PU}{\81\216}% U+018E
15744 \DeclareTextCommand{\textrevE}{PU}{\81\216}% U+018E
15745 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
15746 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
15747 %* \textflorin -> \Florin (marvosym)
15748 % U+0195 LATIN SMALL LETTER HV; hv; \texthvlig (tipa)
15749 \DeclareTextCommand{\texthvlig}{PU}{\81\225}% U+0195
15750 %* \texthvlig -> \hv (wsuipa)
15751 % U+0198 LATIN CAPITAL LETTER K WITH HOOK; Khook; \hausak (pho-
      netic)
15752 \DeclareTextCommand{\texthausak}{PU}{\81\230}%* U+0198
15753 % U+0199 LATIN SMALL LETTER K WITH HOOK; khook; \texthtk (tipa)
15754 \DeclareTextCommand{\texthtk}{PU}{\81\231}% U+0199
15755 %* \texthtk -> \hausak (phonetic)
15756 % U+019A LATIN SMALL LETTER L WITH BAR; lbar;
15757 % \textbarl (tipa), \barl (wsuipa)
15758 \DeclareTextCommand{\textbarl}{PU}{\81\232}%* U+019A
15759 % U+019B LATIN SMALL LETTER LAMBDA WITH STROKE/
15760 % LATIN SMALL LETTER BARRED LAMBDA; lambdastroke;
15761 % \textcrlambda (tipa)
15762 \DeclareTextCommand{\textcrlambda}{PU}{\81\233}% U+019B
15763 %* \textcrlambda -> \crossnilambda (wsuipa)
15764 %* \textcrlambda -> \barlambd (phonetic)
15765 %* \textcrlambda -> \lambdabar (txfonts/pxfonts)
15766 %* \textcrlambda -> \lambdash (txfonts/pxfonts)
15767 % U+019E LATIN SMALL LETTER N WITH LONG RIGHT LEG; nlegright-
      long;
15768 % \textnrleg (tipx)
15769 \DeclareTextCommand{\textPUnrleg}{PU}{\81\236}% U+019E
15770 %* \textPUnrleg -> \textnrleg (tipx)

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15771 % U+01A5 LATIN SMALL LETTER P WITH HOOK; phook; \texthpt (tipa)
 15772 \DeclareTextCommand{\texthpt}{PU}{\81\245}% U+01A5
 15773 % U+01AB LATIN SMALL LETTER T WITH PALATAL HOOK; tpalatalhook;
 15774 % \textlhookt (tipa)
 15775 \DeclareTextCommand{\textlhookt}{PU}{\81\253}% U+01AB
 15776 % U+01AD LATIN SMALL LETTER T WITH HOOK; thook; \texthtt (tipa)
 15777 \DeclareTextCommand{\texthtt}{PU}{\81\255}% U+01AD
 15778 % U+01B9 LATIN SMALL LETTER EZH REVERSED/
 15779 % LATIN SMALL LETTER REVERSED YOGH; \textrevyogh (tipa)
 15780 \DeclareTextCommand{\textrevyogh}{PU}{\81\271}% U+01B9
 15781 % U+01BB LATIN LETTER TWO WITH STROKE; twostroke; \textcrtwo (tipa)
 15782 \DeclareTextCommand{\textcrtwo}{PU}{\81\273}% U+01BB
 15783 % U+01BE LATIN LETTER INVERTED GLOTTAL STOP WITH STROKE;
 15784 % glottalinvertedstroke; \textcrinvglotstop (tipa)
 15785 \DeclareTextCommand{\textcrinvglotstop}{PU}{\81\276}% U+01BE
 15786 % U+01BF LATIN LETTER WYNN; wynn; \textwynn (tipa)
 15787 \DeclareTextCommand{\textwynn}{PU}{\81\277}% U+01BF
 15788 % U+01C0 LATIN LETTER DENTAL CLICK/LATIN LETTER PIPE; clickden-
 tal;
 15789 % \textpipe (tipa)
 15790 \DeclareTextCommand{\textpipe}{PU}{\81\300}% U+01C0
 15791 %* \textpipe -> \textpipevar (tipx)
 15792 % U+01C1 LATIN LETTER LATERAL CLICK/LATIN LETTER
 15793 % DOUBLE PIPE; clicklateral; \textdoublepipe (tipa)
 15794 \DeclareTextCommand{\textdoublepipe}{PU}{\81\301}% U+01C1
 15795 %* \textdoublepipe -> \textdoublepipevar (tipx)
 15796 % U+01C2 LATIN LETTER ALVEOLAR CLICK/LATIN LETTER PIPE DOU-
 BLE BAR;
 15797 % clickalveolar; \textdoublebarpipe (tipa)
 15798 \DeclareTextCommand{\textdoublebarpipe}{PU}{\81\302}% U+01C2
 15799 %* \textdoublebarpipe -> \textdoublebarpipevar (tipx)
 15800 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
 15801 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
 15802 % U+01CE LATIN SMALL LETTER A WITH CARON; acarón
 15803 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
 15804 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
 15805 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
 15806 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
 15807 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 15808 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 15809 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
 15810 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
 15811 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
 15812 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
 15813 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
 15814 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
 15815 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
 15816 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
 15817 % U+01DD LATIN SMALL LETTER TURNED E; eturned; \inve (wasysym)
 15818 \DeclareTextCommand{\textinve}{PU}{\81\335}%* U+01DD
 15819 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
 15820 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
 15821 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
 15822 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5

15823 %* \textgslash -> \textcrg (tipa)
15824 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
15825 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
15826 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
15827 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
15828 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
15829 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
15830 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
15831 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
15832 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
15833 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
15834 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
15835 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
15836 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
15837 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
15838 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
15839 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
15840 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
15841 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
15842 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
15843 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
15844 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8
15845 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
15846 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9
15847 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
15848 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC
15849 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
15850 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD
15851 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE;
15852 % *Oslashacute, Ostrokeacut
15853 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE
15854 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE;
15855 % *oslashacute, ostrokeacute
15856 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF
15857 </puenc>
15858 <*puextra>
15859 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
15860 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
15861 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
15862 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
15863 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
15864 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
15865 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
15866 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
15867 </puextra>
15868 <*puenc>
15869 % U+0206 LATIN CAPITAL LETTER E WITH INVERTED BREVE; Einvert-
edbreve
15870 \DeclareTextCompositeCommand{\textinvbreve}{PU}{E}{\82\006}% U+0206
15871 % U+0207 LATIN SMALL LETTER E WITH INVERTED BREVE; einvert-
breve
15872 \DeclareTextCompositeCommand{\textinvbreve}{PU}{e}{\82\007}% U+0207
15873 </puenc>
15874 <*puextra>

15875 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
15876 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
15877 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
15878 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
15879 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
15880 </puextra>
15881 <*puenc>
15882 % U+020A LATIN CAPITAL LETTER I WITH INVERTED BREVE; Iinverted-
breve
15883 \DeclareTextCompositeCommand{\textinvbreve}{PU}{I}{\82\012}% U+020A
15884 % U+020B LATIN SMALL LETTER I WITH INVERTED BREVE; iinverted-
breve
15885 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B
15886 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B
15887 </puenc>
15888 <*puextra>
15889 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
15890 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
15891 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
15892 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
15893 </puextra>
15894 <*puenc>
15895 % U+020E LATIN CAPITAL LETTER O WITH INVERTED BREVE; Oinvert-
edbreve
15896 \DeclareTextCompositeCommand{\textinvbreve}{PU}{O}{\82\016}% U+020E
15897 % U+020F LATIN SMALL LETTER O WITH INVERTED BREVE; oinverted-
breve
15898 \DeclareTextCompositeCommand{\textinvbreve}{PU}{o}{\82\017}% U+020F
15899 </puenc>
15900 <*puextra>
15901 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
15902 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
15903 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
15904 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
15905 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
15906 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
15907 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
15908 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
15909 </puextra>
15910 <*puenc>
15911 % U+0216 LATIN CAPITAL LETTER U WITH INVERTED BREVE; Uinvert-
edbreve
15912 \DeclareTextCompositeCommand{\textinvbreve}{PU}{U}{\82\026}% U+0216
15913 % U+0217 LATIN SMALL LETTER U WITH INVERTED BREVE; uinverted-
breve
15914 \DeclareTextCompositeCommand{\textinvbreve}{PU}{u}{\82\027}% U+0217
15915 % U+021E LATIN CAPITAL LETTER H WITH CARON
15916 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
15917 % U+021F LATIN SMALL LETTER H WITH CARON
15918 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
15919 % U+0221 LATIN SMALL LETTER D WITH CURL; \textctd (tipa)
15920 \DeclareTextCommand{\textctd}{PU}{\82\041}% U+0221
15921 % U+0225 LATIN SMALL LETTER Z WITH HOOK; \textcommatailz (tipa)
15922 \DeclareTextCommand{\textcommatailz}{PU}{\82\045}% U+0225

15923 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
 15924 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
 15925 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
 15926 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
 15927 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
 15928 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
 15929 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
 15930 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
 15931 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
 15932 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
 15933 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 15934 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 15935 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 15936 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232
 15937 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 15938 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233
 15939 % U+0235 LATIN SMALL LETTER N WITH CURL; \textctn (tipa)
 15940 \DeclareTextCommand{\textctn}{PU}{\82\065}% U+0235
 15941 % U+0236 LATIN SMALL LETTER T WITH CURL; \textctt (tipa)
 15942 \DeclareTextCommand{\textctt}{PU}{\82\066}% U+0236
 15943 % U+0237 LATIN SMALL LETTER DOTLESS J
 15944 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237
 15945 % U+0238 LATIN SMALL LETTER DB DIGRAPH; \textdblig (tipx)
 15946 \DeclareTextCommand{\textPDbliɡ}{PU}{\82\070}% U+0238
 15947 %* \textPDbliɡ -> \textdbliɡ (tipx)
 15948 % U+0239 LATIN SMALL LETTER QP DIGRAPH; \textqplig (tipx)
 15949 \DeclareTextCommand{\textPUqpliɡ}{PU}{\82\071}% U+0239
 15950 %* \textPUqpliɡ -> \textqpliɡ (tipx)
 15951 % U+023C LATIN SMALL LETTER C WITH STROKE; \slashc (wsuipa)
 15952 \DeclareTextCommand{\textslashc}{PU}{\82\074}%* U+023C
 15953 %* \textslashc -> \textcentoldstyle (textcomp)
 15954 % With bar instead of stroke:
 15955 %* \textslashc -> \textbarc (tipa)

47.2.6 IPA Extensions: U+0250 to U+02AF

15956 % U+0250 LATIN SMALL LETTER TURNED A; aturned; \textturna (tipa)
 15957 \DeclareTextCommand{\textturna}{PU}{\82\120}% U+0250
 15958 %* \textturna -> \inva (wasysym)
 15959 % U+0251 LATIN SMALL LETTER ALPHA/LATIN SMALL LETTER
 15960 % SCRIPT A; ascript; \textscripta (tipa), \scripta (wsuipa)
 15961 \DeclareTextCommand{\textscripta}{PU}{\82\121}%* U+0251
 15962 %* \textscripta -> \vara (phonetic)
 15963 % U+0252 LATIN SMALL LETTER TURNED ALPHA; ascriptturned;
 15964 % \textturnscripta (tipa)
 15965 \DeclareTextCommand{\textturnscripta}{PU}{\82\122}% U+0252
 15966 %* \textturnscripta -> \invscripta (wsuipa)
 15967 %* \textturnscripta -> \rotvara (phonetic)
 15968 % U+0253 LATIN CAPITAL LETTER B WITH HOOK; bhook; \texthtb (tipa)
 15969 \DeclareTextCommand{\texthtb}{PU}{\82\123}% U+0253
 15970 %* \texthtb -> \hookb (wsuipa)
 15971 %* \texthtb -> \hausab (phonetic)
 15972 % U+0254 LATIN SMALL LETTER OPEN O; oopen;
 15973 % \textopeno (tipa), \openo (wasysym)
 15974 \DeclareTextCommand{\textopeno}{PU}{\82\124}%* U+0254

15975 %* \textopeno -> \varopeno (phonetic)
 15976 % U+0255 LATIN SMALL LETTER C WITH CURL; ccurl; \textctc (tipa)
 15977 \DeclareTextCommand{\textctc}{PU}{\82\125}% U+0255
 15978 %* \textctc -> \curlyc (wsuipa)
 15979 % U+0256 LATIN SMALL LETTER D WITH TAIL; dtail; \textrtaild (tipa)
 15980 \DeclareTextCommand{\textrtaild}{PU}{\82\126}% U+0256
 15981 %* \textrtaild -> \taild (wsuipa)
 15982 % U+0257 LATIN SMALL LETTER D WITH HOOK; dhook; \texthtd (tipa)
 15983 \DeclareTextCommand{\texthtd}{PU}{\82\127}% U+0257
 15984 %* \texthtd -> \hookd (wsuipa)
 15985 %* \texthtd -> \hausad (phonetic)
 15986 % U+0258 LATIN SMALL LETTER REVERSED E; ereversed;
 15987 % \textreve (tipa), \reve (wsuipa)
 15988 \DeclareTextCommand{\textreve}{PU}{\82\130}% U+0258
 15989 % U+0259 LATIN SMALL LETTER SCHWA; schwa;
 15990 % \textschwa (tipa), \schwa (wsuipa, phonetic)
 15991 \DeclareTextCommand{\textschwa}{PU}{\82\131}% U+0259
 15992 % U+025A LATIN SMALL LETTER SCHWA WITH HOOK; schwahook;
 15993 % \textrhookschwa (tipa)
 15994 \DeclareTextCommand{\textrhookschwa}{PU}{\82\132}% U+025A
 15995 %* \textrhookschwa -> \er (wsuipa)
 15996 % U+025B LATIN SMALL LETTER OPEN E/LATIN SMALL LETTER EP-
 SILON; eopen;
 15997 % \niepsilon (wsuipa)
 15998 \DeclareTextCommand{\textniepsilon}{PU}{\82\133}% U+025B
 15999 %* \textniepsilon -> \epsi (phonetic)
 16000 % U+025C LATIN SMALL LETTER REVERSED OPEN E; eopenreversed;
 16001 % \textrevepsilon (tipa), \revepsilon (wsuipa)
 16002 \DeclareTextCommand{\textrevepsilon}{PU}{\82\134}% U+025C
 16003 % U+025D LATIN SMALL LETTER REVERSED OPEN E WITH HOOK; eopen-
 reversedhook;
 16004 % \textrhookrevepsilon (tipa)
 16005 \DeclareTextCommand{\textrhookrevepsilon}{PU}{\82\135}% U+025D
 16006 %* \textrhookrevepsilon -> \hookrevepsilon (wsuipa)
 16007 % U+025E LATIN SMALL LETTER CLOSED REVERSED OPEN E; eopenre-
 versedclosed;
 16008 % \textcloserevepsilon (tipa)
 16009 \DeclareTextCommand{\textcloserevepsilon}{PU}{\82\136}% U+025E
 16010 %* \textcloserevepsilon -> \closedrevepsilon (wsuipa)
 16011 % U+025F LATIN SMALL LETTER DOTLESS J WITH STROKE; jdot-
 lessstroke;
 16012 % \textbardotlessj (tipa)
 16013 \DeclareTextCommand{\textbardotlessj}{PU}{\82\137}% U+025F
 16014 %* \textbardotlessj -> \barj (phonetic)
 16015 % U+0260 LATIN SMALL LETTER G WITH HOOK; ghook; \texthtg (tipa)
 16016 \DeclareTextCommand{\texthtg}{PU}{\82\140}% U+0260
 16017 %* \texthtg -> \hookg (wsuipa)
 16018 % U+0261 LATIN SMALL LETTER SCRIPT G; gscript;
 16019 % \textscriptg (tipa), \scriptg (wsuipa)
 16020 \DeclareTextCommand{\textscriptg}{PU}{\82\141}% U+0261
 16021 %* \textscriptg -> \varg (phonetic)
 16022 % U+0262 LATIN LETTER SMALL CAPITAL G; \textscg (tipa), \scg (wsuipa)
 16023 \DeclareTextCommand{\textscg}{PU}{\82\142}% U+0262
 16024 % U+0263 LATIN SMALL LETTER GAMMA; gammalatinsmall;

16025 % \ipagamma (wsuipa), \vod (phonetic)
16026 \DeclareTextCommand{\textipagamma}{PU}{\82\143}%* U+0263
16027 %* \textipagamma -> \vod (pnonetic)
16028 % U+0264 LATIN SMALL LETTER RAMS HORN; ramshorn;
16029 % \babygamma (wsuipa)
16030 \DeclareTextCommand{\textbabygamma}{PU}{\82\144}%* U+0264
16031 % U+0265 LATIN SMALL LETTER TURNED H; hturned; \textturnh (tipa)
16032 \DeclareTextCommand{\textturnh}{PU}{\82\145}% U+0265
16033 %* \textturnh -> \invh (wsuipa)
16034 %* \textturnh -> \udesc (phonetic)
16035 % U+0266 LATIN SMALL LETTER H WITH HOOK; hhook; \texthth (tipa)
16036 \DeclareTextCommand{\texthth}{PU}{\82\146}% U+0266
16037 %* \texthth -> \hookh (wsuipa)
16038 %* \texthth -> \voicedh (phonetic)
16039 % U+0267 LATIN SMALL LETTER HENG WITH HOOK; henghook; \tex-
ththeng (tipa)
16040 \DeclareTextCommand{\texththeng}{PU}{\82\147}% U+0267
16041 %* \texththeng -> \hookheng (wsuipa)
16042 % U+0268 LATIN SMALL LETTER I WITH STROKE;
16043 % \textbari (tipa), \bari (wsuipa)
16044 \DeclareTextCommand{\textbari}{PU}{\82\150}%* U+0268
16045 %* \textbari -> \ibar (phonetic)
16046 % U+0269 LATIN SMALL LETTER IOTA; iotalatin; \niiota (wsuipa)
16047 \DeclareTextCommand{\textniiota}{PU}{\82\151}%* U+0269
16048 %* \textniiota -> \vari (phonetic)
16049 % U+026A LATIN LETTER SMALL CAPITAL I; \textsci (tipa), \sci (wsuipa)
16050 \DeclareTextCommand{\textsci}{PU}{\82\152}%* U+026A
16051 % U+026B LATIN SMALL LETTER L WITH MIDDLE TILDE; lmiddletilde;
16052 % \textltilde (tipa)
16053 \DeclareTextCommand{\textltilde}{PU}{\82\153}% U+026B
16054 %* \textltilde -> \tildel (wsuipa)
16055 % U+026C LATIN SMALL LETTER L WITH BELT; lbelt; \textbeltl (tipa)
16056 \DeclareTextCommand{\textbeltl}{PU}{\82\154}% U+026C
16057 %* \textbeltl -> \latfric (wsuipa)
16058 % U+026D LATIN SMALL LETTER L WITH RETROFLEX HOOK;
16059 % lhookretroflex; \textrtaill (tipa)
16060 \DeclareTextCommand{\textrtaill}{PU}{\82\155}% U+026D
16061 %* \textrtaill -> \taill (wsuipa)
16062 % U+026E LATIN SMALL LETTER LEZH; lezh; \textlyoghlig (tipa)
16063 \DeclareTextCommand{\textlyoghlig}{PU}{\82\156}% U+026E
16064 %* \textlyoghlig -> \lz (wsuipa)
16065 % U+026F LATIN SMALL LETTER TURNED M; mturned; \textturnm (tipa)
16066 \DeclareTextCommand{\textturnm}{PU}{\82\157}% U+026F
16067 %* \textturnm -> \invm (wsuipa)
16068 %* \textturnm -> \rotm (phonetic)
16069 % U+0270 LATIN SMALL LETTER TURNED M WITH LONG LEG; mlongleg-
turned;
16070 % \textturnmrleg (tipa)
16071 \DeclareTextCommand{\textturnmrleg}{PU}{\82\160}% U+0270
16072 %* \textturnmrleg -> \legm (wsuipa)
16073 % U+0271 LATIN SMALL LETTER M WITH HOOK; mhook; \textltailm (tipa)
16074 \DeclareTextCommand{\textltailm}{PU}{\82\161}% U+0271
16075 %* \textltailm -> \labdentalnas (wsuipa)
16076 %* \textltailm -> \emgma (phonetic)

16077 % U+0272 LATIN SMALL LETTER N WITH LEFT HOOK; nhookleft; \textl-
 tailn (tipa)
 16078 \DeclareTextCommand{\textltailn}{PU}{\82\162}% U+0272
 16079 %* \textltailn -> \nj (wsuipa)
 16080 %* \textltailn -> \enya (phonetic)
 16081 % U+0273 LATIN SMALL LETTER N WITH RETROFLEX HOOK;
 16082 % nhookretroflex; \textrtailn (tipa)
 16083 \DeclareTextCommand{\textrtailn}{PU}{\82\163}% U+0273
 16084 %* \textrtailn -> \tailn (wsuipa)
 16085 % U+0274 LATIN LETTER SMALL CAPITAL N; \textscn (tipa), \scn (wsuipa)
 16086 \DeclareTextCommand{\textscn}{PU}{\82\164}%* U+0274
 16087 % U+0275 LATIN CAPITAL LETTER O WITH MIDDLE TILDE/
 16088 % LATIN CAPITAL LETTER BARRED O; obarred;
 16089 % \textbaro (tipa), \baro (wsuipa)
 16090 % But \baro from stmaryrd is different!
 16091 \DeclareTextCommand{\textbaro}{PU}{\82\165}% U+0275
 16092 % U+0276 LATIN LETTER SMALL CAPITAL OE; \textscelig (tipa)
 16093 \DeclareTextCommand{\textscelig}{PU}{\82\166}% U+0276
 16094 % U+0277 LATIN SMALL LETTER CLOSED OMEGA; omegalatinclosed;
 16095 % \textcloseomega (tipa)
 16096 \DeclareTextCommand{\textcloseomega}{PU}{\82\167}% U+0277
 16097 %* \textcloseomega -> \closedniomega (wsuipa)
 16098 %* \textcloseomega -> \varomega (phonetic)
 16099 % U+0278 LATIN SMALL LETTER PHI; philatin; \nphi (wsuipa)
 16100 \DeclareTextCommand{\textnphi}{PU}{\82\170}%* U+0278
 16101 % U+0279 LATIN SMALL LETTER TURNED R; rturned; \textturnr (tipa)
 16102 \DeclareTextCommand{\textturnr}{PU}{\82\171}% U+0279
 16103 %* \textturnr -> \invr (wsuipa)
 16104 %* \textturnr -> \rotr (phonetic)
 16105 % U+027A LATIN SMALL LETTER TURNED R WITH LONG LEG;
 16106 % rlonglegturned; \textturnlongleg (tipa)
 16107 \DeclareTextCommand{\textturnlongleg}{PU}{\82\172}% U+027A
 16108 %* \textturnlongleg -> \invleg (wsuipa)
 16109 % U+027B LATIN SMALL LETTER TURNED R WITH HOOK; rhookturned;
 16110 % \textturnrrtail (tipa)
 16111 \DeclareTextCommand{\textturnrrtail}{PU}{\82\173}% U+027B
 16112 %* \textturnrrtail -> \tailinvr (wsuipa)
 16113 % U+027C LATIN SMALL LETTER R WITH LONG LEG; rlongleg; \textlon-
 glegr (tipa)
 16114 \DeclareTextCommand{\textlongleg}{PU}{\82\174}%* U+027C
 16115 %* \textlongleg -> \leg (wsuipa)
 16116 % U+027D LATIN SMALL LETTER R WITH TAIL; rhook; \textrtailr (tipa)
 16117 \DeclareTextCommand{\textrtailr}{PU}{\82\175}% U+027D
 16118 %* \textrtailr -> \tailr (wsuipa)
 16119 % U+027E LATIN SMALL LETTER R WITH FISHHOOK; rfishhook;
 16120 % \textfishhookr (tipa)
 16121 \DeclareTextCommand{\textfishhookr}{PU}{\82\176}% U+027E
 16122 %* \textfishhookr -> \flapr (wsuipa)
 16123 %* \textfishhookr -> \flap (phonetic)
 16124 % U+027F LATIN SMALL LETTER REVERSED R WITH FISHHOOK; rfish-
 hookreversed;
 16125 % \textlhtlongi (tipa)
 16126 \DeclareTextCommand{\textlhtlongi}{PU}{\82\177}% U+027F
 16127 % U+0280 LATIN LETTER SMALL CAPITAL R; \textscr (tipa), \scr (wsuipa)

16128 \DeclareTextCommand{\textscr}{PU}{\82\200}%* U+0280
16129 % U+0281 LATIN LETTER SMALL CAPITAL INVERTED R; Rsmallinverted;
16130 % \textinvscr (tipa), \invscr (wsuipa)
16131 \DeclareTextCommand{\textinvscr}{PU}{\82\201}%* U+0281
16132 % U+0282 LATIN SMALL LETTER S WITH HOOK; shook; \textrtails (tipa)
16133 \DeclareTextCommand{\textrtails}{PU}{\82\202}% U+0282
16134 %* \textrtails -> \tails (wsuipa)
16135 % U+0283 LATIN SMALL LETTER ESH; esh; \textesh (tipa), \esh (wsuipa)
16136 \DeclareTextCommand{\textesh}{PU}{\82\203}%* U+0283
16137 % U+0284 LATIN SMALL LETTER DOTLESS J WITH STROKE AND HOOK;
16138 % dotlessjstrokehook; \texthtbardotlessj (tipa)
16139 \DeclareTextCommand{\texthtbardotlessj}{PU}{\82\204}% U+0284
16140 % U+0285 LATIN SMALL LETTER SQUAT REVERSED ESH; eshsquatre-
versed;
16141 % \textvibyi (tipa)
16142 \DeclareTextCommand{\textvibyi}{PU}{\82\205}% U+0285
16143 % U+0286 LATIN SMALL LETTER ESH WITH CURL; eshcurl; \textctesh (tipa)
16144 \DeclareTextCommand{\textctesh}{PU}{\82\206}% U+0286
16145 %* \textctesh -> \curlyesh (wsuipa)
16146 % U+0287 LATIN SMALL LETTER TURNED T; tturned; \textturnt (tipa)
16147 \DeclareTextCommand{\textturnt}{PU}{\82\207}% U+0287
16148 %* \textturnt -> \clickt (wsuipa)
16149 % U+0288 LATIN SMALL LETTER T WITH RETROFLEX HOOK; retroflex-
hook;
16150 % \textrtailt (tipa)
16151 \DeclareTextCommand{\textrtailt}{PU}{\82\210}% U+0288
16152 %* \textrtailt -> \tailt (wsuipa)
16153 % U+0289 LATIN SMALL LETTER U BAR; ubar;
16154 % \textbaru (tipa), \baru (wsuipa)
16155 \DeclareTextCommand{\textbaru}{PU}{\82\211}%* U+0289
16156 %* \textbaru -> \ubar (phonetic)
16157 % U+028A LATIN SMALL LETTER UPSILON; \niupsilon (wsuipa)
16158 \DeclareTextCommand{\textniupsilon}{PU}{\82\212}%* U+028A
16159 %* \textniupsilon -> \rotOmega (phonetic)
16160 % U+028B LATIN SMALL LETTER V WITH HOOK/LATIN SMALL LET-
TER SCRIPT V;
16161 % vhook; \textscriptv (tipa), \scriptv (wsuipa)
16162 \DeclareTextCommand{\textscriptv}{PU}{\82\213}%* U+028B
16163 % U+028C LATIN SMALL LETTER TURNED V; vturned; \textturnv (tipa)
16164 \DeclareTextCommand{\textturnv}{PU}{\82\214}%* U+028C
16165 %* \textturnv -> \invv (wsuipa)
16166 %* \textturnv -> \pwedge (phonetic)
16167 % U+028D LATIN SMALL LETTER TURNED W; wturned; \textturnw (tipa)
16168 \DeclareTextCommand{\textturnw}{PU}{\82\215}%* U+028D
16169 %* \textturnw -> \invw (wsuipa)
16170 %* \textturnw -> \rotw (phonetic)
16171 % U+028E LATIN SMALL LETTER TURNED Y; yturned; \textturny (tipa)
16172 \DeclareTextCommand{\textturny}{PU}{\82\216}%* U+028E
16173 %* \textturny -> \invy (wsuipa)
16174 %* \textturny -> \roty (phonetic)
16175 % U+028F LATIN LETTER SMALL CAPITAL Y; \textscy (tipa), \scy (wsuipa)
16176 \DeclareTextCommand{\textscy}{PU}{\82\217}%* U+028F
16177 % U+0290 LATIN SMALL LETTER Z WITH RETROFLEX HOOK; zretroflex-
hook;

16178 % \texttrtailz (tipa)
16179 \DeclareTextCommand{\texttrtailz}{PU}{\82\220}% U+0290
16180 %* \texttrtailz -> \tailz (wsuipa)
16181 % U+0291 LATIN SMALL LETTER Z WITH CURL; zcurl; \textctz (tipa)
16182 \DeclareTextCommand{\textctz}{PU}{\82\221}% U+0291
16183 %* \textctz -> \curlyz (wsuipa)
16184 % U+0292 LATIN SMALL LETTER EZH/LATIN SMALL LETTER YOGH; ezh;
16185 % \textyogh (tipa), \yogh (wsuipa)
16186 \DeclareTextCommand{\textyogh}{PU}{\82\222}%* U+0292
16187 % U+0293 LATIN SMALL LETTER EZH WITH CURL/LATIN SMALL LETTER YOGH CURL;
16188 % ezhcurl; \textctyogh (tipa)
16189 \DeclareTextCommand{\textctyogh}{PU}{\82\223}% U+0293
16190 %* \textctyogh -> \curlyyogh (wsuipa)
16191 % U+0294 LATIN LETTER GLOTTAL STOP; glottalstop;
16192 % \textglotstop (tipa), \glotstop (wsuipa)
16193 \DeclareTextCommand{\textglotstop}{PU}{\82\224}%* U+0294
16194 %* \textglotstop -> \ejective (wsuipa)
16195 %* \textglotstop -> \glottal (phonetic)
16196 % U+0295 LATIN LETTER PHARYNGEAL VOICED FRICATIVE/
16197 % LATIN LETTER REVERSED GLOTTAL STOP; glottalstopreversed;
16198 % \textrevglotstop (tipa), \revglotstop (wsuipa)
16199 \DeclareTextCommand{\textrevglotstop}{PU}{\82\225}%* U+0295
16200 %* \textrevglotstop -> \reveject (wsuipa)
16201 % U+0296 LATIN LETTER INVERTED GLOTTAL STOP; glottalstopinverted;
16202 % \textinvglotstop (tipa), \invglotstop (wsuipa)
16203 \DeclareTextCommand{\textinvglotstop}{PU}{\82\226}%* U+0296
16204 % U+0297 LATIN LETTER STRETCHED C; cstretched; \textstretchc (tipa)
16205 \DeclareTextCommand{\textstretchc}{PU}{\82\227}% U+0297
16206 %* \textstretchc -> \clickc (wsuipa)
16207 %* \textstretchc -> \textstretchcvar (tipx)
16208 % U+0298 LATIN LETTER BILABIAL CLICK; bilabialclick;
16209 % \textbullseye (tipa)
16210 \DeclareTextCommand{\textbullseye}{PU}{\82\230}% U+0298
16211 %* \textbullseye -> \clickb (wsuipa)
16212 %* \textbullseye -> \textObullseye (tipx)
16213 % U+0299 LATIN LETTER SMALL CAPITAL B; \textscb (tipa)
16214 \DeclareTextCommand{\textscb}{PU}{\82\231}% U+0299
16215 % U+029A LATIN SMALL LETTER CLOSED OPEN E; eopenenclosed;
16216 % \textcloseepsilon (tipa)
16217 \DeclareTextCommand{\textcloseepsilon}{PU}{\82\232}% U+029A
16218 % U+029B LATIN LETTER SMALL CAPITAL G WITH HOOK; Gsmallhook;
16219 % \texthtscg (tipa)
16220 \DeclareTextCommand{\texthtscg}{PU}{\82\233}% U+029B
16221 % U+029C LATIN LETTER SMALL CAPITAL H; \textsch (tipa)
16222 \DeclareTextCommand{\textsch}{PU}{\82\234}% U+029C
16223 % U+029D LATIN SMALL LETTER J WITH CROSSED-TAIL; jcrossetail;
16224 \DeclareTextCommand{\textctj}{PU}{\82\235}% U+029D
16225 %* \textctj -> \textctjvar (tipx)
16226 % U+029E LATIN SMALL LETTER TURNED K; kturned; \textturnk (tipa)
16227 \DeclareTextCommand{\textturnk}{PU}{\82\236}% U+029E
16228 %* \textturnk -> \textturnksck (tipx)
16229 % U+029F LATIN LETTER SMALL CAPITAL L; \textscL (tipa)

16230 \DeclareTextCommand{\textscsl}{PU}{\82\237}% U+029F
 16231 % U+02A0 LATIN SMALL LETTER Q WITH HOOK; qhook; \texthtq (tipa)
 16232 \DeclareTextCommand{\texthtq}{PU}{\82\240}% U+02A0
 16233 % U+02A1 LATIN LETTER GLOTTAL STOP WITH STROKE; glottalstop-
 stroke;
 16234 % \textbarglotstop (tipa)
 16235 \DeclareTextCommand{\textbarglotstop}{PU}{\82\241}% U+02A1
 16236 % U+02A2 LATIN LETTER REVERSED GLOTTAL STOP WITH STROKE/
 16237 % LATIN LETTER REVERSED GLOTTAL STOP BAR; glottalstopstrokere-
 versed;
 16238 % \textbarrevglotstop (tipa)
 16239 \DeclareTextCommand{\textbarrevglotstop}{PU}{\82\242}% U+02A2
 16240 % U+02A3 LATIN SMALL LETTER DZ DIGRAPH; dzaltone; \textdzlig (tipa)
 16241 \DeclareTextCommand{\textdzlig}{PU}{\82\243}% U+02A3
 16242 %* \textdzlig -> \dz (wsupipa)
 16243 % U+02A4 LATIN SMALL LETTER DEZH DIGRAPH; dezh; \textdyogh-
 lig (tipa)
 16244 \DeclareTextCommand{\textdyoghlig}{PU}{\82\244}% U+02A4
 16245 % U+02A5 LATIN SMALL LETTER DZ DIGRAPH WITH CURL; dzcurl;
 16246 % \textdctzlig (tipa)
 16247 \DeclareTextCommand{\textdctzlig}{PU}{\82\245}% U+02A5
 16248 % U+02A6 LATIN SMALL LETTER TS DIGRAPH; ts; \texttslig (tipa)
 16249 \DeclareTextCommand{\texttslig}{PU}{\82\246}% U+02A6
 16250 % U+02A7 LATIN SMALL LETTER TESH DIGRAPH; tesh; \texttshlig (tipa)
 16251 \DeclareTextCommand{\texttshlig}{PU}{\82\247}% U+02A7
 16252 %* \texttshlig -> \tesh (wsuipa)
 16253 % U+02A8 LATIN SMALL LETTER TC DIGRAPH WITH CURL; tccurl;
 16254 % \texttctclig (tipa)
 16255 \DeclareTextCommand{\texttctclig}{PU}{\82\250}% U+02A8
 16256 % U+02AE LATIN SMALL LETTER TURNED H WITH FISHHOOK;
 16257 % \textlhtlongy (tipa)
 16258 \DeclareTextCommand{\textlhtlongy}{PU}{\82\256}% U+02AE
 16259 % U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;
 16260 % \textvibyy (tipa)
 16261 \DeclareTextCommand{\textvibyy}{PU}{\82\257}% U+02AF

47.2.7 Spacing Modifier Letters: U+02B0 to U+02FF

16262 % U+02BD MODIFIER LETTER REVERSED COMMA;
 16263 % commareversedmod, afii64937; \textrevapostrophe (tipa)
 16264 \DeclareTextCommand{\textrevapostrophe}{PU}{\82\275}% U+02BD
 16265 % U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;
 16266 % \textraiseglotstop (tipa)
 16267 \DeclareTextCommand{\textraiseglotstop}{PU}{\82\300}% U+02C0
 16268 % U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;
 16269 % \textlptr (tipa)
 16270 \DeclareTextCommand{\textlptr}{PU}{\82\302}% U+02C2
 16271 % U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;
 16272 % \textrptr (tipa)
 16273 \DeclareTextCommand{\textrptr}{PU}{\82\303}% U+02C3
 16274 % U+02C7 CARON; caron
 16275 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 16276 % U+02C8 MODIFIER LETTER VERTICAL LINE; verticallinemod;
 16277 % \textprimstress (tipa)
 16278 \DeclareTextCommand{\textprimstress}{PU}{\82\310}% U+02C8

```

16279 % U+02CC MODIFIER LETTER LOW VERTICAL LINE; verticallinelowmod;
16280 % \textsecstress (tipa)
16281 \DeclareTextCommand{\textsecstress}{PU}{\82\314}% U+02CC
16282 % U+02D0 MODIFIER LETTER TRIANGULAR COLON; colontriangularmod;
16283 % \textlengthmark (tipa)
16284 \DeclareTextCommand{\textlengthmark}{PU}{\82\320}% U+02D0
16285 % U+02D1 MODIFIER LETTER HALF TRIANGULAR COLON; colontriangu-
    larhalfmod;
16286 % \texthalflength (tipa)
16287 \DeclareTextCommand{\texthalflength}{PU}{\82\321}% U+02D1
16288 % U+02D8 BREVE; breve
16289 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
16290 % U+02D9 DOT ABOVE; dotaccent
16291 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
16292 % U+02DA RING ABOVE; ring
16293 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
16294 % U+02DB OGONEK; ogonek
16295 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
16296 % U+02DC SMALL TILDE; ilde, *tilde
16297 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
16298 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
16299 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
16300 \DeclareTextCommand{\textacutedbl}{PU}{\82\335}% U+02DD
16301 % U+02F3 MODIFIER LETTER LOW RING
16302 \DeclareTextCommand{\textringlow}{PU}{\82\363}% U+02F3
16303 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
16304 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
16305 % U+02F7 MODIFIER LETTER LOW TILDE
16306 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7
16307 % U+02F9 MODIFIER LETTER BEGIN HIGH TONE; \textopencorner (tipa)
16308 \DeclareTextCommand{\textopencorner}{PU}{\82\371}% U+02F9
16309 % U+02FA MODIFIER LETTER END HIGH TONE; \textcorner (tipa)
16310 \DeclareTextCommand{\textcorner}{PU}{\82\372}% U+02FA

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47.2.8 Combining Diacritical Marks: U+0300 to U+036F

```

16311 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
16312 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
16313 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
16314 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
16315 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
16316 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
16317 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
16318 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
16319 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-
    blecmb
16320 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

```

47.2.9 Greek and Coptic: U+0370 to U+03FF

Greek is only loaded if \textBeta is defined.

```

16321 \ifx\textBeta\@undefined \else
16322 \input{puenc-greek.def}
16323 \fi
16324 \</puenc>

```

47.2.10 Cyrillic: U+0400 to U+04FF

Thanks to Vladimir Volovich (vvv@vvv.vsu.ru) for the help with the Cyrillic glyph names. Cyrillic only loaded if \CYRDZE is defined.

```
16325 (*puenc)
16326 \ifx\CYRDZE\@undefined \else
16327 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
16328 \DeclareTextCompositeCommand{\`}{PU}{\CYRE}{\84\000}% U+0400
16329 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrrilic, *afii10023
16330 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
16331 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% U+0401
16332 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
16333 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
16334 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
16335 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
16336 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrrilic, *afii10053
16337 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
16338 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
16339 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
16340 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I;
16341 % Icyrrilic, *afii10055
16342 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
16343 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrrilic, *afii10056
16344 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
16345 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407
16346 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
16347 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
16348 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
16349 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
16350 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
16351 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
16352 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
16353 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
16354 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
16355 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
16356 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
16357 \DeclareTextCompositeCommand{\`}{PU}{\CYRI}{\84\015}% U+040D
16358 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrrilic, *afii10062
16359 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
16360 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
16361 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrrilic, *afii10145
16362 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
16363 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
16364 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
16365 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
16366 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
16367 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
16368 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
16369 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
16370 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
16371 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
16372 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
16373 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
16374 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
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16375 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
 16376 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
 16377 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
 16378 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
 16379 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
 16380 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
 16381 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
 16382 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
 16383 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
 16384 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
 16385 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
 16386 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
 16387 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
 16388 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
 16389 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
 16390 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
 16391 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
 16392 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
 16393 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
 16394 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
 16395 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
 16396 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
 16397 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
 16398 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
 16399 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
 16400 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
 16401 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
 16402 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
 16403 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
 16404 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
 16405 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
 16406 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
 16407 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
 16408 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
 16409 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
 16410 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
 16411 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
 16412 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
 16413 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
 16414 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
 16415 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
 16416 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN;
 16417 % Hardsigncyrillic, *afii10044
 16418 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
 16419 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
 16420 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
 16421 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN;
 16422 % Softsigncyrillic, *afii10046
 16423 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
 16424 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047
 16425 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
 16426 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
 16427 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
 16428 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049

16429 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
16430 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
16431 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
16432 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
16433 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
16434 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
16435 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
16436 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
16437 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433
16438 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
16439 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
16440 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
16441 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
16442 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhecyrillic
16443 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436
16444 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
16445 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
16446 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic
16447 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
16448 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
16449 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
16450 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
16451 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
16452 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
16453 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
16454 \DeclareTextCommand{\cyl}{PU}{\84\073}% U+043B
16455 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
16456 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C
16457 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
16458 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
16459 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
16460 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
16461 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
16462 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
16463 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
16464 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440
16465 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
16466 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441
16467 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
16468 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442
16469 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
16470 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443
16471 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
16472 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444
16473 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
16474 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445
16475 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
16476 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446
16477 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
16478 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447
16479 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
16480 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448
16481 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic
16482 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449

16483 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyril-
 lic
 16484 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A
 16485 %* \cyrhrdsn -> \hardsign (tipa)
 16486 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
 16487 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B
 16488 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
 16489 \DeclareTextCommand{\cyrstfn}{PU}{\84\114}% U+044C
 16490 %* \cyrstfn -> \softsign (tipa)
 16491 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
 16492 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D
 16493 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
 16494 \DeclareTextCommand{\cyrju}{PU}{\84\116}% U+044E
 16495 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
 16496 \DeclareTextCommand{\cyrja}{PU}{\84\117}% U+044F
 16497 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
 16498 \DeclareTextCompositeCommand{\`}{PU}{\cyrj}{\84\120}% U+0450
 16499 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic
 16500 \DeclareTextCommand{\cyrjo}{PU}{\84\121}% U+0451
 16501 \DeclareTextCompositeCommand{\'}{PU}{\cyrj}{\84\121}% U+0451
 16502 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
 16503 \DeclareTextCommand{\cyrjde}{PU}{\84\122}% U+0452
 16504 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
 16505 \DeclareTextCompositeCommand{\'}{PU}{\cyrj}{\84\123}% U+0453
 16506 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
 16507 \DeclareTextCommand{\cyrje}{PU}{\84\124}% U+0454
 16508 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
 16509 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455
 16510 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I;
 16511 % *afii10103, icyrillic
 16512 \DeclareTextCommand{\cyrji}{PU}{\84\126}% U+0456
 16513 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic
 16514 \DeclareTextCommand{\cyrji}{PU}{\84\127}% U+0457
 16515 \DeclareTextCompositeCommand{\'}{PU}{\cyrji}{\84\127}% U+0457
 16516 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
 16517 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458
 16518 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
 16519 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459
 16520 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
 16521 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A
 16522 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
 16523 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B
 16524 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
 16525 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C
 16526 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
 16527 \DeclareTextCompositeCommand{\`}{PU}{\cyrj}{\84\135}% U+045D
 16528 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
 16529 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
 16530 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
 16531 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
 16532 \DeclareTextCommand{\cyrdze}{PU}{\84\137}% U+045F
 16533 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
 16534 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
 16535 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic

16536 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
 16537 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
 16538 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
 16539 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
 16540 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463
 16541 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic
 16542 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
 16543 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic
 16544 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
 16545 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic
 16546 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
 16547 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic
 16548 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
 16549 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittlei-
 otifiedcyrillic
 16550 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
 16551 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittlei-
 otifiedcyrillic
 16552 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
 16553 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
 16554 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
 16555 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
 16556 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
 16557 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-
 cyrillic
 16558 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
 16559 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-
 cyrillic
 16560 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
 16561 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
 16562 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
 16563 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
 16564 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
 16565 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
 16566 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
 16567 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
 16568 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
 16569 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
 16570 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
 16571 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
 16572 \DeclareTextCommand{\cyrfta}{PU}{\84\163}% U+0473
 16573 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
 16574 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
 16575 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
 16576 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
 16577 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE
 GRAVE ACCENT; Izhitsadblgravecyrillic
 16578 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\166}% U+0476
 16580 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE
 GRAVE ACCENT; izhitsadblgravecyrillic
 16582 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
 16583 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
 16584 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
 16585 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic

16586 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
 16587 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic
 16588 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
 16589 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
 16590 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
 16591 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic
 16592 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
 16593 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic
 16594 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
 16595 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
 16596 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
 16597 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
 16598 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
 16599 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
 16600 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
 16601 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
 16602 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
 16603 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic
 16604 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrillicmb
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalizationcyrillicmb
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrillicmb
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumatacyrillicmb
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN
 16605 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 16606 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 16607 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 16608 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 16609 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
 16610 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
 16611 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
 16612 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
 16613 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
 16614 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
 16615 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
 16616 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
 16617 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturncyrillic, *afii10050
 16618 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
 16619 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, gheupturncyrillic
 16620 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
 16621 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestrokecyrillic
 16622 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492

16623 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
 16624 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
 16625 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK;
 16626 % Ghemiddlehookcyrillic
 16627 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
 16628 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK;
 16629 % ghemiddlehookcyrillic
 16630 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
 16631 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER;
 16632 % Zhedescendercyrillic
 16633 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
 16634 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER;
 16635 % zhedescendercyrillic
 16636 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
 16637 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-
 dercyrillic
 16638 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
 16639 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
 16640 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-
 cyrillic
 16641 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499
 16642 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
 16643 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-
 dercyrillic
 16644 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
 16645 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescen-
 dercyrillic
 16646 \DeclareTextCommand{\cyrkdsc}{PU}{\84\233}% U+049B
 16647 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE;
 16648 % Kavertikalstrokecyrillic
 16649 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
 16650 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE;
 16651 % kavertikalstrokecyrillic
 16652 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
 16653 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
 16654 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
 16655 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
 16656 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F
 16657 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
 16658 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
 16659 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
 16660 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
 16661 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescen-
 dercyrillic
 16662 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
 16663 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-
 cyrillic
 16664 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
 16665 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
 16666 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
 16667 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
 16668 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
 16669 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemid-
 dlehookcyrillic

16670 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
 16671 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic
 16672 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
 16673 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic
 16674 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
 16675 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
 16676 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
 16677 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic
 16678 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
 16679 \DeclareTextCompositeCommand{\k}{PU}{\CYRS}{\84\252}% U+04AA
 16680 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic
 16681 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
 16682 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB
 16683 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic
 16684 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
 16685 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic
 16686 \DeclareTextCommand{\cyrtasc}{PU}{\84\255}% U+04AD
 16687 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
 16688 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
 16689 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
 16690 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF
 16691 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic
 16692 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
 16693 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; usstraightstrokecyrillic
 16694 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1
 16695 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesdescendercyrillic
 16696 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
 16697 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic
 16698 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3
 16699 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
 16700 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
 16701 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
 16702 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5
 16703 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER;
 16704 % Chedescendercyrillic
 16705 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
 16706 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic
 16707 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7
 16708 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE;
 16709 % Cheverticalstrokecyrillic
 16710 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
 16711 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE;
 16712 % cheverticalstrokecyrillic

16713 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
 16714 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
 16715 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
 16716 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
 16717 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
 16718 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-cyrillic
 16719 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
 16720 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic
 16721 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
 16722 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic
 16723 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
 16724 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
 16725 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic
 16726 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF
 16727 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
 16728 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
 16729 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
 16730 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
 16731 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
 16732 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
 16733 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2
 16734 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
 16735 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
 16736 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
 16737 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
 16738 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
 16739 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
 16740 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
 16741 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6
 16742 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
 16743 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
 16744 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
 16745 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
 16746 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassiancyrillic
 16747 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
 16748 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassiancyrillic
 16749 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
 16750 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
 16751 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
 16752 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
 16753 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
 \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
 16754 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic
 16755 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
 16756 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic
 16757 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
 16758 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic

16759 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2
 16760 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresis Cyrillic
 16761 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3
 16762 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aie Cyrillic
 16763 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
 16764 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aie Cyrillic
 16765 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
 16766 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrev Cyrillic
 16767 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
 16768 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrev Cyrillic
 16769 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
 16770 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schw Cyrillic
 16771 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
 16772 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schw Cyrillic
 16773 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9
 16774 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS;
 16775 % Schw adieresis Cyrillic
 16776 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA
 16777 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS;
 16778 % schw adieresis Cyrillic
 16779 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% U+04DB
 16780 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedie-
 16781 % resis Cyrillic
 16781 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC
 16782 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-
 16783 % Cyrillic
 16783 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% U+04DD
 16784 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-
 16785 % Cyrillic
 16785 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE
 16786 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresis Cyril-
 16787 % lic
 16787 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF
 16788 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dze abkhasian-
 16789 % Cyrillic
 16789 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
 16790 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dze abkhasian Cyril-
 16791 % lic
 16791 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
 16792 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacron Cyrillic
 16793 \DeclareTextCompositeCommand{=}{PU}{\CYRI}{\84\342}% U+04E2
 16794 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacron Cyrillic
 16795 \DeclareTextCompositeCommand{=}{PU}{\cyri}{\84\343}% U+04E3
 16796 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresis Cyrillic
 16797 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4
 16798 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresis Cyrillic
 16799 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5
 16800 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresis Cyril-
 16801 % lic
 16801 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6
 16802 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresis Cyrillic
 16803 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7
 16804 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarred Cyrillic
 16805 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8

16806 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic
 16807 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
 16808 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS;
 16809 % Obarreddieresiscyrillic
 16810 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA
 16811 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS;
 16812 % obarreddieresiscyrillic
 16813 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB
 16814 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
 16815 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC
 16816 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
 16817 \DeclareTextCompositeCommand{"}{PU}{\cyrerev}{\84\355}% U+04ED
 16818 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
 16819 \DeclareTextCompositeCommand{=}{PU}{\CYRU}{\84\356}% U+04EE
 16820 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
 16821 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% U+04EF
 16822 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic
 16823 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0
 16824 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic
 16825 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1
 16826 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic
 16827 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2
 16828 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic
 16829 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3
 16830 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic
 16831 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4
 16832 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic
 16833 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5
 16834 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
 16835 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
 16836 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
 16837 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
 16838 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic
 16839 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8
 16840 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic
 16841 \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
 16842 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
 16843 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
 16844 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
 16845 \DeclareTextCommand{\cyrrhk}{PU}{\84\375}% U+04FD
 16846 \fi
 \84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE

\84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

47.2.11 Hebrew: U+0590 to U+05FF

Macro names are taken from `he8enc.def`. `hebrew` is only loaded if `\hebdalet` is defined

```
16847 \ifx\hebdalet\@undefined\else
16848 % U+05C3 HEBREW PUNCTUATION SOF PASUQ
16849 \DeclareTextCommand{\sofpasuq}{PU}{\85\303}% U+05C3
16850 % U+05D0 HEBREW LETTER ALEF
16851 \DeclareTextCommand{\hebalef}{PU}{\85\320}% U+05D0
16852 % U+05D1 HEBREW LETTER BET
16853 \DeclareTextCommand{\hebbet}{PU}{\85\321}% U+05D1
16854 % U+05D2 HEBREW LETTER GIMEL
16855 \DeclareTextCommand{\hebgimel}{PU}{\85\322}% U+05D2
16856 % U+05D3 HEBREW LETTER DALET
16857 \DeclareTextCommand{\hebdalet}{PU}{\85\323}% U+05D3
16858 % U+05D4 HEBREW LETTER HE
16859 \DeclareTextCommand{\hebhe}{PU}{\85\324}% U+05D4
16860 % U+05D5 HEBREW LETTER VAV
16861 \DeclareTextCommand{\hebvav}{PU}{\85\325}% U+05D5
16862 % U+05D6 HEBREW LETTER ZAYIN
16863 \DeclareTextCommand{\hebzayin}{PU}{\85\326}% U+05D6
16864 % U+05D7 HEBREW LETTER HET
16865 \DeclareTextCommand{\hebbhet}{PU}{\85\327}% U+05D7
16866 % U+05D8 HEBREW LETTER TET
16867 \DeclareTextCommand{\hebtet}{PU}{\85\330}% U+05D8
16868 % U+05D9 HEBREW LETTER YOD
16869 \DeclareTextCommand{\hebyod}{PU}{\85\331}% U+05D9
16870 % U+05DA HEBREW LETTER FINAL KAF
16871 \DeclareTextCommand{\hebfinalkaf}{PU}{\85\332}% U+05DA
16872 % U+05DB HEBREW LETTER KAF
16873 \DeclareTextCommand{\hebkaf}{PU}{\85\333}% U+05DB
16874 % U+05DC HEBREW LETTER LAMED
16875 \DeclareTextCommand{\heblamed}{PU}{\85\334}% U+05DC
16876 % U+05DD HEBREW LETTER FINAL MEM
16877 \DeclareTextCommand{\hebfinalmem}{PU}{\85\335}% U+05DD
16878 % U+05DE HEBREW LETTER MEM
16879 \DeclareTextCommand{\hebmeme}{PU}{\85\336}% U+05DE
16880 % U+05DF HEBREW LETTER FINAL NUN
16881 \DeclareTextCommand{\hebfinalnun}{PU}{\85\337}% U+05DF
16882 % U+05E0 HEBREW LETTER NUN
16883 \DeclareTextCommand{\hebnun}{PU}{\85\340}% U+05E0
16884 % U+05E1 HEBREW LETTER SAMEKH
16885 \DeclareTextCommand{\hebsamekh}{PU}{\85\341}% U+05E1
16886 % U+05E2 HEBREW LETTER AYIN
16887 \DeclareTextCommand{\hebayin}{PU}{\85\342}% U+05E2
16888 % U+05E3 HEBREW LETTER FINAL PE
16889 \DeclareTextCommand{\hebfinalpe}{PU}{\85\343}% U+05E3
16890 % U+05E4 HEBREW LETTER PE
16891 \DeclareTextCommand{\hebpe}{PU}{\85\344}% U+05E4
16892 % U+05E5 HEBREW LETTER FINAL TSADI
16893 \DeclareTextCommand{\hebfinaltsadi}{PU}{\85\345}% U+05E5
16894 % U+05E6 HEBREW LETTER TSADI
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16895 \DeclareTextCommand{\hebtsadi}{PU}{\85\346}% U+05E6
16896 % U+05E7 HEBREW LETTER QOF
16897 \DeclareTextCommand{\hebqof}{PU}{\85\347}% U+05E7
16898 % U+05E8 HEBREW LETTER RESH
16899 \DeclareTextCommand{\hebresh}{PU}{\85\350}% U+05E8
16900 % U+05E9 HEBREW LETTER SHIN
16901 \DeclareTextCommand{\hebshin}{PU}{\85\351}% U+05E9
16902 %* \hebshin -> \hebsin (he8)
16903 % U+05EA HEBREW LETTER TAV
16904 \DeclareTextCommand{\hebtav}{PU}{\85\352}% U+05EA
16905 % U+05F0 HEBREW LIGATURE YIDDISH DOUBLE VAV
16906 \DeclareTextCommand{\doublevav}{PU}{\85\360}% U+05F0
16907 % U+05F1 HEBREW LIGATURE YIDDISH VAV YOD
16908 \DeclareTextCommand{\vavyod}{PU}{\85\361}% U+05F1
16909 % U+05F2 HEBREW LIGATURE YIDDISH DOUBLE YOD
16910 \DeclareTextCommand{\doubleyod}{PU}{\85\362}% U+05F2
16911 \fi

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47.2.12 Thai: U+0E00 to U+0E7F

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16912 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
16913 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

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47.2.13 Phonetic Extensions: U+1D00 to U+1D7F

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16914 % U+1D00 LATIN LETTER SMALL CAPITAL A; \textscA (tipa)
16915 \DeclareTextCommand{\textscA}{PU}{\9035\000}% U+1D00
16916 % U+1D05 LATIN LETTER SMALL CAPITAL D; \scd (wsuipa)
16917 \DeclareTextCommand{\textscD}{PU}{\9035\005}%* U+1D05
16918 % U+1D07 LATIN LETTER SMALL CAPITAL E; \textscE (tipa)
16919 \DeclareTextCommand{\textscE}{PU}{\9035\007}% U+1D07
16920 % U+1D0A LATIN LETTER SMALL CAPITAL J; \textscJ (tipa)
16921 \DeclareTextCommand{\textscJ}{PU}{\9035\012}% U+1D0A
16922 % U+1D0B LATIN LETTER SMALL CAPITAL K; \textscK (tipx)
16923 \DeclareTextCommand{\textPUscK}{PU}{\9035\013}% U+1D0B
16924 %* \textPUscK -> \textscK (tipx)
16925 % U+1D0D LATIN LETTER SMALL CAPITAL M; \textscM (tipx)
16926 \DeclareTextCommand{\textPUscM}{PU}{\9035\015}% U+1D0D
16927 %* \textPUscM -> \textscM (tipx)
16928 % U+1D18 LATIN LETTER SMALL CAPITAL P; \textscP (tipx)
16929 \DeclareTextCommand{\textPUscP}{PU}{\9035\030}% U+1D18
16930 %* \textPUscP -> \textscP (tipx)
16931 % U+1D19 LATIN LETTER SMALL CAPITAL REVERSED R; \textrevscr (tipx)
16932 \DeclareTextCommand{\textPUrevscr}{PU}{\9035\031}% U+1D19
16933 %* \textPUrevscr -> \textrevscr (tipx)
16934 % U+1D1C LATIN LETTER SMALL CAPITAL U; \textscU (tipa), \scu (wsuipa)
16935 \DeclareTextCommand{\textscU}{PU}{\9035\034}%* U+1D1C
16936 % U+1D62 LATIN SUBSCRIPT SMALL LETTER I
16937 \DeclareTextCommand{\textiiinferior}{PU}{\9035\142}%* U+1D62
16938 % U+1D63 LATIN SUBSCRIPT SMALL LETTER R
16939 \DeclareTextCommand{\textriinferior}{PU}{\9035\143}%* U+1D63
16940 % U+1D64 LATIN SUBSCRIPT SMALL LETTER U
16941 \DeclareTextCommand{\textuiinferior}{PU}{\9035\144}%* U+1D64
16942 % U+1D65 LATIN SUBSCRIPT SMALL LETTER V
16943 \DeclareTextCommand{\textvinferior}{PU}{\9035\145}%* U+1D65

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16944 % U+1D66 GREEK SUBSCRIPT SMALL LETTER BETA
 16945 \DeclareTextCommand{\textbetainferior}{PU}{\9035\146}%* U+1D66
 16946 % U+1D67 GREEK SUBSCRIPT SMALL LETTER GAMMA
 16947 \DeclareTextCommand{\textgammainferior}{PU}{\9035\147}%* U+1D67
 16948 % U+1D68 GREEK SUBSCRIPT SMALL LETTER RHO
 16949 \DeclareTextCommand{\textrhoinferior}{PU}{\9035\150}%* U+1D68
 16950 % U+1D69 GREEK SUBSCRIPT SMALL LETTER PHI
 16951 \DeclareTextCommand{\textphiinferior}{PU}{\9035\151}%* U+1D69
 16952 % U+1D6A GREEK SUBSCRIPT SMALL LETTER CHI
 16953 \DeclareTextCommand{\textchiinferior}{PU}{\9035\152}%* U+1D6A
 16954 % U+1D7B LATIN SMALL CAPITAL LETTER I WITH STROKE;
 16955 % \barsci (wsuipa)
 16956 \DeclareTextCommand{\textbarsci}{PU}{\9035\173}%* U+1D7B
 16957 % U+1D7D LATIN SMALL LETTER P WITH STROKE; \barp (wsuipa)
 16958 \DeclareTextCommand{\textbarp}{PU}{\9035\175}%* U+1D7D
 16959 % U+1D7E LATIN SMALL CAPITAL LETTER U WITH STROKE;
 16960 % \barscu (wsuipa)
 16961 \DeclareTextCommand{\textbarscu}{PU}{\9035\176}%* U+1D7E

47.2.14 Phonetic Extensions Supplement: U+1D80 to U+1DBF

16962 % U+1D8F LATIN SMALL LETTER A WITH RETROFLEX HOOK; \tex-
 trhooka (tipx)
 16963 \DeclareTextCommand{\textPURhooka}{PU}{\9035\217}% U+1D8F
 16964 %* \textPURhooka -> \textrhooka (tipx)
 16965 % U+1D91 LATIN SMALL LETTER D WITH HOOK AND TAIL; \texthtr-
 taild (tipa)
 16966 \DeclareTextCommand{\texthtrtaild}{PU}{\9035\221}%* U+1D91
 16967 % U+1D92 LATIN SMALL LETTER E WITH RETROFLEX HOOK; \tex-
 trhooke (tipx)
 16968 \DeclareTextCommand{\textPURhooke}{PU}{\9035\222}% U+1D92
 16969 %* \textPURhooke -> \textrhooke (tipx)
 16970 % U+1D93 LATIN SMALL LETTER OPEN E WITH RETROFLEX HOOK;
 16971 % \textrhookepsilon (tipx)
 16972 \DeclareTextCommand{\textPURhookepsilon}{PU}{\9035\223}% U+1D93
 16973 %* \textPURhookepsilon -> \textrhookepsilon (tipx)
 16974 % U+1D97 LATIN SMALL LETTER OPEN O WITH RETROFLEX HOOK;
 16975 % \textrhookopeno (tipx)
 16976 \DeclareTextCommand{\textPURhookopeno}{PU}{\9035\227}% U+1D97
 16977 %* \textPURhookopeno -> \textrhookopeno (tipx)

47.2.15 Latin Extended Additional: U+1E00 to U+1EFF

16978 % U+1E00 LATIN CAPITAL LETTER A WITH RING BELOW; Aringbelow
 16979 \DeclareTextCompositeCommand{\textsubring}{PU}{A}{\9036\000}% U+1E00
 16980 % U+1E01 LATIN SMALL LETTER A WITH RING BELOW; aringbelow
 16981 \DeclareTextCompositeCommand{\textsubring}{PU}{a}{\9036\001}% U+1E01
 16982 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
 16983 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02
 16984 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
 16985 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03
 16986 % U+1E04 LATIN CAPITAL LETTER B WITH DOT BELOW; Bdotbelow
 16987 \DeclareTextCompositeCommand{\d}{PU}{B}{\9036\004}% U+1E04
 16988 % U+1E05 LATIN SMALL LETTER B WITH DOT BELOW; bdotbelow
 16989 \DeclareTextCompositeCommand{\d}{PU}{b}{\9036\005}% U+1E05
 16990 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow

16991 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
16992 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
16993 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
16994 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
16995 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A
16996 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
16997 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B
16998 % U+1E0C LATIN CAPITAL LETTER D WITH DOT BELOW; Ddotbelow
16999 \DeclareTextCompositeCommand{\d}{PU}{D}{\9036\014}% U+1E0C
17000 % U+1E0D LATIN SMALL LETTER D WITH DOT BELOW; ddotbelow
17001 \DeclareTextCompositeCommand{\d}{PU}{d}{\9036\015}% U+1E0D
17002 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
17003 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
17004 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
17005 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
17006 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
17007 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
17008 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
17009 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
17010 % U+1E12 LATIN CAPITAL LETTER D WITH CIRCUMFLEX BELOW; Dcir-
cumflexbelow
17011 \DeclareTextCompositeCommand{\textsubcircum}{PU}{D}{\9036\022}% U+1E12
17012 % U+1E13 LATIN SMALL LETTER D WITH CIRCUMFLEX BELOW; dcir-
cumflexbelow
17013 \DeclareTextCompositeCommand{\textsubcircum}{PU}{d}{\9036\023}% U+1E13
17014 % U+1E14 LATIN CAPITAL LETTER E WITH MACRON AND GRAVE;
17015 % Emacrongrave
17016 \DeclareTextCompositeCommand{\textgravemacron}{PU}{E}{\9036\024}% U+1E14
17017 % U+1E15 LATIN SMALL LETTER E WITH MACRON AND GRAVE;
17018 % emacrongrave
17019 \DeclareTextCompositeCommand{\textgravemacron}{PU}{e}{\9036\025}% U+1E15
17020 % U+1E16 LATIN CAPITAL LETTER E WITH MACRON AND ACUTE;
17021 % Emacronacute
17022 \DeclareTextCompositeCommand{\textacutemacron}{PU}{E}{\9036\026}% U+1E16
17023 % U+1E17 LATIN SMALL LETTER E WITH MACRON AND ACUTE;
17024 % emacronacute
17025 \DeclareTextCompositeCommand{\textacutemacron}{PU}{e}{\9036\027}% U+1E17
17026 % U+1E18 LATIN CAPITAL LETTER E WITH CIRCUMFLEX BELOW; Ecir-
cumflexbelow
17027 \DeclareTextCompositeCommand{\textsubcircum}{PU}{E}{\9036\030}% U+1E18
17028 % U+1E19 LATIN SMALL LETTER E WITH CIRCUMFLEX BELOW; ecir-
cumflexbelow
17029 \DeclareTextCompositeCommand{\textsubcircum}{PU}{e}{\9036\031}% U+1E19
17030 % U+1E1A LATIN CAPITAL LETTER E WITH TILDE BELOW; Etildebelow
17031 \DeclareTextCompositeCommand{\textsubtilde}{PU}{E}{\9036\032}% U+1E1A
17032 % U+1E1B LATIN SMALL LETTER E WITH TILDE BELOW; etildebelow
17033 \DeclareTextCompositeCommand{\textsubtilde}{PU}{e}{\9036\033}% U+1E1B
17034 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
17035 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E
17036 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
17037 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F
17038 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
17039 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20
17040 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron

17041 \DeclareTextCompositeCommand{=} {PU}{g}{\9036\041}% U+1E21
17042 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
17043 \DeclareTextCompositeCommand{.} {PU}{H}{\9036\042}% U+1E22
17044 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
17045 \DeclareTextCompositeCommand{.} {PU}{h}{\9036\043}% U+1E23
17046 % U+1E24 LATIN CAPITAL LETTER H WITH DOT BELOW; Hdotbelow
17047 \DeclareTextCompositeCommand{d} {PU}{H}{\9036\044}% U+1E24
17048 % U+1E25 LATIN SMALL LETTER H WITH DOT BELOW; hdotbelow
17049 \DeclareTextCompositeCommand{d} {PU}{h}{\9036\045}% U+1E25
17050 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
17051 \DeclareTextCompositeCommand{"} {PU}{H}{\9036\046}% U+1E26
17052 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
17053 \DeclareTextCompositeCommand{"} {PU}{h}{\9036\047}% U+1E27
17054 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
17055 \DeclareTextCompositeCommand{c} {PU}{H}{\9036\050}% U+1E28
17056 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
17057 \DeclareTextCompositeCommand{c} {PU}{h}{\9036\051}% U+1E29
17058 % U+1E2A LATIN CAPITAL LETTER H WITH BREVE BELOW; Hbrevebelow
17059 \DeclareTextCompositeCommand{\textsubbreve} {PU}{H}{\9036\052}% U+1E2A
17060 % U+1E2B LATIN SMALL LETTER H WITH BREVE BELOW; hbrevebelow
17061 \DeclareTextCompositeCommand{\textsubbreve} {PU}{h}{\9036\053}% U+1E2B
17062 % U+1E2C LATIN CAPITAL LETTER I WITH TILDE BELOW; Itildebelow
17063 \DeclareTextCompositeCommand{\textsubtilde} {PU}{I}{\9036\054}% U+1E2C
17064 % U+1E2D LATIN SMALL LETTER I WITH TILDE BELOW; itildebelow
17065 \DeclareTextCompositeCommand{\textsubtilde} {PU}{i}{\9036\055}% U+1E2D
17066 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
17067 \DeclareTextCompositeCommand{'} {PU}{K}{\9036\060}% U+1E30
17068 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
17069 \DeclareTextCompositeCommand{'} {PU}{k}{\9036\061}% U+1E31
17070 % U+1E32 LATIN CAPITAL LETTER K WITH DOT BELOW; Kdotbelow
17071 \DeclareTextCompositeCommand{d} {PU}{K}{\9036\062}% U+1E32
17072 % U+1E33 LATIN SMALL LETTER K WITH DOT BELOW; kdotbelow
17073 \DeclareTextCompositeCommand{d} {PU}{k}{\9036\063}% U+1E33
17074 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
17075 \DeclareTextCompositeCommand{b} {PU}{K}{\9036\064}% U+1E34
17076 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
17077 \DeclareTextCompositeCommand{b} {PU}{k}{\9036\065}% U+1E35
17078 % U+1E36 LATIN CAPITAL LETTER L WITH DOT BELOW; Ldotbelow
17079 \DeclareTextCompositeCommand{d} {PU}{L}{\9036\066}% U+1E36
17080 % U+1E37 LATIN SMALL LETTER L WITH DOT BELOW; ldotbelow
17081 \DeclareTextCompositeCommand{d} {PU}{l}{\9036\067}% U+1E37
17082 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
17083 \DeclareTextCompositeCommand{b} {PU}{L}{\9036\072}% U+1E3A
17084 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
17085 \DeclareTextCompositeCommand{b} {PU}{l}{\9036\073}% U+1E3B
17086 % U+1E3C LATIN CAPITAL LETTER L WITH CIRCUMFLEX BELOW; Lcir-
cumflexbelow
17087 \DeclareTextCompositeCommand{\textsubcircum} {PU}{L}{\9036\074}% U+1E3C
17088 % U+1E3D LATIN SMALL LETTER L WITH CIRCUMFLEX BELOW; lcir-
cumflexbelow
17089 \DeclareTextCompositeCommand{\textsubcircum} {PU}{l}{\9036\075}% U+1E3D
17090 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
17091 \DeclareTextCompositeCommand{'} {PU}{M}{\9036\076}% U+1E3E
17092 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute

17093 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F
17094 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
17095 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40
17096 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
17097 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41
17098 % U+1E42 LATIN CAPITAL LETTER M WITH DOT BELOW; Mdotbelow
17099 \DeclareTextCompositeCommand{\d}{PU}{M}{\9036\102}% U+1E42
17100 % U+1E43 LATIN SMALL LETTER M WITH DOT BELOW; mdotbelow
17101 \DeclareTextCompositeCommand{\d}{PU}{m}{\9036\103}% U+1E43
17102 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
17103 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44
17104 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
17105 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45
17106 % U+1E46 LATIN CAPITAL LETTER N WITH DOT BELOW; Ndotbelow
17107 \DeclareTextCompositeCommand{\d}{PU}{N}{\9036\106}% U+1E46
17108 % U+1E47 LATIN SMALL LETTER N WITH DOT BELOW; ndotbelow
17109 \DeclareTextCompositeCommand{\d}{PU}{n}{\9036\107}% U+1E47
17110 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
17111 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48
17112 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
17113 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49
17114 % U+1E4A LATIN CAPITAL LETTER N WITH CIRCUMFLEX BELOW; Ncir-
cumflexbelow
17115 \DeclareTextCompositeCommand{\textsubcircum}{PU}{N}{\9036\112}% U+1E4A
17116 % U+1E4B LATIN SMALL LETTER N WITH CIRCUMFLEX BELOW; ncir-
cumflexbelow
17117 \DeclareTextCompositeCommand{\textsubcircum}{PU}{n}{\9036\113}% U+1E4B
17118 % U+1E50 LATIN CAPITAL LETTER O WITH MACRON AND GRAVE;
17119 % Omacrongrave
17120 \DeclareTextCompositeCommand{\textgravemacron}{PU}{O}{\9036\120}% U+1E50
17121 % U+1E51 LATIN SMALL LETTER O WITH MACRON AND GRAVE;
17122 % omacrongrave
17123 \DeclareTextCompositeCommand{\textgravemacron}{PU}{o}{\9036\121}% U+1E51
17124 % U+1E52 LATIN CAPITAL LETTER O WITH MACRON AND ACUTE;
17125 % Omacronacute
17126 \DeclareTextCompositeCommand{\textacutemacron}{PU}{O}{\9036\122}% U+1E52
17127 % U+1E53 LATIN SMALL LETTER O WITH MACRON AND ACUTE;
17128 % omacronacute
17129 \DeclareTextCompositeCommand{\textacutemacron}{PU}{o}{\9036\123}% U+1E53
17130 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
17131 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54
17132 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
17133 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55
17134 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
17135 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56
17136 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
17137 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57
17138 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
17139 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58
17140 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent
17141 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59
17142 % U+1E5A LATIN CAPITAL LETTER R WITH DOT BELOW; Rdotbelow
17143 \DeclareTextCompositeCommand{\d}{PU}{R}{\9036\132}% U+1E5A
17144 % U+1E5B LATIN SMALL LETTER R WITH DOT BELOW; rdotbelow

17145 \DeclareTextCompositeCommand{\d}{PU}{r}{\9036\133}% U+1E5B
17146 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
17147 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E
17148 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
17149 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F
17150 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
17151 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60
17152 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
17153 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61
17154 % U+1E62 LATIN CAPITAL LETTER S WITH DOT BELOW; Sdotbelow
17155 \DeclareTextCompositeCommand{\d}{PU}{S}{\9036\142}% U+1E62
17156 % U+1E63 LATIN SMALL LETTER S WITH DOT BELOW; sdotbelow
17157 \DeclareTextCompositeCommand{\d}{PU}{s}{\9036\143}% U+1E63
17158 % U+1E6A LATIN CAPITAL LETTER T WITH DOT ABOVE; Tdotaccent
17159 \DeclareTextCompositeCommand{\.}{PU}{T}{\9036\152}% U+1E6A
17160 % U+1E6B LATIN SMALL LETTER T WITH DOT ABOVE; tdotaccent
17161 \DeclareTextCompositeCommand{\.}{PU}{t}{\9036\153}% U+1E6B
17162 % U+1E6C LATIN CAPITAL LETTER T WITH DOT BELOW; Tdotbelow
17163 \DeclareTextCompositeCommand{\d}{PU}{T}{\9036\154}% U+1E6C
17164 % U+1E6D LATIN SMALL LETTER T WITH DOT BELOW; tdotbelow
17165 \DeclareTextCompositeCommand{\d}{PU}{t}{\9036\155}% U+1E6D
17166 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
17167 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
17168 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
17169 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
17170 % U+1E70 LATIN CAPITAL LETTER T WITH CIRCUMFLEX BELOW; Tcir-
cumflexbelow
17171 \DeclareTextCompositeCommand{\textsubcircum}{PU}{T}{\9036\160}% U+1E70
17172 % U+1E71 LATIN SMALL LETTER T WITH CIRCUMFLEX BELOW; tcir-
cumflexbelow
17173 \DeclareTextCompositeCommand{\textsubcircum}{PU}{t}{\9036\161}% U+1E71
17174 % U+1E72 LATIN CAPITAL LETTER U WITH DIAERESIS BELOW; Udiere-
sisbelow
17175 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{U}{\9036\162}% U+1E72
17176 % U+1E73 LATIN SMALL LETTER U WITH DIAERESIS BELOW; udiere-
sisbelow
17177 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{u}{\9036\163}% U+1E73
17178 % U+1E74 LATIN CAPITAL LETTER U WITH TILDE BELOW; Utildebelow
17179 \DeclareTextCompositeCommand{\textsubtilde}{PU}{U}{\9036\164}% U+1E74
17180 % U+1E75 LATIN SMALL LETTER U WITH TILDE BELOW; utildebelow
17181 \DeclareTextCompositeCommand{\textsubtilde}{PU}{u}{\9036\165}% U+1E75
17182 % U+1E76 LATIN CAPITAL LETTER U WITH CIRCUMFLEX BELOW; Ucir-
cumflexbelow
17183 \DeclareTextCompositeCommand{\textsubcircum}{PU}{U}{\9036\166}% U+1E76
17184 % U+1E77 LATIN SMALL LETTER U WITH CIRCUMFLEX BELOW; ucir-
cumflexbelow
17185 \DeclareTextCompositeCommand{\textsubcircum}{PU}{u}{\9036\167}% U+1E77
17186 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
17187 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
17188 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
17189 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
17190 % U+1E7E LATIN CAPITAL LETTER V WITH DOT BELOW; Vdotbelow
17191 \DeclareTextCompositeCommand{\d}{PU}{V}{\9036\176}% U+1E7E
17192 % U+1E7F LATIN SMALL LETTER V WITH DOT BELOW; vdotbelow

17193 \DeclareTextCompositeCommand{\d}{PU}{v}{\9036\177}% U+1E7F
17194 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
17195 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80
17196 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
17197 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81
17198 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
17199 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82
17200 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
17201 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83
17202 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
17203 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84
17204 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
17205 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85
17206 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
17207 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86
17208 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
17209 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87
17210 % U+1E88 LATIN CAPITAL LETTER W WITH DOT BELOW; wdotbelow
17211 \DeclareTextCompositeCommand{\d}{PU}{W}{\9036\210}% U+1E88
17212 % U+1E89 LATIN SMALL LETTER W WITH DOT BELOW; wdotbelow
17213 \DeclareTextCompositeCommand{\d}{PU}{w}{\9036\211}% U+1E89
17214 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
17215 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A
17216 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
17217 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B
17218 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
17219 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C
17220 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
17221 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D
17222 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
17223 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E
17224 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
17225 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F
17226 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
17227 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90
17228 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
17229 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91
17230 % U+1E92 LATIN CAPITAL LETTER Z WITH DOT BELOW; Zdotbelow
17231 \DeclareTextCompositeCommand{\d}{PU}{Z}{\9036\222}% U+1E92
17232 % U+1E93 LATIN SMALL LETTER Z WITH DOT BELOW; zdotbelow
17233 \DeclareTextCompositeCommand{\d}{PU}{z}{\9036\223}% U+1E93
17234 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
17235 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
17236 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
17237 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
17238 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
17239 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
17240 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
17241 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97
17242 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
17243 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
17244 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
17245 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
17246 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdo-

taccent

17247 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B

17248 % U+1EA0 LATIN CAPITAL LETTER A WITH DOT BELOW; Adotbelow

17249 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0

17250 % U+1EA1 LATIN SMALL LETTER A WITH DOT BELOW; adotbelow

17251 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1

17252 % U+1EB8 LATIN CAPITAL LETTER E WITH DOT BELOW; Edotbelow

17253 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8

17254 % U+1EB9 LATIN SMALL LETTER E WITH DOT BELOW; edotbelow

17255 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9

17256 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde

17257 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC

17258 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde

17259 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD

17260 % U+1ECA LATIN CAPITAL LETTER I WITH DOT BELOW; Idotbelow

17261 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA

17262 % U+1ECB LATIN SMALL LETTER I WITH DOT BELOW; idotbelow

17263 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB

17264 % U+1ECC LATIN CAPITAL LETTER O WITH DOT BELOW; Odotbelow

17265 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC

17266 % U+1ECD LATIN SMALL LETTER O WITH DOT BELOW; odotbelow

17267 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD

17268 % U+1EE4 LATIN CAPITAL LETTER U WITH DOT BELOW; Udotbelow

17269 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4

17270 % U+1EE5 LATIN SMALL LETTER U WITH DOT BELOW; udotbelow

17271 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5

17272 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave

17273 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2

17274 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave

17275 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3

17276 % U+1EF4 LATIN CAPITAL LETTER Y WITH DOT BELOW; Ydotbelow

17277 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4

17278 % U+1EF5 LATIN SMALL LETTER Y WITH DOT BELOW; ydotbelow

17279 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5

17280 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde

17281 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8

17282 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde

17283 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

47.2.16 General Punctuation: U+2000 to U+206F

17284 % U+200C ZERO WIDTH NON-JOINER; *afi61664, zerowidthnonjoiner

17285 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C

17286 % U+2013 EN DASH; endash

17287 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013

17288 % U+2014 EM DASH; emdash

17289 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014

17290 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar

17291 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016

17292 %* \textbardbl -> \textdoublevertline (tipa)

17293 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft

17294 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018

17295 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright

17296 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019

17297 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase

17298 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
17299 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
17300 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
17301 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
17302 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
17303 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
17304 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
17305 % U+2020 DAGGER; dagger
17306 \DeclareTextCommand{\textdagger}{PU}{\9040\040}%* U+2020
17307 %* \textdagger -> \dag (LaTeX)
17308 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)
17309 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
17310 %* \textdaggerdbl -> \ddagger (LaTeX)
17311 %* \textdaggerdbl -> \ddag (LaTeX)
17312 % U+2022 BULLET; bullet
17313 \DeclareTextCommand{\textbullet}{PU}{\9040\042}%* U+2022
17314 % U+2025 TWO DOT LEADER; \hdotfor (MnSymbol)
17315 \DeclareTextCommand{\texthdotfor}{PU}{\9040\045}%* U+2025
17316 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
17317 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
17318 %* \textellipsis -> \mathellipsis
17319 % U+2030 PER MILLE SIGN; perthousand
17320 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
17321 % U+2031 PER TEN THOUSAND SIGN
17322 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
17323 % U+2032 PRIME; minute; \prime (MnSymbol)
17324 \DeclareTextCommand{\textprime}{PU}{\9040\062}%* U+2032
17325 % U+2033 DOUBLE PRIME; \second (mathabx)
17326 \DeclareTextCommand{\textsecond}{PU}{\9040\063}%* U+2033
17327 % U+2034 TRIPLE PRIME; \third (mathabx)
17328 \DeclareTextCommand{\textthird}{PU}{\9040\064}%* U+2034
17329 % U+2035 REVERSED PRIME; \backprime (AmS)
17330 \DeclareTextCommand{\textbackprime}{PU}{\9040\065}%* U+2035
17331 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
lingleft
17332 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039
17333 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
lingright
17334 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A
17335 % U+203B REFERENCE MARK; referencemark
17336 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
17337 % U+203D INTERROBANG
17338 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
17339 % U+2044 FRACTION SLASH; fraction
17340 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
17341 % U+2045 LEFT SQUARE BRACKET WITH QUILL
17342 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
17343 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
17344 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
17345 % U+2052 COMMERCIAL MINUS SIGN
17346 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052
17347 % U+2056 THREE DOT PUNCTUATION; \lefttherefore (MnSymbol)
17348 \DeclareTextCommand{\textlefttherefore}{PU}{\9040\126}%* U+2056
17349 % U+2057 QUADRUPLE PRIME; \fourth (mathabx)

17350 \DeclareTextCommand{\textfourth}{PU}{\9040\127}%* U+2057
 17351 % U+2058 FOUR DOT PUNCTUATION; \diamonddots (MnSymbol)
 17352 \DeclareTextCommand{\textdiamonddots}{PU}{\9040\130}%* U+2058

47.2.17 Superscripts and Subscripts: U+2070 to U+209F

17353 % U+2070 SUPERSCRIPT ZERO; zerosuperior
 17354 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}%* U+2070
 17355 % U+2071 SUPERSCRIPT LATIN SMALL LETTER I
 17356 \DeclareTextCommand{\textisuperior}{PU}{\9040\161}%* U+2071
 17357 % U+2074 SUPERSCRIPT FOUR; foursuperior
 17358 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}%* U+2074
 17359 % U+2075 SUPERSCRIPT FIVE; fivesuperior
 17360 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}%* U+2075
 17361 % U+2076 SUPERSCRIPT SIX; sixsuperior
 17362 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}%* U+2076
 17363 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
 17364 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}%* U+2077
 17365 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
 17366 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}%* U+2078
 17367 % U+2079 SUPERSCRIPT NINE; ninesuperior
 17368 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}%* U+2079
 17369 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
 17370 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}%* U+207A
 17371 % U+207B SUPERSCRIPT MINUS
 17372 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}%* U+207B
 17373 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
 17374 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}%* U+207C
 17375 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
 17376 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}%* U+207D
 17377 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
 17378 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}%* U+207E
 17379 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
 17380 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}%* U+207F
 17381 % U+2080 SUBSCRIPT ZERO; zeroinferior
 17382 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}%* U+2080
 17383 % U+2081 SUBSCRIPT ONE; oneinferior
 17384 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}%* U+2081
 17385 % U+2082 SUBSCRIPT TWO; twoinferior
 17386 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}%* U+2082
 17387 % U+2083 SUBSCRIPT THREE; threeinferior
 17388 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}%* U+2083
 17389 % U+2084 SUBSCRIPT FOUR; fourinferior
 17390 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}%* U+2084
 17391 % U+2085 SUBSCRIPT FIVE; fiveinferior
 17392 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}%* U+2085
 17393 % U+2086 SUBSCRIPT SIX; sixinferior
 17394 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}%* U+2086
 17395 % U+2087 SUBSCRIPT SEVEN; seveninferior
 17396 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}%* U+2087
 17397 % U+2088 SUBSCRIPT EIGHT; eightinferior
 17398 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}%* U+2088
 17399 % U+2089 SUBSCRIPT NINE; nineinferior
 17400 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}%* U+2089
 17401 % U+208A SUBSCRIPT PLUS SIGN

17402 \DeclareTextCommand{\textplusinferior}{PU}{\9040\212}%* U+208A
 17403 % U+208B SUBSCRIPT MINUS
 17404 \DeclareTextCommand{\textminusinferior}{PU}{\9040\213}%* U+208B
 17405 % U+208C SUBSCRIPT EQUALS SIGN
 17406 \DeclareTextCommand{\textequalsinferior}{PU}{\9040\214}%* U+208C
 17407 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
 17408 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}%* U+208D
 17409 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
 17410 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}%* U+208E
 17411 % U+2090 LATIN SUBSCRIPT SMALL LETTER A
 17412 \DeclareTextCommand{\textainferior}{PU}{\9040\220}%* U+2090
 17413 % U+2091 LATIN SUBSCRIPT SMALL LETTER E
 17414 \DeclareTextCommand{\texteinferior}{PU}{\9040\221}%* U+2091
 17415 % U+2092 LATIN SUBSCRIPT SMALL LETTER O
 17416 \DeclareTextCommand{\textoinferior}{PU}{\9040\222}%* U+2092
 17417 % U+2093 LATIN SUBSCRIPT SMALL LETTER X
 17418 \DeclareTextCommand{\textxinferior}{PU}{\9040\223}%* U+2093
 17419 % U+2094 LATIN SUBSCRIPT SMALL LETTER SCHWA
 17420 \DeclareTextCommand{\textschwainferior}{PU}{\9040\224}%* U+2094
 17421 % U+2095 LATIN SUBSCRIPT SMALL LETTER H
 17422 \DeclareTextCommand{\texthinferior}{PU}{\9040\225}%* U+2095
 17423 % U+2096 LATIN SUBSCRIPT SMALL LETTER K
 17424 \DeclareTextCommand{\textkinferior}{PU}{\9040\226}%* U+2096
 17425 % U+2097 LATIN SUBSCRIPT SMALL LETTER L
 17426 \DeclareTextCommand{\textlinferior}{PU}{\9040\227}%* U+2097
 17427 % U+2098 LATIN SUBSCRIPT SMALL LETTER M
 17428 \DeclareTextCommand{\textminferior}{PU}{\9040\230}%* U+2098
 17429 % U+2099 LATIN SUBSCRIPT SMALL LETTER N
 17430 \DeclareTextCommand{\textninferior}{PU}{\9040\231}%* U+2099
 17431 % U+209A LATIN SUBSCRIPT SMALL LETTER P
 17432 \DeclareTextCommand{\textpinferior}{PU}{\9040\232}%* U+209A
 17433 % U+209B LATIN SUBSCRIPT SMALL LETTER S
 17434 \DeclareTextCommand{\textsinferior}{PU}{\9040\233}%* U+209B
 17435 % U+209C LATIN SUBSCRIPT SMALL LETTER T
 17436 \DeclareTextCommand{\texttinferior}{PU}{\9040\234}%* U+209C

47.2.18 Currency Symbols: U+20A0 to U+20CF

17437 % U+20A1 COLON SIGN; *colonmonetary, colonsign
 17438 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
 17439 % U+20A4 LIRA SIGN; afii08941, *lira
 17440 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
 17441 % U+20A6 NAIRA SIGN
 17442 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
 17443 % U+20A7 PESETA SIGN; peseta
 17444 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
 17445 % U+20A9 WON SIGN; won
 17446 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
 17447 % U+20AB DONG SIGN; dong
 17448 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
 17449 % U+20AC EURO SIGN; *Euro, euro
 17450 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
 17451 %* \texteuro -> \EurDig (marvosym)
 17452 %* \texteuro -> \EURdig (marvosym)
 17453 %* \texteuro -> \EurHv (marvosym)

17454 %* \texteuro -> \EURhv (marvosym)
 17455 %* \texteuro -> \EurCr (marvosym)
 17456 %* \texteuro -> \EURcr (marvosym)
 17457 %* \texteuro -> \EurTm (marvosym)
 17458 %* \texteuro -> \EURtm (marvosym)
 17459 %* \texteuro -> \Eur (marvosym)
 17460 % U+20B0 GERMAN PENNY SIGN; \Deleatur (marvosym)
 17461 \DeclareTextCommand{\textDeleatur}{PU}{\9040\260}%* U+20B0
 17462 %* \textDeleatur -> \Denarius (marvosym)
 17463 % U+20B1 PESO SIGN
 17464 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
 17465 % U+20B2 GUARANI SIGN
 17466 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

47.2.19 Letterlike Symbols: U+2100 to U+214F

17467 % U+2103 DEGREE CELSIUS; centigrade
 17468 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
 17469 % U+210F PLANCK CONSTANT OVER TWO PI; \hslash (AmS)
 17470 \DeclareTextCommand{\texthslash}{PU}{\9041\017}%* U+210F
 17471 % U+2111 BLACK-LETTER CAPITAL I (=imaginary part); Ifraktur; \Im (LaTeX)
 17472 \DeclareTextCommand{\textIm}{PU}{\9041\021}%* U+2111
 17473 % U+2113 SCRIPT SMALL L (=ell, liter); affi61289, lsquare; \ell (LaTeX)
 17474 \DeclareTextCommand{\textell}{PU}{\9041\023}%* U+2113
 17475 % U+2116 NUMERO SIGN; *affi61352, numero
 17476 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
 17477 % U+2117 SOUND RECORDING COPYRIGHT
 17478 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
 17479 % U+2118 SCRIPT CAPITAL P (=Weierstrass elliptic function);
 17480 % weierstrass; \wp (LaTeX)
 17481 \DeclareTextCommand{\textwp}{PU}{\9041\030}%* U+2118
 17482 % U+211C BLACK-LETTER CAPITAL R (=real part); Rfraktur; \Re (LaTeX)
 17483 \DeclareTextCommand{\textRe}{PU}{\9041\034}%* U+211C
 17484 % U+211E PRESCRIPTION TAKE; prescription
 17485 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
 17486 % U+2120 SERVICE MARK
 17487 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
 17488 % U+2122 TRADE MARK SIGN; trademark
 17489 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
 17490 % U+2126 OHM SIGN; Ohm, Omega
 17491 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
 17492 % U+2127 INVERTED OHM SIGN
 17493 \DeclareTextCommand{\textmho}{PU}{\9041\047}%* U+2127
 17494 %* \textmho -> \agemO (wasysym)
 17495 % U+2129 TURNED GREEK SMALL LETTER IOTA; \riota (phonetic)
 17496 \DeclareTextCommand{\textriota}{PU}{\9041\051}%* U+2129
 17497 % U+212B ANGSTROM SIGN; angstrom
 17498 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
 17499 % U+212E ESTIMATED SYMBOL; estimated
 17500 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
 17501 %* \textestimated -> \EstimatedSign (marvosym)
 17502 %* \textestimated -> \Ecommerce (marvosym)
 17503 % U+2132 TURNED CAPITAL F; \Finv (AmS)
 17504 \DeclareTextCommand{\textFinv}{PU}{\9041\062}%* U+2132

17505 % U+2135 ALEF SYMBOL; aleph; \aleph (LaTeX)
 17506 \DeclareTextCommand{\textaleph}{PU}{\9041\065}%* U+2135
 17507 % U+2136 BET SYMBOL; \beth (AmS, MnSymbol)
 17508 \DeclareTextCommand{\textbeth}{PU}{\9041\066}%* U+2136
 17509 % U+2137 GIMEL SYMBOL; \gimel (AmS, MnSymbol)
 17510 \DeclareTextCommand{\textgimel}{PU}{\9041\067}%* U+2137
 17511 % U+2138 DALET SYMBOL; \daleth (AmS, MnSymbol)
 17512 \DeclareTextCommand{\textdaleth}{PU}{\9041\070}%* U+2138
 17513 % U+213B FACSIMILE SIGN; \fax (marvosym)
 17514 \DeclareTextCommand{\textfax}{PU}{\9041\073}%* U+213B
 17515 % U+2141 TURNED SANS-SERIF CAPITAL G (=game); \Game
 17516 \DeclareTextCommand{\textGame}{PU}{\9041\101}%* U+2141
 17517 % U+214B TURNED AMPERSAND; \invamp (txfonts/pxfonts)
 17518 \DeclareTextCommand{\textinvamp}{PU}{\9041\113}%* U+214B
 17519 %* \textinvamp -> \bindnasrepma (stmaryrd)
 17520 %* \textinvamp -> \parr (cml)

47.2.20 Number Forms: U+2150 to U+218F

17521 % U+2150 VULGAR FRACTION ONE SEVENTH
 17522 \DeclareTextCommand{\textoneseventh}{PU}{\9041\120}% U+2150
 17523 % U+2151 VULGAR FRACTION ONE NINTH
 17524 \DeclareTextCommand{\textoneninth}{PU}{\9041\121}% U+2151
 17525 % U+2152 VULGAR FRACTION ONE TENTH
 17526 \DeclareTextCommand{\textonetenth}{PU}{\9041\122}% U+2152
 17527 % U+2153 VULGAR FRACTION ONE THIRD; onethird
 17528 \DeclareTextCommand{\textonethird}{PU}{\9041\123}% U+2153
 17529 % U+2154 VULGAR FRACTION TWO THIRDS; twothirds
 17530 \DeclareTextCommand{\texttwothirds}{PU}{\9041\124}% U+2154
 17531 % U+2155 VULGAR FRACTION ONE FIFTH
 17532 \DeclareTextCommand{\textonefifth}{PU}{\9041\125}% U+2155
 17533 % U+2156 VULGAR FRACTION TWO FIFTHS
 17534 \DeclareTextCommand{\texttwofifths}{PU}{\9041\126}% U+2156
 17535 % U+2157 VULGAR FRACTION THREE FIFTHS
 17536 \DeclareTextCommand{\textthreefifths}{PU}{\9041\127}% U+2157
 17537 % U+2158 VULGAR FRACTION FOUR FIFTHS
 17538 \DeclareTextCommand{\textfourfifths}{PU}{\9041\130}% U+2158
 17539 % U+2159 VULGAR FRACTION ONE SIXTH
 17540 \DeclareTextCommand{\textonesixth}{PU}{\9041\131}% U+2159
 17541 % U+215A VULGAR FRACTION FIVE SIXTHS
 17542 \DeclareTextCommand{\textfivesixths}{PU}{\9041\132}% U+215A
 17543 % U+215B VULGAR FRACTION ONE EIGHTH; oneeighth
 17544 \DeclareTextCommand{\textoneeighth}{PU}{\9041\133}% U+215B
 17545 % U+215C VULGAR FRACTION THREE EIGHTHS; threeeighths
 17546 \DeclareTextCommand{\textthreeeighths}{PU}{\9041\134}% U+215C
 17547 % U+215D VULGAR FRACTION FIVE EIGHTHS; fiveeighths
 17548 \DeclareTextCommand{\textfiveeighths}{PU}{\9041\135}% U+215D
 17549 % U+215E VULGAR FRACTION SEVEN EIGHTHS; seveneighths
 17550 \DeclareTextCommand{\textseveneighths}{PU}{\9041\136}% U+215E
 17551 % U+2184 LATIN SMALL LETTER REVERSED C
 17552 \DeclareTextCommand{\textrevc}{PU}{\9041\204}% U+2184
 17553 % U+2189 VULGAR FRACTION ZERO THIRDS
 17554 \DeclareTextCommand{\textzerthirds}{PU}{\9041\211}% U+2189

47.2.21 Arrows: U+2190 to U+21FF


```

17555 % U+2190 LEFTWARDS ARROW; arrowleft
17556 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}%* U+2190
17557 % U+2191 UPWARDS ARROW; arrowup
17558 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}%* U+2191
17559 % U+2192 RIGHTWARDS ARROW; arrowright
17560 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}%* U+2192
17561 %* \textrightarrow -> \MVRightArrow (marvosym)
17562 %* \textrightarrow -> \MVRightarrow (marvosym)
17563 % U+2193 DOWNWARDS ARROW; arrowdown
17564 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}%* U+2193
17565 %* \textdownarrow -> \MVArrowDown (marvosym)
17566 %* \textdownarrow -> \Force (marvosym)
17567 % U+2194 LEFT RIGHT ARROW; arrowboth; \leftrightharrow (LaTeX)
17568 \DeclareTextCommand{\textleftrightharrow}{PU}{\9041\224}%* U+2194
17569 % U+2195 UP DOWN ARROW; arrowupdn; \updownarrow (LaTeX)
17570 \DeclareTextCommand{\textupdownarrow}{PU}{\9041\225}%* U+2195
17571 % U+2196 NORTH WEST ARROW; arrowupleft; \nwarrow (LaTeX)
17572 \DeclareTextCommand{\textnwarrow}{PU}{\9041\226}%* U+2196
17573 % U+2197 NORTH EAST ARROW; arrowupright; \nearrow (LaTeX)
17574 \DeclareTextCommand{\textnearrow}{PU}{\9041\227}%* U+2197
17575 %* \textnearrow -> \textglobrise (tipa)
17576 % U+2198 SOUTH EAST ARROW; arrowdownright; \searrow (LaTeX)
17577 \DeclareTextCommand{\textsearrow}{PU}{\9041\230}%* U+2198
17578 %* \textsearrow -> \textglobfall (tipa)
17579 % U+2199 SOUTH WEST ARROW; arrowdownleft; \swarrow (LaTeX)
17580 \DeclareTextCommand{\textswarrow}{PU}{\9041\231}%* U+2199
17581 % U+219A LEFTWARDS ARROW WITH STROKE; \leftarrow (AmS)
17582 \DeclareTextCommand{\textnleftarrow}{PU}{\9041\232}%* U+219A
17583 % U+219B RIGHTWARDS ARROW WITH STROKE; \rightarrow (AmS)
17584 \DeclareTextCommand{\textnrightarrow}{PU}{\9041\233}%* U+219B
17585 % U+219E LEFTWARDS TWO HEADED ARROW; \twoheadleftarrow (AmS)
17586 \DeclareTextCommand{\texttwoheadleftarrow}{PU}{\9041\236}%* U+219E
17587 % \ntwoheadleftarrow (txfonts/pxfonts)
17588 \DeclareTextCommand{\textntwoheadleftarrow}{PU}{\9041\236\83\070}%* U+219E U+0338
17589 % U+219F UPWARDS TWO HEADED ARROW; \twoheaduparrow (MnSymbol)
17590 \DeclareTextCommand{\texttwoheaduparrow}{PU}{\9041\237}%* U+219F
17591 % U+21A0 RIGHTWARDS TWO HEADED ARROW;
17592 % \twoheadrightarrow (AmS)
17593 \DeclareTextCommand{\texttwoheadrightarrow}{PU}{\9041\240}%* U+21A0
17594 % \ntwoheadrightarrow (txfonts/pxfonts)
17595 \DeclareTextCommand{\textntwoheadrightarrow}{PU}{\9041\240\83\070}%* U+21A0 U+0338
17596 % U+21A1 DOWNWARDS TWO HEADED ARROW; \twoheaddownarrow (Mn-
Symbol)
17597 \DeclareTextCommand{\texttwoheaddownarrow}{PU}{\9041\241}%* U+21A1
17598 % U+21A2 LEFTWARDS ARROW WITH TAIL; \leftarrowtail (AmS)
17599 \DeclareTextCommand{\textleftarrowtail}{PU}{\9041\242}%* U+21A2
17600 % U+21A3 RIGHTWARDS ARROW WITH TAIL; \rightarrowtail (AmS)
17601 \DeclareTextCommand{\textrightarrowtail}{PU}{\9041\243}%* U+21A3
17602 % U+21A6 RIGHTWARDS ARROW FROM BAR; \mapsto (LaTeX)
17603 \DeclareTextCommand{\textmapsto}{PU}{\9041\246}%* U+21A6
17604 % U+21A9 LEFTWARDS ARROW WITH HOOK; \hookleftarrow (LaTeX)
17605 \DeclareTextCommand{\texthookleftarrow}{PU}{\9041\251}%* U+21A9
17606 % U+21AA RIGHTWARDS ARROW WITH HOOK; \hookrightarrow (LaTeX)
17607 \DeclareTextCommand{\texthookrightarrow}{PU}{\9041\252}%* U+21AA

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17608 % U+21AB LEFTWARDS ARROW WITH LOOP; \looparrowleft (AmS)
17609 \DeclareTextCommand{\textlooparrowleft}{PU}{\9041\253}%* U+21AB
17610 % U+21AC RIGHTWARDS ARROW WITH LOOP; \looparrowright (AmS)
17611 \DeclareTextCommand{\textlooparrowright}{PU}{\9041\254}%* U+21AC
17612 % U+21AE LEFT RIGHT ARROW WITH STROKE; \leftrightharpoon (AmS)
17613 \DeclareTextCommand{\textnleftrightharpoon}{PU}{\9041\256}%* U+21AE
17614 % U+21AF DOWNWARDS ZIGZAG ARROW; \lightning (stmaryrd)
17615 \DeclareTextCommand{\textlightning}{PU}{\9041\257}%* U+21AF
17616 %* \textlightning -> \Lightning (marvosym)
17617 % U+21B5 DOWNWARDS ARROW WITH CORNER LEFTWARDS;
17618 % \dlsh (mathabx)
17619 \DeclareTextCommand{\textdlsh}{PU}{\9041\265}%* U+21B5
17620 % U+21B6 ANTICLOCKWISE TOP SEMICIRCLE ARROW;
17621 % \curvearrowleft (AmS)
17622 \DeclareTextCommand{\textcurvearrowleft}{PU}{\9041\266}%* U+21B6
17623 % U+21B7 CLOCKWISE TOP SEMICIRCLE ARROW; \curvearrowright (AmS)
17624 \DeclareTextCommand{\textcurvearrowright}{PU}{\9041\267}%* U+21B7
17625 % U+21BC LEFTWARDS HARPOON WITH BARB UPWARDS; harpoonleft-
    barbup;
17626 % \leftharpoonup (LaTeX)
17627 \DeclareTextCommand{\textleftharpoonup}{PU}{\9041\274}%* U+21BC
17628 % U+21BD LEFTWARDS HARPOON WITH BARB DOWNWARDS;
17629 % \leftharpoondown (LaTeX)
17630 \DeclareTextCommand{\textleftharpoondown}{PU}{\9041\275}%* U+21BD
17631 % U+21BE UPWARDS HARPOON WITH BARB RIGHTWARDS;
17632 % \upharpoonright (AmS)
17633 \DeclareTextCommand{\textupharpoonright}{PU}{\9041\276}%* U+21BE
17634 % U+21BF UPWARDS HARPOON WITH BARB LEFTWARDS;
17635 % \upharpoonleft (AmS)
17636 \DeclareTextCommand{\textupharpoonleft}{PU}{\9041\277}%* U+21BF
17637 % U+21C0 RIGHTWARDS HARPOON WITH BARB UPWARDS; harpoonright-
    barbup
17638 % \rightharpoonup (LaTeX)
17639 \DeclareTextCommand{\textrightharpoonup}{PU}{\9041\300}%* U+21C0
17640 % U+21C1 RIGHTWARDS HARPOON WITH BARB DOWNWARDS;
17641 % \rightharpoondown (LaTeX)
17642 \DeclareTextCommand{\textrightharpoondown}{PU}{\9041\301}%* U+21C1
17643 % U+21C2 DOWNWARDS HARPOON WITH BARB RIGHTWARDS;
17644 % \downharpoonright (AmS)
17645 \DeclareTextCommand{\textdownharpoonright}{PU}{\9041\302}%* U+21C2
17646 % U+21C3 DOWNWARDS HARPOON WITH BARB LEFTWARDS;
17647 % \downharpoonleft (AmS)
17648 \DeclareTextCommand{\textdownharpoonleft}{PU}{\9041\303}%* U+21C3
17649 % U+21C4 RIGHTWARDS ARROW OVER LEFTWARDS ARROW;
17650 % \rightarrowoverleft; \rightleftarrows (MnSymbol)
17651 \DeclareTextCommand{\textrightleftarrows}{PU}{\9041\304}%* U+21C4
17652 % U+21C5 UPWARDS ARROW LEFTWARDS OF DOWNWARDS ARROW; ar-
    rowupleftofdown;
17653 % \updownarrows (MnSymbol)
17654 \DeclareTextCommand{\textupdownarrows}{PU}{\9041\305}%* U+21C5
17655 % U+21C6 LEFTWARDS ARROW OVER RIGHTWARDS ARROW; \arrowleft-
    overright;
17656 % \leftrightharpoons (AmS)
17657 \DeclareTextCommand{\textleftrightharpoons}{PU}{\9041\306}%* U+21C6

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17658 % U+21C7 LEFTWARDS PAIRED ARROWS; \leftleftarrows (AmS)
17659 \DeclareTextCommand{\textleftleftarrows}{PU}{\9041\307}%* U+21C7
17660 % U+21C8 UPWARDS PAIRED ARROWS; \upuparrows (AmS)
17661 \DeclareTextCommand{\textupuparrows}{PU}{\9041\310}%* U+21C8
17662 % U+21C9 RIGHTWARDS PAIRED ARROWS; \rightrightarrows (AmS)
17663 \DeclareTextCommand{\textrightarrows}{PU}{\9041\311}%* U+21C9
17664 % U+21CA DOWNWARDS PAIRED ARROWS; \downdownarrows (AmS)
17665 \DeclareTextCommand{\textdowndownarrows}{PU}{\9041\312}%* U+21CA
17666 % U+21CB LEFTWARDS HARPOON OVER RIGHTWARDS HARPOON;
17667 % \leftrightharpoons (AmS);
17668 \DeclareTextCommand{\textleftrightharpoons}{PU}{\9041\313}%* U+21CB
17669 % U+21CC RIGHTWARDS HARPOON OVER LEFTWARDS HARPOON;
17670 % \rightleftharpoons (LaTeX, AmS)
17671 \DeclareTextCommand{\textrightleftharpoons}{PU}{\9041\314}%* U+21CC
17672 % U+21CD LEFTWARDS DOUBLE ARROW WITH STROKE; arrowleftd-
    blstroke;
17673 % \nLeftarrow (AmS)
17674 \DeclareTextCommand{\textnLeftarrow}{PU}{\9041\315}%* U+21CD
17675 % U+21CE LEFT RIGHT DOUBLE ARROW WITH STROKE; \nLeftrightarrow (AmS)
17676 \DeclareTextCommand{\textnLeftrightarrow}{PU}{\9041\316}%* U+21CE
17677 % U+21CF RIGHTWARDS DOUBLE ARROW WITH STROKE; arrowrightdblstroke;
17678 % \nRightarrow (AmS)
17679 \DeclareTextCommand{\textnRightarrow}{PU}{\9041\317}%* U+21CF
17680 % U+21D0 LEFTWARDS DOUBLE ARROW; arrowdblleft, arrowleftdbl;
17681 % \Leftarrow (LaTeX)
17682 \DeclareTextCommand{\textLeftarrow}{PU}{\9041\320}%* U+21D0
17683 % U+21D1 UPWARDS DOUBLE ARROW; arrowdblup; \Uparrow (LaTeX)
17684 \DeclareTextCommand{\textUparrow}{PU}{\9041\321}%* U+21D1
17685 % U+21D2 RIGHTWARDS DOUBLE ARROW; arrowdblright, dblarrowright;
17686 % \Rightarrow (LaTeX)
17687 \DeclareTextCommand{\textRightarrow}{PU}{\9041\322}%* U+21D2
17688 %* \textRightarrow -> \Conclusion (marvosym)
17689 % U+21D3 DOWNWARDS DOUBLE ARROW; arrowdbldown; \Downarrow (LaTeX)
17690 \DeclareTextCommand{\textDownarrow}{PU}{\9041\323}%* U+21D3
17691 % U+21D4 LEFT RIGHT DOUBLE ARROW; arrowdblboth;
17692 % \Leftrightarrow (LaTeX)
17693 \DeclareTextCommand{\textLeftrightarrow}{PU}{\9041\324}%* U+21D4
17694 %* \textLeftrightarrow -> \Equivalence (marvosym)
17695 % U+21D5 UP DOWN DOUBLE ARROW; \Updownarrow (LaTeX)
17696 \DeclareTextCommand{\textUpdownarrow}{PU}{\9041\325}%* U+21D5
17697 % U+21D6 NORTH WEST DOUBLE ARROW; \Nwarrow (MnSymbol)
17698 \DeclareTextCommand{\textNwarrow}{PU}{\9041\326}%* U+21D6
17699 % U+21D7 NORTH EAST DOUBLE ARROW; \Nearrow (MnSymbol)
17700 \DeclareTextCommand{\textNearrow}{PU}{\9041\327}%* U+21D7
17701 % U+21D8 SOUTH EAST DOUBLE ARROW; \Searrow (MnSymbol)
17702 \DeclareTextCommand{\textSearrow}{PU}{\9041\330}%* U+21D8
17703 % U+21D9 SOUTH WEST DOUBLE ARROW; \Svarrow (MnSymbol)
17704 \DeclareTextCommand{\textSvarrow}{PU}{\9041\331}%* U+21D9
17705 % U+21DA LEFTWARDS TRIPLE ARROW; \Lleftarrow (AmS)
17706 \DeclareTextCommand{\textLleftarrow}{PU}{\9041\332}%* U+21DA
17707 % U+21DB RIGHTWARDS TRIPLE ARROW; \Rrightarrow (MnSymbol)

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17708 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\333}%* U+21DB
17709 % U+21DC LEFTWARDS SQUIGGLE ARROW; \leftsquigarrow (mathabx)
17710 \DeclareTextCommand{\textleftsquigarrow}{PU}{\9041\334}%* U+21DC
17711 % U+21DD RIGHTWARDS SQUIGGLE ARROW; \rightsquigarrow (mathabx)
17712 \DeclareTextCommand{\textright squigarrow}{PU}{\9041\335}%* U+21DD
17713 % U+21E0 LEFTWARDS DASHED ARROW; arrowdashleft;
17714 % \dashleftarrow (AmS)
17715 \DeclareTextCommand{\texdashleftarrow}{PU}{\9041\340}%* U+21E0
17716 %* \texdashleftarrow -> \dashedleftarrow (MnSymbol)
17717 % U+21E1 UPWARDS DASHED ARROW; arrowdashup; \dasheduparrow (Mn-
Symbol)
17718 \DeclareTextCommand{\texdasheduparrow}{PU}{\9041\341}%* U+21E1
17719 % U+21E2 RIGHTWARDS DASHED ARROW; arrowdashright; \dashrightarrow
(AmS)
17720 \DeclareTextCommand{\texdashrightarrow}{PU}{\9041\342}%* U+21E2
17721 %* \texdashrightarrow -> \dashedrightarrow (MnSymbol)
17722 % U+21E3 DOWNWARDS DASHED ARROW; arrowdashdown; \dasheddownar-
row (MnSymbol)
17723 \DeclareTextCommand{\texdasheddownarrow}{PU}{\9041\343}%* U+21E3
17724 % U+21E8 RIGHTWARDS WHITE ARROW; \pointer (wasysym)
17725 \DeclareTextCommand{\textpointer}{PU}{\9041\350}%* U+21E8
17726 % U+21F5 DOWNWARDS ARROW LEFTWARDS OF UPWARDS ARROW;
17727 % \downuparrows (MnSymbol)
17728 \DeclareTextCommand{\texdownuparrows}{PU}{\9041\365}%* U+21F5
17729 % U+21FD LEFTWARDS OPEN-HEADED ARROW; \leftarrowtriangle (stmaryrd)
17730 \DeclareTextCommand{\textleftarrowtriangle}{PU}{\9041\375}%* U+21FD
17731 % U+21FE RIGHTWARDS OPEN-HEADED ARROW; \rightarrowtriangle (stmaryrd)
17732 \DeclareTextCommand{\textrightarrowtriangle}{PU}{\9041\376}%* U+21FE
17733 % U+21FF LEFT RIGHT OPEN-HEADED ARROW; \leftrightarrowtriangle
(stmaryrd)
17734 \DeclareTextCommand{\textleftrightarrowtriangle}{PU}{\9041\377}%* U+21FF

```

47.2.22 Mathematical Operators: U+2200 to U+22FF

```

17735 % U+2200 FOR ALL; forall; \forall (LaTeX)
17736 \DeclareTextCommand{\textforall}{PU}{\9042\000}%* U+2200
17737 % U+2201 COMPLEMENT; \complement (AmS)
17738 \DeclareTextCommand{\textcomplement}{PU}{\9042\001}%* U+2201
17739 % U+2202 PARTIAL DIFFERENTIAL; partialdiff; \partial (LaTeX)
17740 \DeclareTextCommand{\textpartial}{PU}{\9042\002}%* U+2202
17741 % U+2203 THERE EXISTS; existential; \exists (LaTeX)
17742 \DeclareTextCommand{\textexists}{PU}{\9042\003}%* U+2203
17743 % U+2204 THERE DOES NOT EXIST; \nexists (AmS)
17744 \DeclareTextCommand{\textnexists}{PU}{\9042\004}%* U+2204
17745 % U+2205 EMPTY SET; emptyset; \emptyset (LaTeX), \varnothing (AmS)
17746 \DeclareTextCommand{\textemptyset}{PU}{\9042\005}%* U+2205
17747 %* \textemptyset -> \varnothing (AmS)
17748 % U+2206 INCREMENT; increment, Delta; \triangle (LaTeX)
17749 \DeclareTextCommand{\texttriangle}{PU}{\9042\006}%* U+2206
17750 % U+2207 NABLA; nabla, gradient; \nabla (LaTeX)
17751 \DeclareTextCommand{\textnabla}{PU}{\9042\007}%* U+2207
17752 % U+2208 ELEMENT OF; element; \in (LaTeX)
17753 \DeclareTextCommand{\textin}{PU}{\9042\010}%* U+2208
17754 % U+2209 NOT AN ELEMENT OF; notelement, notelementof; \notin (LaTeX)
17755 \DeclareTextCommand{\textnotin}{PU}{\9042\011}%* U+2209

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17756 % U+220A SMALL ELEMENT OF; \smallin (mathdesign)
17757 \DeclareTextCommand{\textsmallin}{PU}{\9042\012}%* U+220A
17758 % U+220B CONTAINS AS MEMBER; suchthat; \ni (LaTeX)
17759 \DeclareTextCommand{\textni}{PU}{\9042\013}%* U+220B
17760 %* \textni -> \owns (mathabx)
17761 % U+220C DOES NOT CONTAIN AS MEMBER; \notowner (mathabx)
17762 \DeclareTextCommand{\textnotowner}{PU}{\9042\014}%* U+220C
17763 %* \textnotowner -> \notni (txfonts/pxfonts)
17764 % U+220D SMALL CONTAINS AS MEMBER; \smallowns (mathdesign)
17765 \DeclareTextCommand{\textsmallowns}{PU}{\9042\015}%* U+220D
17766 % U+220F N-ARY PRODUCT; \prod (LaTeX)
17767 \DeclareTextCommand{\textprod}{PU}{\9042\017}%* U+220F
17768 % U+2210 N-ARY COPRODUCT; \amalg (LaTeX)
17769 \DeclareTextCommand{\textamalg}{PU}{\9042\020}%* U+2210
17770 % U+2211 N-ARY SUMMATION; summation; \sum (LaTeX)
17771 \DeclareTextCommand{\textsum}{PU}{\9042\021}%* U+2211
17772 % U+2212 MINUS SIGN; minus
17773 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
17774 % U+2213 MINUS-OR-PLUS SIGN; minusplus; \mp (LaTeX)
17775 \DeclareTextCommand{\textmp}{PU}{\9042\023}%* U+2213
17776 % U+2214 DOT PLUS; \dotplus (AmS)
17777 \DeclareTextCommand{\textdotplus}{PU}{\9042\024}%* U+2214
17778 % U+2215 DIVISION SLASH; divisionslash; \Divides (marvosym)
17779 \DeclareTextCommand{\textDivides}{PU}{\9042\025}%* U+2215
17780 % \DividesNot (marvosym)
17781 \DeclareTextCommand{\textDividesNot}{PU}{\9042\025\9040\322}%* U+2215 U+20D2
17782 % U+2216 SET MINUS; \setminus (LaTeX)
17783 \DeclareTextCommand{\textsetminus}{PU}{\9042\026}%* U+2216
17784 % U+2217 ASTERISK OPERATOR; asteriskmath; \ast (LaTeX)
17785 \DeclareTextCommand{\textast}{PU}{\9042\027}%* U+2217
17786 % U+2218 RING OPERATOR; \circ (LaTeX)
17787 \DeclareTextCommand{\textcirc}{PU}{\9042\030}%* U+2218
17788 % U+2219 BULLET OPERATOR; bulletoperator; \bullet (LaTeX)
17789 \DeclareTextCommand{\textbulletoperator}{PU}{\9042\031}% U+2219
17790 % U+221A SQUARE ROOT; radical
17791 \DeclareTextCommand{\textsurd}{PU}{\9042\032}%* U+221A
17792 % U+221D PROPORTIONAL TO; proportional; \propto (LaTeX)
17793 \DeclareTextCommand{\textpropto}{PU}{\9042\035}%* U+221D
17794 %* \textpropto -> \varprop (wasysym)
17795 % U+221E INFINITY; infinity; \infty (LaTeX)
17796 \DeclareTextCommand{\textinfty}{PU}{\9042\036}%* U+221E
17797 % U+2220 ANGLE; angle; \angle (LaTeX)
17798 \DeclareTextCommand{\textangle}{PU}{\9042\040}%* U+2220
17799 % U+2221 MEASURED ANGLE; \measuredangle (mathabx, MnSymbol)
17800 \DeclareTextCommand{\textmeasuredangle}{PU}{\9042\041}%* U+2221
17801 % U+2222 SPHERICAL ANGLE; \sphericalangle (AmS)
17802 \DeclareTextCommand{\textsphericalangle}{PU}{\9042\042}%* U+2222
17803 %* \textsphericalangle -> \varangle (wasysym)
17804 %* \textsphericalangle -> \Anglesign (marvosym)
17805 %* \textsphericalangle -> \AngleSign (marvosym)
17806 % U+2223 DIVIDES; divides; \mid (LaTeX)
17807 \DeclareTextCommand{\textmid}{PU}{\9042\043}%* U+2223
17808 % U+2224 DOES NOT DIVIDE; \nmid (AmS)
17809 \DeclareTextCommand{\textnmid}{PU}{\9042\044}%* U+2224

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17810 %* \textnmid -> \notdivides (mathabx)
17811 % U+2225 PARALLEL TO; parallel; \parallel (LaTeX)
17812 \DeclareTextCommand{\textparallel}{PU}{\9042\045}%* U+2225
17813 % U+2226 NOT PARALLEL TO; notparallel; \nparallel (AmS)
17814 \DeclareTextCommand{\textnparallel}{PU}{\9042\046}%* U+2226
17815 %* \textnparallel -> nUpdownline (MnSymbol)
17816 % U+2227 LOGICAL AND; logicaland; \wedge (LaTeX)
17817 \DeclareTextCommand{\textwedge}{PU}{\9042\047}%* U+2227
17818 % \owedge (stmaryrd)
17819 \DeclareTextCommand{\textowedge}{PU}{\9042\047\9040\335}%* U+2227 U+20DD
17820 %* \textowedge -> \varowedge (stmaryrd)
17821 % U+2228 LOGICAL OR; logicalor; \vee (LaTeX)
17822 \DeclareTextCommand{\textvee}{PU}{\9042\050}%* U+2228
17823 % \ovee (stmaryrd)
17824 \DeclareTextCommand{\textovee}{PU}{\9042\050\9040\335}%* U+2228 U+20DD
17825 %* \textovee -> \varovee (stmaryrd)
17826 % U+2229 INTERSECTION; intersection; \cap (LaTeX)
17827 \DeclareTextCommand{\textcap}{PU}{\9042\051}%* U+2229
17828 % U+222A UNION; union; \cup (LaTeX)
17829 \DeclareTextCommand{\textcup}{PU}{\9042\052}%* U+222A
17830 % U+222B INTEGRAL; integral; \int (LaTeX)
17831 \DeclareTextCommand{\textint}{PU}{\9042\053}%* U+222B
17832 %* \textint -> \varint (wasysym)
17833 % U+222C DOUBLE INTEGRAL; dblintegral; \iint (AmS)
17834 \DeclareTextCommand{\textiint}{PU}{\9042\054}%* U+222C
17835 % U+222D TRIPLE INTEGRAL; \iiint (AmS)
17836 \DeclareTextCommand{\textiiint}{PU}{\9042\055}%* U+222D
17837 % U+222E CONTOUR INTEGRAL; contourintegral; \oint (LaTeX)
17838 \DeclareTextCommand{\textoint}{PU}{\9042\056}%* U+222E
17839 %* \textoint -> \varoint (wasysym)
17840 % U+222F SURFACE INTEGRAL; \oiint (wasysym)
17841 \DeclareTextCommand{\textoiint}{PU}{\9042\057}%* U+222F
17842 % U+2232 CLOCKWISE CONTOUR INTEGRAL;
17843 % \ointclockwise (txfonts/pxfonts)
17844 \DeclareTextCommand{\textointclockwise}{PU}{\9042\062}%* U+2232
17845 % U+2233 ANTICLOCKWISE CONTOUR INTEGRAL; \ointctrackwise (tx-
    fonts/pxfonts)
17846 \DeclareTextCommand{\textointctrackwise}{PU}{\9042\063}%* U+2233
17847 % U+2234 THEREFORE; therefore; \therefore (AmS)
17848 \DeclareTextCommand{\texttherefore}{PU}{\9042\064}%* U+2234
17849 %* \texttherefore -> uptherefore (MnSymbol)
17850 % U+2235 BECAUSE; because; \because (AmS)
17851 \DeclareTextCommand{\textbecause}{PU}{\9042\065}%* U+2235
17852 %* \textbecause -> \downtherefore (MnSymbol)
17853 % U+2236 RATIO; \dotdot (MnSymbol)
17854 \DeclareTextCommand{\textvdotdot}{PU}{\9042\066}%* U+2236
17855 % U+2237 PROPORTION; \squaredots (MnSymbol)
17856 \DeclareTextCommand{\textsquaredots}{PU}{\9042\067}%* U+2237
17857 % U+2238 DOT MINUS; \dotminus (MnSymbol)
17858 \DeclareTextCommand{\textdotminus}{PU}{\9042\070}%* U+2238
17859 %* \textdotminus -> \textdotdiv (mathabx)
17860 % U+2239 EXCESS; \eqcolon (txfonts/pxfonts)
17861 \DeclareTextCommand{\texteqcolon}{PU}{\9042\071}%* U+2239
17862 % U+223C TILDE OPERATOR; similar; \sim (LaTeX)

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17863 \DeclareTextCommand{\textsim}{PU}{\9042\074}%* U+223C
17864 %* \textsim -> \AC (wasysym)
17865 % U+223D REVERSED TILDE; reversedtilde; \backsim (AmS)
17866 \DeclareTextCommand{\textbacksim}{PU}{\9042\075}%* U+223D
17867 % \nbacksim (txfonts/pxfonts)
17868 \DeclareTextCommand{\textnbacksim}{PU}{\9042\075\83\070}%* U+223D U+0338
17869 % U+2240 WREATH PRODUCT; \wr (LaTeX)
17870 \DeclareTextCommand{\textwr}{PU}{\9042\100}%* U+2240
17871 %* \textwr -> \wreath (MnSymbol)
17872 % U+2241 NOT TILDE; \nsim (AmS)
17873 \DeclareTextCommand{\textnsim}{PU}{\9042\101}%* U+2241
17874 % U+2242 MINUS TILDE; \eqsim (MnSymbol)
17875 \DeclareTextCommand{\texteqsim}{PU}{\9042\102}%* U+2242
17876 % \neqsim (MnSymbol)
17877 \DeclareTextCommand{\textneqsim}{PU}{\9042\102\83\070}%* U+2242 U+0338
17878 % U+2243 ASYMPTOTICALLY EQUAL TO; asymptoticallyequal; \simeq (La-
      TeX)
17879 \DeclareTextCommand{\textsimeq}{PU}{\9042\103}%* U+2243
17880 % U+2244 NOT ASYMPTOTICALLY EQUAL TO; \nsimeq (txfonts/pxfonts)
17881 \DeclareTextCommand{\textnsimeq}{PU}{\9042\104}%* U+2244
17882 % U+2245 APPROXIMATELY EQUAL TO; approximatelyequal; \cong (LaTeX)
17883 \DeclareTextCommand{\textcong}{PU}{\9042\105}%* U+2245
17884 % U+2247 NEITHER APPROXIMATELY NOR ACTUALLY EQUAL TO;
17885 % \ncong (AmS)
17886 \DeclareTextCommand{\textncong}{PU}{\9042\107}%* U+2247
17887 % U+2248 ALMOST EQUAL TO; approxequal; \approx (LaTeX)
17888 \DeclareTextCommand{\textapprox}{PU}{\9042\110}%* U+2248
17889 % U+2249 NOT ALMOST EQUAL TO; \napprox (txfonts/pxfonts0
17890 \DeclareTextCommand{\textnapprox}{PU}{\9042\111}%* U+2249
17891 %* \textnapprox -> \nthickapprox (txfonts/pxfonts)
17892 % U+224A ALMOST EQUAL OR EQUAL TO; \approxeq (AmS)
17893 \DeclareTextCommand{\textapproxeq}{PU}{\9042\112}%* U+224A
17894 % \napproxeq (txfonts/pxfonts)
17895 \DeclareTextCommand{\textnapproxeq}{PU}{\9042\112\83\070}%* U+224A U+0338
17896 % U+224B TRIPLE TILDE; \triple sim (MnSymbol)
17897 \DeclareTextCommand{\texttriple sim}{PU}{\9042\113}%* U+224B
17898 %* \texttriple sim -> \VHF (wasysym)
17899 % \ntriple sim (MnSymbol)
17900 \DeclareTextCommand{\textntriple sim}{PU}{\9042\113\83\070}%* U+224B U+0338
17901 % U+224C ALL EQUAL TO; allequal; \backcong (MnSymbol)
17902 \DeclareTextCommand{\textbackcong}{PU}{\9042\114}%* U+224C
17903 % \nbackcong (MnSymbol)
17904 \DeclareTextCommand{\textnbackcong}{PU}{\9042\114\83\070}%* U+224C U+0338
17905 % U+224D EQUIVALENT TO; \asymp (LaTeX)
17906 \DeclareTextCommand{\textasymp}{PU}{\9042\115}%* U+224D
17907 % \nasymp (txfonts/pxfonts)
17908 \DeclareTextCommand{\textnasymp}{PU}{\9042\115\83\070}%* U+224D U+0338
17909 %* \textnasymp -> \notasym (mathabx)
17910 % U+224E GEOMETRICALLY EQUIVALENT TO; \Bumpeq (AmS)
17911 \DeclareTextCommand{\textBumpeq}{PU}{\9042\116}%* U+224E
17912 % \nBumpeq (txfonts/pxfonts)
17913 \DeclareTextCommand{\textnBumpeq}{PU}{\9042\116\83\070}%* U+224E U+0338
17914 % U+224F DIFFERENCE BETWEEN; \bumpeq (AmS)
17915 \DeclareTextCommand{\textbumpeq}{PU}{\9042\117}%* U+224F

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17916 % \nbumpeq (txfonts/pxfonts)
17917 \DeclareTextCommand{\textnbumpeq}{PU}{\9042\117\83\070}%* U+224F U+0338
17918 % U+2250 APPROACHES THE LIMIT; approaches; \doteq (LaTeX)
17919 \DeclareTextCommand{\textdoteq}{PU}{\9042\120}%* U+2250
17920 % \ndoteq (MnSymbol)
17921 \DeclareTextCommand{\textndoteq}{PU}{\9042\120\83\070}%* U+2250 U+0338
17922 % U+2251 GEOMETRICALLY EQUAL TO; geometricallyequal;
17923 % \doteqdot (AmS)
17924 \DeclareTextCommand{\textdoteqdot}{PU}{\9042\121}%* U+2251
17925 %* \textdoteqdot -> \Doteq (MnSymbol)
17926 % \nDoteq (MnSymbol)
17927 \DeclareTextCommand{\textnDoteq}{PU}{\9042\121\83\070}%* U+2251 U+0338
17928 % U+2252 APPROXIMATELY EQUAL TO OR THE IMAGE OF; approx-
qualorimage;
17929 % \fallingdotseq (AmS)
17930 \DeclareTextCommand{\textfallingdotseq}{PU}{\9042\122}%* U+2252
17931 % \nfallingdotseq (MnSymbol)
17932 \DeclareTextCommand{\textnfallingdotseq}{PU}{\9042\122\83\070}%* U+2252 U+0338
17933 % U+2253 IMAGE OF OR APPROXIMATELY EQUAL TO; imageorapprox-
matelyequal;
17934 % \risingdotseq (AmS)
17935 \DeclareTextCommand{\textrisingdotseq}{PU}{\9042\123}%* U+2253
17936 % \nrisingdotseq (MnSymbol)
17937 \DeclareTextCommand{\textnrisingdotseq}{PU}{\9042\123\83\070}%* U+2253 U+0338
17938 % U+2254 COLON EQUALS; \colonequals (colonequals)
17939 \DeclareTextCommand{\textcolonequals}{PU}{\9042\124}%* U+2254
17940 % U+2255 EQUALS COLON; \equalscolon (colonequals)
17941 \DeclareTextCommand{\textequalscolon}{PU}{\9042\125}%* U+2255
17942 % U+2256 RING IN EQUAL TO; \eqcirc (AmS)
17943 \DeclareTextCommand{\texteqcirc}{PU}{\9042\126}%* U+2256
17944 % \neqcirc (MnSymbol)
17945 \DeclareTextCommand{\textneqcirc}{PU}{\9042\126\83\070}%* U+2256 U+0338
17946 % U+2257 RING EQUAL TO; \circeq (AmS)
17947 \DeclareTextCommand{\textcirceq}{PU}{\9042\127}%* U+2257
17948 % \ncirceq (MnSymbol)
17949 \DeclareTextCommand{\textncirceq}{PU}{\9042\127\83\070}%* U+2257 U+0338
17950 % U+2259 ESTIMATES; \hateq (MnSymbol)
17951 \DeclareTextCommand{\texthateq}{PU}{\9042\131}%* U+2259
17952 %* \texthateq -> \corresponds (mathabx)
17953 %* \texthateq -> \Corresponds (marvosym)
17954 % \nhateq (MnSymbol)
17955 \DeclareTextCommand{\textnhateq}{PU}{\9042\131\83\070}%* U+2259 U+0338
17956 % U+225C DELTA EQUAL TO; \triangleeq (AmS)
17957 \DeclareTextCommand{\texttriangleeq}{PU}{\9042\134}%* U+225C
17958 % U+2260 NOT EQUAL TO; notequal; \ne (LaTeX), \neq (LaTeX)
17959 \DeclareTextCommand{\textneq}{PU}{\9042\140}%* U+2260
17960 \DeclareTextCommand{\textne}{PU}{\9042\140}%* U+2260
17961 %* \textneq -> \nequal (MnSymbol)
17962 % U+2261 IDENTICAL TO; equivalence; \equiv (LaTeX)
17963 \DeclareTextCommand{\textequiv}{PU}{\9042\141}%* U+2261
17964 %* \textequiv -> \Congruent (marvosym)
17965 % U+2262 NOT IDENTICAL TO; notidentical; \nequiv (txfonts/pxfonts)
17966 \DeclareTextCommand{\textnequiv}{PU}{\9042\142}%* U+2262
17967 %* \textnequiv -> \NotCongruent (marvosym)


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17968 %* \textnequiv -> \notequiv (mathabx)
17969 % U+2264 LESS-THAN OR EQUAL TO; lessequal; \le (LaTeX), \leq (LaTeX)
17970 \DeclareTextCommand{\textleq}{PU}{\9042\144}%* U+2264
17971 \DeclareTextCommand{\textile}{PU}{\9042\144}%* U+2264
17972 %* \textleq -> \LessOrEqual (marvosym)
17973 % U+2265 GREATER-THAN OR EQUAL TO; greaterequal;
17974 % \ge (LaTeX), \geq (LaTeX)
17975 \DeclareTextCommand{\textgeq}{PU}{\9042\145}%* U+2265
17976 \DeclareTextCommand{\textge}{PU}{\9042\145}%* U+2265
17977 %* \textgeq -> \LargerOrEqual (marvosym)
17978 % U+2266 LESS-THAN OVER EQUAL TO; lessorequal; \leqq (AmS)
17979 \DeclareTextCommand{\textleqq}{PU}{\9042\146}%* U+2266
17980 % \nleqq (txfonts/pxfonts)
17981 \DeclareTextCommand{\textnleqq}{PU}{\9042\146\83\070}%* U+2266 U+0338
17982 % U+2267 GREATER-THAN OVER EQUAL TO; greaterorequal; \geqq (AmS)
17983 \DeclareTextCommand{\textgeqq}{PU}{\9042\147}%* U+2267
17984 % \ngeqq (txfonts/pxfonts)
17985 \DeclareTextCommand{\textngeqq}{PU}{\9042\147\83\070}%* U+2267 U+0338
17986 % U+2268 LESS-THAN BUT NOT EQUAL TO; \lneqq (AmS)
17987 \DeclareTextCommand{\textlneqq}{PU}{\9042\150}%* U+2268
17988 % U+2269 GREATER-THAN BUT NOT EQUAL TO; \gneqq (AmS)
17989 \DeclareTextCommand{\textgneqq}{PU}{\9042\151}%* U+2269
17990 % U+226A MUCH LESS-THAN; muchless; \ll (LaTeX)
17991 \DeclareTextCommand{\textll}{PU}{\9042\152}%* U+226A
17992 % \nll (txfonts/pxfonts)
17993 \DeclareTextCommand{\textnll}{PU}{\9042\152\83\070}%* U+226A U+0338
17994 % U+226B MUCH GREATER-THAN; muchgreater; \gg (LaTeX)
17995 \DeclareTextCommand{\textgg}{PU}{\9042\153}%* U+226B
17996 % \ngg (txfonts/pxfonts)
17997 \DeclareTextCommand{\textngg}{PU}{\9042\153\83\070}%* U+226B U+0338
17998 % U+226C BETWEEN; \between (AmS)
17999 \DeclareTextCommand{\textbetween}{PU}{\9042\154}%* U+226C
18000 % U+226E NOT LESS-THAN; notless; \nless (AmS)
18001 \DeclareTextCommand{\textnless}{PU}{\9042\156}%* U+226E
18002 % U+226F NOT GREATER-THAN; notgreater; \ngtr (AmS)
18003 \DeclareTextCommand{\textngtr}{PU}{\9042\157}%* U+226F
18004 % U+2270 NEITHER LESS-THAN NOR EQUAL TO; notlessnorequal;
18005 % \nleq (AmS)
18006 \DeclareTextCommand{\textnleq}{PU}{\9042\160}%* U+2270
18007 % U+2271 NEITHER GREATER-THAN NOR EQUAL TO; notgreaternorequal; \ngeq (AmS)
18008 \DeclareTextCommand{\textngeq}{PU}{\9042\161}%* U+2271
18009 % U+2272 LESS-THAN OR EQUIVALENT TO; lessorequivalent; \lessim (AmS)
18010 \DeclareTextCommand{\textlessim}{PU}{\9042\162}%* U+2272
18011 %* \textlessim -> \apprle (wasysym)
18012 % U+2273 GREATER-THAN OR EQUIVALENT TO; greaterorequivalent; \gtrsim (AmS)
18013 \DeclareTextCommand{\textgtrsim}{PU}{\9042\163}%* U+2273
18014 %* \textgtrsim -> \apprge (wasysym)
18015 % U+2274 NEITHER LESS-THAN NOR EQUIVALENT TO; \nlessim (txfonts/pxfonts)
18016 \DeclareTextCommand{\textnlessim}{PU}{\9042\164}%* U+2274
18017 % U+2275 NEITHER GREATER-THAN NOR EQUIVALENT TO; \ngtrsim (txfonts/pxfonts)

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18018 \DeclareTextCommand{\textngtrsim}{PU}{\9042\165}%* U+2275
18019 % U+2276 LESS-THAN OR GREATER-THAN; lessorgreater; \lessgtr (AmS)
18020 \DeclareTextCommand{\textlessgtr}{PU}{\9042\166}%* U+2276
18021 % U+2277 GREATER-THAN OR LESS-THAN; greaterorless; \gtrless (AmS)
18022 \DeclareTextCommand{\textgtrless}{PU}{\9042\167}%* U+2277
18023 % U+2278 NEITHER LESS-THAN NOR GREATER-THAN; \ngtrless (tx-
fonts/pxfonts)
18024 \DeclareTextCommand{\textngtrless}{PU}{\9042\170}%* U+2278
18025 % U+2279 NEITHER GREATER-THAN NOR LESS-THAN; \nlessgtr (tx-
fonts/pxfonts)
18026 \DeclareTextCommand{\textnlessgtr}{PU}{\9042\171}%* U+2279
18027 % U+227A PRECEDES; precedes; \prec (LaTeX)
18028 \DeclareTextCommand{\textprec}{PU}{\9042\172}%* U+227A
18029 % U+227B SUCCEEDS; succeeds; \succ (LaTeX)
18030 \DeclareTextCommand{\textsucc}{PU}{\9042\173}%* U+227B
18031 % U+227C PRECEDES OR EQUAL TO; \preccurlyeq (AmS)
18032 \DeclareTextCommand{\textpreccurlyeq}{PU}{\9042\174}%* U+227C
18033 % U+227D SUCCEEDS OR EQUAL TO; \succcurlyeq (AmS)
18034 \DeclareTextCommand{\textsucccurlyeq}{PU}{\9042\175}%* U+227D
18035 % U+227E PRECEDES OR EQUIVALENT TO; \precsim (AmS)
18036 \DeclareTextCommand{\textprecsim}{PU}{\9042\176}%* U+227E
18037 % \nprecsim (txfonts/pxfonts)
18038 \DeclareTextCommand{\textnprecsim}{PU}{\9042\176\83\070}%* U+227E U+0338
18039 % U+227F SUCCEEDS OR EQUIVALENT TO; \succsim (AmS)
18040 \DeclareTextCommand{\textsuccsim}{PU}{\9042\177}%* U+227F
18041 % \nsuccsim (txfonts/pxfonts)
18042 \DeclareTextCommand{\textnsuccsim}{PU}{\9042\177\83\070}%* U+227F U+0338
18043 % U+2280 DOES NOT PRECEDE; notprecedes; \nprec (AmS)
18044 \DeclareTextCommand{\textnprec}{PU}{\9042\200}%* U+2280
18045 % U+2281 DOES NOT SUCCEED; notsucceds; \nsucc (AmS)
18046 \DeclareTextCommand{\textnsucc}{PU}{\9042\201}%* U+2281
18047 % U+2282 SUBSET OF; propersubset; \subset (LaTeX)
18048 \DeclareTextCommand{\textsubset}{PU}{\9042\202}%* U+2282
18049 % U+2283 SUPERSET OF; propersuperset; \supset (LaTeX)
18050 \DeclareTextCommand{\textsupset}{PU}{\9042\203}%* U+2283
18051 % U+2284 NOT A SUBSET OF; notsubset; \nsubset (mathabx)
18052 \DeclareTextCommand{\textnsubset}{PU}{\9042\204}%* U+2284
18053 % U+2285 NOT A SUPERSET OF; notsuperset; \nsupset (mathabx)
18054 \DeclareTextCommand{\textnsupset}{PU}{\9042\205}%* U+2285
18055 % U+2286 SUBSET OF OR EQUAL TO; reflexsubset; \subseteq (LaTeX)
18056 \DeclareTextCommand{\textsubseteq}{PU}{\9042\206}%* U+2286
18057 % U+2287 SUPERSET OF OR EQUAL TO; reflexsuperset; \supseteq (LaTeX)
18058 \DeclareTextCommand{\textsupseteq}{PU}{\9042\207}%* U+2287
18059 % U+2288 NEITHER A SUBSET OF NOR EQUAL TO; \nsubseteq (AmS)
18060 \DeclareTextCommand{\textnsubseteq}{PU}{\9042\210}%* U+2288
18061 % U+2289 NEITHER A SUPERSET OF NOR EQUAL TO; \nsupseteq (AmS)
18062 \DeclareTextCommand{\textnsupseteq}{PU}{\9042\211}%* U+2289
18063 % U+228A SUBSET OF WITH NOT EQUAL TO; subsetnotequal; \subset-
neq (AmS)
18064 \DeclareTextCommand{\textsubsetneq}{PU}{\9042\212}%* U+228A
18065 % U+228B SUPERSET OF WITH NOT EQUAL TO; supersetnotequal; \supset-
neq (AmS)
18066 \DeclareTextCommand{\textsupsetneq}{PU}{\9042\213}%* U+228B
18067 % U+228D MULTiset MULTIPLICATION; \cupdot (MnSymbol)

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18068 \DeclareTextCommand{\textcupdot}{PU}{\9042\215}%* U+228D
18069 % U+228E MULTISSET UNION; \cupplus (MnSymbol)
18070 \DeclareTextCommand{\textcupplus}{PU}{\9042\216}%* U+228E
18071 % U+228F SQUARE IMAGE OF; \sqsubset (latexsym, ...)
18072 \DeclareTextCommand{\textsqsubset}{PU}{\9042\217}%* U+228F
18073 % \nsqsubset (txfonts/pxfonts)
18074 \DeclareTextCommand{\textnsqsubset}{PU}{\9042\217\83\070}%* U+228F U+0338
18075 % U+2290 SQUARE ORIGINAL OF; \sqsupset (latexsym, ...)
18076 \DeclareTextCommand{\textsqsupset}{PU}{\9042\220}%* U+2290
18077 % \nsqsupset (txfonts/pxfonts)
18078 \DeclareTextCommand{\textnsqsupset}{PU}{\9042\220\83\070}%* U+2290 U+0338
18079 % U+2291 SQUARE IMAGE OF OR EQUAL TO; \sqsubseq (LaTeX)
18080 \DeclareTextCommand{\textsqsubseq}{PU}{\9042\221}%* U+2291
18081 % \nsqsubseq (txfonts/pxfonts)
18082 \DeclareTextCommand{\textnsqsubseq}{PU}{\9042\221\83\070}%* U+2291 U+0338
18083 % U+2292 SQUARE ORIGINAL OF OR EQUAL TO; \sqsupseq (LaTeX)
18084 \DeclareTextCommand{\textsqsupseq}{PU}{\9042\222}%* U+2292
18085 % \nsqsupseq (txfonts/pxfonts)
18086 \DeclareTextCommand{\textnsqsupseq}{PU}{\9042\222\83\070}%* U+2292 U+0338
18087 % U+2293 SQUARE CAP; \sqcap (LaTeX)
18088 \DeclareTextCommand{\textsqcap}{PU}{\9042\223}%* U+2293
18089 % U+2294 SQUARE CUP; \sqcup (LaTeX)
18090 \DeclareTextCommand{\textsqcup}{PU}{\9042\224}%* U+2294
18091 % U+2295 CIRCLED PLUS; circleplus; \oplus (LaTeX)
18092 \DeclareTextCommand{\textoplus}{PU}{\9042\225}%* U+2295
18093 %* \textoplus -> \varoplus (stmaryrd)
18094 % U+2296 CIRCLED MINUS; minuscircle; \ominus (LaTeX)
18095 \DeclareTextCommand{\textominus}{PU}{\9042\226}%* U+2296
18096 %* \textominus -> \varominus (stmaryrd)
18097 % U+2297 CIRCLED TIMES; circlemultiply; \otimes (LaTeX)
18098 \DeclareTextCommand{\textotimes}{PU}{\9042\227}%* U+2297
18099 %* \textotimes -> \varotimes (stmaryrd)
18100 % U+2298 CIRCLED DIVISION SLASH; \oslash (LaTeX)
18101 \DeclareTextCommand{\textoslash}{PU}{\9042\230}%* U+2298
18102 %* \textoslash -> \varoslash (stmaryrd)
18103 % U+2299 CIRCLED DOT OPERATOR; circle(d?)ot; \odot (LaTeX)
18104 \DeclareTextCommand{\textodot}{PU}{\9042\231}%* U+2299
18105 %* \textodot -> \varodot (stmaryrd)
18106 % U+229A CIRCLED RING OPERATOR; \circledcirc (AmS)
18107 \DeclareTextCommand{\textcircledcirc}{PU}{\9042\232}%* U+229A
18108 %* \textcircledcirc -> \ocirc (mathabx)
18109 %* \textcircledcirc -> \varocircle (stmaryrd)
18110 % U+229B CIRCLED ASTERISK OPERATOR; \circledast (AmS)
18111 \DeclareTextCommand{\textcircledast}{PU}{\9042\233}%* U+229B
18112 %* \textcircledast -> \varoast (stmaryrd)
18113 %* \textcircledast -> \oasterisk (mathabx)
18114 % U+229D CIRCLED DASH; \circleddash (AmS)
18115 \DeclareTextCommand{\textcircleddash}{PU}{\9042\235}%* U+229D
18116 % U+229E SQUARED PLUS; \boxplus (AmS)
18117 \DeclareTextCommand{\textboxplus}{PU}{\9042\236}%* U+229E
18118 % U+229F SQUARED MINUS; \boxminus (AmS)
18119 \DeclareTextCommand{\textboxminus}{PU}{\9042\237}%* U+229F
18120 % U+22A0 SQUARED TIMES; \boxtimes (AmS)
18121 \DeclareTextCommand{\textboxtimes}{PU}{\9042\240}%* U+22A0

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18122 % U+22A1 SQUARED DOT OPERATOR; \boxdot (AmS)
18123 \DeclareTextCommand{\textboxdot}{PU}{\9042\241}%* U+22A1
18124 % U+22A2 RIGHT TACK; \vdash (LaTeX)
18125 \DeclareTextCommand{\textvdash}{PU}{\9042\242}%* U+22A2
18126 %* \textvdash -> \rightvdash (MnSymbol)
18127 % U+22A3 LEFT TACK; \dashv (LaTeX)
18128 \DeclareTextCommand{\textdashv}{PU}{\9042\243}%* U+22A3
18129 %* \textdashv -> \leftvdash (MnSymbol)
18130 % \ndashv (mathabx)
18131 \DeclareTextCommand{\textndashv}{PU}{\9042\243\83\070}%* U+22A3 U+0338
18132 %* \textndashv -> \nleftvdash (MnSymbol)
18133 % U+22A4 DOWN TACK (=top); \tackdown; \top (LaTeX)
18134 \DeclareTextCommand{\texttop}{PU}{\9042\244}%* U+22A4
18135 %* \texttop -> \downvdash (MnSymbol)
18136 % \ndownvdash (MnSymbol)
18137 \DeclareTextCommand{\textndownvdash}{PU}{\9042\244\83\070}%* U+22A4 U+0338
18138 % U+22A5 UP TACK (=base, bottom); \bot (LaTeX)
18139 \DeclareTextCommand{\textbot}{PU}{\9042\245}%* U+22A5
18140 %* \textbot -> \upvdash (MnSymbol)
18141 % \nupvdash (MnSymbol)
18142 \DeclareTextCommand{\textnupvdash}{PU}{\9042\245\83\070}%* U+22A5 U+0338
18143 %* \textnupvdash -> \nperp (MnSymbol)
18144 % U+22A8 TRUE; \vdash (AmS)
18145 \DeclareTextCommand{\textvDash}{PU}{\9042\250}%* U+22A8
18146 %* \textvDash -> \models (LaTeX)
18147 %* \textvDash -> \rightmodels (MnSymbol)
18148 % U+22A9 FORCES; \Vdash (AmS)
18149 \DeclareTextCommand{\textVdash}{PU}{\9042\251}%* U+22A9
18150 %* \textVdash -> \rightVdash (MnSymbol)
18151 % U+22AA TRIPLE VERTICAL BAR RIGHT TURNSTILE; \Vvdash (AmS)
18152 \DeclareTextCommand{\textVvdash}{PU}{\9042\252}%* U+22AA
18153 % \nVvdash (mathabx)
18154 \DeclareTextCommand{\textnVvdash}{PU}{\9042\252\83\070}%* U+22AA U+0338
18155 % U+22AB DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE;
18156 % \VDash (mathabx)
18157 \DeclareTextCommand{\textVDash}{PU}{\9042\253}%* U+22AB
18158 %* \textVDash -> \rightModels (MnSymbol)
18159 % U+22AC DOES NOT PROVE; \nvdash (AmS)
18160 \DeclareTextCommand{\textnvdash}{PU}{\9042\254}%* U+22AC
18161 %* \textnvdash -> \nrightvdash (MnSymbol)
18162 % U+22AD NOT TRUE; \nvDash (AmS)
18163 \DeclareTextCommand{\textnvDash}{PU}{\9042\255}%* U+22AD
18164 %* \textnvDash -> \nrightmodels (MnSymbol)
18165 %* \textnvDash -> \nmodels (MnSymbol)
18166 % U+22AE DOES NOT FORCE; \nVdash (txfonts/pxfonts)
18167 \DeclareTextCommand{\textnVdash}{PU}{\9042\256}%* U+22AE
18168 %* \textnVdash -> \nrightVdash (MnSymbol)
18169 % U+22AF NEGATED DOUBLE VERTICAL BAR DOUBLE RIGHT TURN-
      STILE; \nVDash (AmS)
18170 \DeclareTextCommand{\textnVDash}{PU}{\9042\257}%* U+22AF
18171 %* \textnVDash -> \nrightModels (MnSymbol)
18172 % U+22B2 NORMAL SUBGROUP OF; \lhd (latexsym, ...)
18173 \DeclareTextCommand{\textlhd}{PU}{\9042\262}%* U+22B2
18174 %* \textlhd -> \lessclosed (MnSymbol)

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18175 % U+22B3 CONTAINS AS NORMAL SUBGROUP; \rhd (latexsym, ...)
18176 \DeclareTextCommand{\textrhd}{PU}{\9042\263}%* U+22B3
18177 %* \textrhd -> \gtrclosed (MnSymbol)
18178 % U+22B4 NORMAL SUBGROUP OF OR EQUAL TO; \unlhd (latexsym, ...)
18179 \DeclareTextCommand{\textunlhd}{PU}{\9042\264}%* U+22B4
18180 %* \textunlhd -> \leqclosed (MnSymbol)
18181 %* \textunlhd -> \trianglelefteq (MnSymbol)
18182 % U+22B5 CONTAINS AS NORMAL SUBGROUP OR EQUAL TO; \unrhd (la-
texsym, ...)
18183 \DeclareTextCommand{\textunrhd}{PU}{\9042\265}%* U+22B5
18184 %* \textunrhd -> \geqclosed (MnSymbol)
18185 %* \textunrhd -> \trianglerighteq (MnSymbol)
18186 % U+22B6 ORIGINAL OF; \multimapdotbothA (txfonts/pxfonts)
18187 \DeclareTextCommand{\textmultimapdotbothA}{PU}{\9042\266}%* U+22B6
18188 % U+22B7 IMAGE OF; \multimapdotbothB (txfonts/pxfonts)
18189 \DeclareTextCommand{\textmultimapdotbothB}{PU}{\9042\267}%* U+22B7
18190 % U+22B8 MULTIMAP; \multimap (AmS, txfonts/pxfonts)
18191 \DeclareTextCommand{\textmultimap}{PU}{\9042\270}%* U+22B8
18192 % U+22BB XOR; \veebar (AmS)
18193 \DeclareTextCommand{\textveebar}{PU}{\9042\273}%* U+22BB
18194 % U+22BC NAND; \barwedge (mathabx)
18195 \DeclareTextCommand{\textbarwedge}{PU}{\9042\274}%* U+22BC
18196 % U+22C6 STAR OPERATOR; \star (LaTeX)
18197 \DeclareTextCommand{\textstar}{PU}{\9042\306}%* U+22C6
18198 % U+22C7 DIVISION TIMES; \divideontimes (AmS)
18199 \DeclareTextCommand{\textdivideontimes}{PU}{\9042\307}%* U+22C7
18200 % U+22C8 BOWTIE; \bowtie (LaTeX)
18201 \DeclareTextCommand{\textbowtie}{PU}{\9042\310}%* U+22C8
18202 %* \textbowtie -> \Bowtie (wasysym)
18203 % U+22C9 LEFT NORMAL FACTOR SEMIDIRECT PRODUCT; \ltimes (AmS)
18204 \DeclareTextCommand{\textltimes}{PU}{\9042\311}%* U+22C9
18205 % U+22CA RIGHT NORMAL FACTOR SEMIDIRECT PRODUCT;
18206 % \rtimes (AmS)
18207 \DeclareTextCommand{\textrtimes}{PU}{\9042\312}%* U+22CA
18208 % U+22CB LEFT SEMIDIRECT PRODUCT; \leftthreetimes (AmS)
18209 \DeclareTextCommand{\textleftthreetimes}{PU}{\9042\313}%* U+22CB
18210 % U+22CC RIGHT SEMIDIRECT PRODUCT; \rightthreetimes (AmS)
18211 \DeclareTextCommand{\textrightthreetimes}{PU}{\9042\314}%* U+22CC
18212 % U+22CD REVERSED TILDE EQUALS; \backsimeq (AmS)
18213 \DeclareTextCommand{\textbacksimeq}{PU}{\9042\315}%* U+22CD
18214 % \nbacksimeq (txfonts/pxfonts)
18215 \DeclareTextCommand{\textnbacksimeq}{PU}{\9042\315\83\070}%* U+22CD U+0338
18216 % U+22CE CURLY LOGICAL OR; curlyor; \curlyvee (AmS)
18217 \DeclareTextCommand{\textcurlyvee}{PU}{\9042\316}%* U+22CE
18218 %* \textcurlyvee -> \varcurlyvee (stmaryrd)
18219 % U+22CF CURLY LOGICAL AND; curlyand; \curlywedge (AmS)
18220 \DeclareTextCommand{\textcurlywedge}{PU}{\9042\317}%* U+22CF
18221 %* \textcurlywedge -> \varcurlywedge (stmaryrd)
18222 % U+22D0 DOUBLE SUBSET; \Subset (AmS)
18223 \DeclareTextCommand{\textSubset}{PU}{\9042\320}%* U+22D0
18224 % \nSubset (txfonts/pxfonts)
18225 \DeclareTextCommand{\textnSubset}{PU}{\9042\320\83\070}%* U+22D0 U+0338
18226 % U+22D1 DOUBLE SUPERSET; \Supset (AmS)
18227 \DeclareTextCommand{\textSupset}{PU}{\9042\321}%* U+22D1

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18228 % \nSupset (txfonts/pxfonts)
18229 \DeclareTextCommand{\textnSupset}{PU}{\9042\321\83\070}%* U+22D1 U+0338
18230 % U+22D2 DOUBLE INTERSECTION; \Cap (AmS)
18231 \DeclareTextCommand{\textCap}{PU}{\9042\322}%* U+22D2
18232 %* \textCap -> \doublecap (mathabx)
18233 % U+22D3 DOUBLE UNION; \Cup (AmS)
18234 \DeclareTextCommand{\textCup}{PU}{\9042\323}%* U+22D3
18235 %* \textCup -> \doublecup (mathabx)
18236 % U+22D4 PITCHFORK; \pitchfork (mathabx)
18237 \DeclareTextCommand{\textpitchfork}{PU}{\9042\324}%* U+22D4
18238 % U+22D6 LESS-THAN WITH DOT; \lessdot (AmS)
18239 \DeclareTextCommand{\textlessdot}{PU}{\9042\326}%* U+22D6
18240 % U+22D7 GREATER-THAN WITH DOT; \gtrdot (AmS)
18241 \DeclareTextCommand{\textgtrdot}{PU}{\9042\327}%* U+22D7
18242 % U+22D8 VERY MUCH LESS-THAN; \lll (AmS)
18243 \DeclareTextCommand{\textlll}{PU}{\9042\330}%* U+22D8
18244 % U+22D9 VERY MUCH GREATER-THAN; \ggg (AmS)
18245 \DeclareTextCommand{\textggg}{PU}{\9042\331}%* U+22D9
18246 % U+22DA LESS-THAN EQUAL TO OR GREATER-THAN; lessequalorgreater;
18247 % \lesseqgtr (AmS)
18248 \DeclareTextCommand{\textlesseqgtr}{PU}{\9042\332}%* U+22DA
18249 % U+22DB GREATER-THAN EQUAL TO OR LESS-THAN; greaterequalorless;
18250 % \gtreqless (AmS)
18251 \DeclareTextCommand{\textgtreqless}{PU}{\9042\333}%* U+22DB
18252 % U+22DE EQUAL TO OR PRECEDES; \curlyeqprec (MnSymbol)
18253 \DeclareTextCommand{\textcurlyeqprec}{PU}{\9042\336}%* U+22DE
18254 % \ncurlyeqprec (mathabx)
18255 \DeclareTextCommand{\textncurlyeqprec}{PU}{\9042\336\83\070}%* U+22DE U+0338
18256 % U+22DF EQUAL TO OR SUCCEEDS; \curlyeqsucc (MnSymbol)
18257 \DeclareTextCommand{\textcurlyeqsucc}{PU}{\9042\337}%* U+22DF
18258 % \ncurlyeqsucc (mathabx)
18259 \DeclareTextCommand{\textncurlyeqsucc}{PU}{\9042\337\83\070}%* U+22DF U+0338
18260 % U+22E0 DOES NOT PRECEDE OR EQUAL; \npreccurlyeq (txfonts/pxfonts)
18261 \DeclareTextCommand{\textnpreccurlyeq}{PU}{\9042\340}%* U+22E0
18262 % U+22E1 DOES NOT SUCCEED OR EQUAL; \nsucccurlyeq (txfonts/pxfonts)
18263 \DeclareTextCommand{\textnsucccurlyeq}{PU}{\9042\341}%* U+22E1
18264 % U+22E2 NOT SQUARE IMAGE OF OR EQUAL TO; \nsqsubseteq (tx-
    fonts/pxfonts)
18265 \DeclareTextCommand{\textnqsubseteq}{PU}{\9042\342}%* U+22E2
18266 % U+22E3 NOT SQUARE ORIGINAL OF OR EQUAL TO; \nsqsupseteq (tx-
    fonts/pxfonts)
18267 \DeclareTextCommand{\textnqsupseteq}{PU}{\9042\343}%* U+22E3
18268 % U+22E4 SQUARE IMAGE OF OR NOT EQUAL TO; \sqsubsetneq (mathabx)
18269 \DeclareTextCommand{\textsqsubsetneq}{PU}{\9042\344}%* U+22E4
18270 %* \textsqsubsetneq -> \varsqsubsetneq (mathabx)
18271 % U+22E5 SQUARE ORIGINAL OF OR NOT EQUAL TO; \sqsupsetneq (math-
    abx)
18272 \DeclareTextCommand{\textsqsupsetneq}{PU}{\9042\345}%* U+22E5
18273 %* \textsqsupsetneq -> \varsqsupsetneq (mathabx)
18274 % U+22E6 LESS-THAN BUT NOT EQUIVALENT TO; \lnsim (AmS)
18275 \DeclareTextCommand{\textlnsim}{PU}{\9042\346}%* U+22E6
18276 % U+22E7 GREATER-THAN BUT NOT EQUIVALENT TO; \gnsim (AmS)
18277 \DeclareTextCommand{\textgnsim}{PU}{\9042\347}%* U+22E7
18278 % U+22E8 PRECEDES BUT NOT EQUIVALENT TO; \precnsim (AmS)

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18279 \DeclareTextCommand{\textprecnsim}{PU}{\9042\350}%* U+22E8
 18280 % U+22E9 SUCCEEDS BUT NOT EQUIVALENT TO; \succnsim (AmS)
 18281 \DeclareTextCommand{\textsuccnsim}{PU}{\9042\351}%* U+22E9
 18282 % U+22EA NOT NORMAL SUBGROUP OF; \ntriangleleft (AmS)
 18283 \DeclareTextCommand{\textntriangleleft}{PU}{\9042\352}%* U+22EA
 18284 %* \textntriangleleft -> \nlessclosed (MnSymbol)
 18285 % U+22EB DOES NOT CONTAIN AS NORMAL SUBGROUP; \ntriangleright (AmS)
 18286 \DeclareTextCommand{\textntriangleright}{PU}{\9042\353}%* U+22EB
 18287 %* \textntriangleright -> \ngtrclosed (MnSymbol)
 18288 % U+22EC NOT NORMAL SUBGROUP OF OR EQUAL TO;
 18289 % \ntrianglelefteq (AmS)
 18290 \DeclareTextCommand{\textntrianglelefteq}{PU}{\9042\354}%* U+22EC
 18291 % U+22ED DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL;
 18292 % \ntrianglerighteq (AmS)
 18293 \DeclareTextCommand{\textntrianglerighteq}{PU}{\9042\355}%* U+22ED
 18294 %* \textntrianglerighteq -> \textngeqclosed
 18295 % U+22EE VERTICAL ELLIPSIS; ellipsisvertical; \vdots (LaTeX)
 18296 \DeclareTextCommand{\textvdots}{PU}{\9042\356}%* U+22EE
 18297 % U+22EF MIDLINE HORIZONTAL ELLIPSIS; \cdots (LaTeX)
 18298 \DeclareTextCommand{\textcdots}{PU}{\9042\357}%* U+22EF
 18299 % U+22F0 UP RIGHT DIAGONAL ELLIPSIS; \udots (MnSymbol)
 18300 \DeclareTextCommand{\textudots}{PU}{\9042\360}%* U+22F0
 18301 % U+22F1 DOWN RIGHT DIAGONAL ELLIPSIS; \ddots (LaTeX)
 18302 \DeclareTextCommand{\textddots}{PU}{\9042\361}%* U+22F1
 18303 % U+22F6 ELEMENT OF WITH OVERBAR; \barin (mathabx)
 18304 \DeclareTextCommand{\textbarin}{PU}{\9042\366}%* U+22F6

47.2.23 Miscellaneous Technical: U+2300 to U+23FF

18305 % U+2300 DIAMETER SIGN; \diameter (mathabx,wasysym)
 18306 \DeclareTextCommand{\textdiameter}{PU}{\9043\000}%* U+2300
 18307 % U+2310 REVERSED NOT SIGN; \backneg (MnSymbol)
 18308 \DeclareTextCommand{\textbackneg}{PU}{\9043\020}%* U+2310
 18309 % U+2311 SQUARE LOZENGE; \wasylozenge (wasysym)
 18310 \DeclareTextCommand{\textwasylozenge}{PU}{\9043\021}%* U+2311
 18311 % U+2319 TURNED NOT SIGN; \invbackneg (MnSymbol)
 18312 \DeclareTextCommand{\textinvbackneg}{PU}{\9043\031}%* U+2319
 18313 % U+231A WATCH; \clock (wasysym)
 18314 \DeclareTextCommand{\textclock}{PU}{\9043\032}%* U+231A
 18315 %* \textclock -> \Clocklogo (marvosym)
 18316 %* \textclock -> \ClockLogo (marvosym)
 18317 % U+231C TOP LEFT CORNER; \ulcorner (AmS)
 18318 \DeclareTextCommand{\textulcorner}{PU}{\9043\034}%* U+231C
 18319 % U+231D TOP RIGHT CORNER; \urcorner (AmS)
 18320 \DeclareTextCommand{\texturcorner}{PU}{\9043\035}%* U+231D
 18321 % U+231E BOTTOM LEFT CORNER; \llcorner (AmS)
 18322 \DeclareTextCommand{\textllcorner}{PU}{\9043\036}%* U+231E
 18323 % U+231F BOTTOM RIGHT CORNER; \lrcorner (AmS)
 18324 \DeclareTextCommand{\textlrcorner}{PU}{\9043\037}%* U+231F
 18325 % U+2322 FROWN; \frown (LaTeX)
 18326 \DeclareTextCommand{\textfrown}{PU}{\9043\042}%* U+2322
 18327 % U+2323 SMILE; \smile (LaTeX)
 18328 \DeclareTextCommand{\textsmile}{PU}{\9043\043}%* U+2323
 18329 % U+2328 KEYBOARD; \Keyboard (marvosym)

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18330 \DeclareTextCommand{\textKeyboard}{PU}{\9043\050}%* U+2328
18331 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft; \langle (LaTeX)
18332 \DeclareTextCommand{\textlangle}{PU}{\9043\051}%* U+2329
18333 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright; \rangle (LaTeX)
18334 \DeclareTextCommand{\textrangle}{PU}{\9043\052}%* U+232A
18335 % U+2339 APL FUNCTIONAL SYMBOL QUAD DIVIDE; \APLinv (wasysym)
18336 \DeclareTextCommand{\textAPLinv}{PU}{\9043\071}%* U+2339
18337 % U+233C APL FUNCTIONAL SYMBOL QUAD CIRCLE; \Tumbler (marvosym)
18338 \DeclareTextCommand{\textTumbler}{PU}{\9043\074}%* U+233C
18339 % U+233D APL FUNCTIONAL SYMBOL CIRCLE STILE; \baro (stmaryrd)
18340 \DeclareTextCommand{\textstmaryrdbaro}{PU}{\9043\075}% U+233D
18341 %* \textstmaryrdbaro -> \baro (stmaryrd)
18342 % U+233F APL FUNCTIONAL SYMBOL SLASH BAR; \notslash (wasysym)
18343 \DeclareTextCommand{\textnotslash}{PU}{\9043\077}%* U+233F
18344 % U+2340 APL FUNCTIONAL SYMBOL BACKSLASH BAR;
18345 % \notbackslash (wasysym)
18346 \DeclareTextCommand{\textnotbackslash}{PU}{\9043\100}%* U+2340
18347 % U+2342 APL FUNCTIONAL SYMBOL QUAD BACKSLASH; \boxbackslash (mathabx)
18348 \DeclareTextCommand{\textboxbackslash}{PU}{\9043\102}%* U+2342
18349 % U+2347 APL FUNCTIONAL SYMBOL QUAD LEFTWARDS ARROW;
18350 % \APLleftarrowbox (wasysym)
18351 \DeclareTextCommand{\textAPLleftarrowbox}{PU}{\9043\107}%* U+2347
18352 % U+2348 APL FUNCTIONAL SYMBOL QUAD RIGHTWARDS ARROW;
18353 % \APLrightarrowbox (wasysym)
18354 \DeclareTextCommand{\textAPLrightarrowbox}{PU}{\9043\110}%* U+2348
18355 % U+2350 APL FUNCTIONAL SYMBOL QUAD UPWARDS ARROW; \APLuparrowbox (wasysym)
18356 \DeclareTextCommand{\textAPLuparrowbox}{PU}{\9043\120}%* U+2350
18357 % U+2357 APL FUNCTIONAL SYMBOL QUAD DOWNWARDS ARROW;
18358 % \APLdownarrowbox (wasysym)
18359 \DeclareTextCommand{\textAPLdownarrowbox}{PU}{\9043\127}%* U+2357
18360 % U+235E APL FUNCTIONAL SYMBOL QUOTE QUAD;
18361 % \APLinput (wasysym)
18362 \DeclareTextCommand{\textAPLinput}{PU}{\9043\136}%* U+235E
18363 % U+2370 APL FUNCTIONAL SYMBOL QUAD QUESTION; \Request (china2e)
18364 \DeclareTextCommand{\textRequest}{PU}{\9043\160}%* U+2370
18365 % U+2393 DIRECT CURRENT SYMBOL FORM TWO; \Beam (marvosym)
18366 \DeclareTextCommand{\textBeam}{PU}{\9043\223}%* U+2393
18367 % U+2394 SOFTWARE-FUNCTION SYMBOL; \hexagon (wasysym)
18368 \DeclareTextCommand{\texthexagon}{PU}{\9043\224}%* U+2394
18369 % U+2395 APL FUNCTIONAL SYMBOL QUAD; \APLbox (wasysym)
18370 \DeclareTextCommand{\textAPLbox}{PU}{\9043\225}%* U+2395
18371 % U+23ED BLACK RIGHT-POINTING DOUBLE TRIANGLE WITH VERTICAL BAR;
18372 % \ForwardToIndex (marvosym)
18373 \DeclareTextCommand{\textForwardToIndex}{PU}{\9043\355}%* U+23ED
18374 % U+23EE BLACK LEFT-POINTING DOUBLE TRIANGLE WITH VERTICAL BAR;
18375 % \RewindToIndex (marvosym)
18376 \DeclareTextCommand{\textRewindToIndex}{PU}{\9043\356}%* U+23EE

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47.2.24 Control Pictures: U+2400 to U+243F

18377 % U+2422 BLANK SYMBOL
 18378 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
 18379 % U+2423 OPEN BOX; blank
 18380 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

47.2.25 Optical Character Recognition: U+2440 to U+245F

18381 % U+244A OCR DOUBLE BACKSLASH; \bbslash (stmaryrd)
 18382 \DeclareTextCommand{\textbbslash}{PU}{\9044\112}%* U+244A
 18383 %* \textbbslash -> \varparallelinv (txfonts/pxfonts)

47.2.26 Enclosed Alphanumerics: U+2460 to U+24FF

18384 % U+2460 CIRCLED DIGIT ONE; onecircle
 18385 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
 18386 % U+2461 CIRCLED DIGIT TWO; twocircle
 18387 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
 18388 % U+2462 CIRCLED DIGIT THREE; threecircle
 18389 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
 18390 % U+2463 CIRCLED DIGIT FOUR; fourcircle
 18391 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
 18392 % U+2464 CIRCLED DIGIT FIVE; fivecircle
 18393 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
 18394 % U+2465 CIRCLED DIGIT SIX; sixcircle
 18395 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
 18396 % U+2466 CIRCLED DIGIT SEVEN; sevencircle
 18397 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
 18398 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
 18399 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
 18400 % U+2468 CIRCLED DIGIT NINE; ninecircle
 18401 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
 18402 % U+2469 CIRCLED NUMBER TEN; tencircle
 18403 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
 18404 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
 18405 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
 18406 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
 18407 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
 18408 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
 18409 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
 18410 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
 18411 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
 18412 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
 18413 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
 18414 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
 18415 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
 18416 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
 18417 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
 18418 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
 18419 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
 18420 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
 18421 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
 18422 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
 18423 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
 18424 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
 18425 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
 18426 % \CircledA (marvosym)

18427 \DeclareTextCommand{\textCircledA}{PU}{\9044\266}%* U+24B6
18428 %* \textCircledA -> \CleaningA
18429 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
18430 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
18431 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
18432 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
18433 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
18434 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
18435 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
18436 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
18437 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
18438 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
18439 % \CleaningF (marvosym)
18440 \DeclareTextCommand{\textCleaningF}{PU}{\9044\273}%* U+24BB
18441 % \CleaningFF (marvosym)
18442 \DeclareTextCommand{\textCleaningFF}{PU}{\9044\273\83\062}%* U+24BB U+0332
18443 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
18444 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
18445 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
18446 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
18447 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
18448 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
18449 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
18450 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
18451 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
18452 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
18453 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
18454 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
18455 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
18456 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
18457 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
18458 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
18459 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
18460 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
18461 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
18462 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
18463 % \CleaningP (marvosym)
18464 \DeclareTextCommand{\textCleaningP}{PU}{\9044\305}%* U+24C5
18465 % \CleaningPP (marvosym)
18466 \DeclareTextCommand{\textCleaningPP}{PU}{\9044\305\83\062}%* U+24C5 U+0332
18467 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
18468 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
18469 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
18470 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
18471 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
18472 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
18473 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
18474 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
18475 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
18476 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
18477 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
18478 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
18479 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
18480 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC

18481 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle
 18482 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
 18483 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
 18484 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
 18485 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
 18486 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
 18487 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
 18488 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
 18489 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
 18490 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
 18491 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
 18492 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
 18493 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
 18494 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
 18495 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle
 18496 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
 18497 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
 18498 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
 18499 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
 18500 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
 18501 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
 18502 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
 18503 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
 18504 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
 18505 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
 18506 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
 18507 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
 18508 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
 18509 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
 18510 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
 18511 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
 18512 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
 18513 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
 18514 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
 18515 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
 18516 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
 18517 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
 18518 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
 18519 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
 18520 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
 18521 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
 18522 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
 18523 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
 18524 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
 18525 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
 18526 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
 18527 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
 18528 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
 18529 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
 18530 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
 18531 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
 18532 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
 18533 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
 18534 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7

18535 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
 18536 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
 18537 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
 18538 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
 18539 % U+24EA CIRCLED DIGIT ZERO
 18540 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

47.2.27 Box Drawing: U+2500 to 257F

18541 % U+2504 BOX DRAWINGS LIGHT TRIPLE DASH HORIZONTAL; \Cutting-
 Line (marvosym)
 18542 \DeclareTextCommand{\textCuttingLine}{PU}{\9045\004}%* U+2504
 18543 %* \textCuttingLine -> \Kutline (marvosym)
 18544 %* \textCuttingLine -> \CutLine (marvosym)
 18545 %* \textCuttingLine -> \Cutline (marvosym)

47.2.28 Geometric Shapes: U+25A0 to U+25FF

18546 % U+25B2 BLACK UP-POINTING TRIANGLE; \UParrow (wasysym)
 18547 \DeclareTextCommand{\textUParrow}{PU}{\9045\262}%* U+25B2
 18548 %* \textUParrow -> \MoveUp (marvosym)
 18549 % U+25B3 WHITE UP-POINTING TRIANGLE; whiteuppointingtriangle;
 18550 % \bigtriangleup (LaTeX)
 18551 \DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}%* U+25B3
 18552 %* \textbigtriangleup -> \APLup (wasysym)
 18553 %* \textbigtriangleup -> \Bleech (marvosym)
 18554 % U+25B6 BLACK RIGHT-POINTING TRIANGLE; \Forward (marvosym)
 18555 \DeclareTextCommand{\textForward}{PU}{\9045\266}%* U+25B6
 18556 % U+25B7 WHITE RIGHT-POINTING TRIANGLE (= z notation range restric-
 tion);
 18557 % whiterightpointingtriangle; \triangleright (LaTeX)
 18558 \DeclareTextCommand{\texttripleright}{PU}{\9045\267}%* U+25B7
 18559 % U+25BA BLACK RIGHT-POINTING POINTER; \RHD (wasysym)
 18560 \DeclareTextCommand{\textRHD}{PU}{\9045\272}%* U+25BA
 18561 % U+25BC BLACK DOWN-POINTING TRIANGLE; \DOWNarrow (wasysym)
 18562 \DeclareTextCommand{\textDOWNarrow}{PU}{\9045\274}%* U+25BC
 18563 %* \textDOWNarrow -> \MoveDown (marvosym)
 18564 % U+25BD WHITE DOWN-POINTING TRIANGLE; whitedownpointingtri-
 angle;
 18565 % \bigtriangledown (LaTeX)
 18566 \DeclareTextCommand{\textbigtriangledown}{PU}{\9045\275}%* U+25BD
 18567 %* \textbigtriangledown -> \APLdown (wasysym)
 18568 % U+25C0 BLACK LEFT-POINTING TRIANGLE; \Rewind (marvosym)
 18569 \DeclareTextCommand{\textRewind}{PU}{\9045\300}%* U+25C0
 18570 % U+25C1 WHITE RIGHT-POINTING TRIANGLE (= z notation domain re-
 striction);
 18571 % whiteleftpointingtriangle; \triangleleft (LaTeX)
 18572 \DeclareTextCommand{\texttriangleleft}{PU}{\9045\301}%* U+25C1
 18573 % U+25C4 BLACK LEFT-POINTING POINTER; \LHD (wasysym)
 18574 \DeclareTextCommand{\textLHD}{PU}{\9045\304}%* U+25C4
 18575 % U+25C7 WHITE DIAMOND; whitediamond; \diamond (LaTeX)
 18576 \DeclareTextCommand{\textdiamond}{PU}{\9045\307}%* U+25C7
 18577 %* \textdiamond -> \Diamond (wasysym)
 18578 % U+25CA LOZENGE; lozenge; \lozenge (AmS)
 18579 \DeclareTextCommand{\textlozenge}{PU}{\9045\312}%* U+25CA
 18580 % U+25D6 LEFT HALF BLACK CIRCLE; \LEFTCIRCLE (wasysym)

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18581 \DeclareTextCommand{\textLEFTCIRCLE}{PU}{\9045\326}%* U+25D6
18582 % U+25D7 RIGHT HALF BLACK CIRCLE; \RIGHTCIRCLE (wasysym)
18583 \DeclareTextCommand{\textRIGHTCIRCLE}{PU}{\9045\327}%* U+25D7
18584 % U+25E6 WHITE BULLET; *openbullet, whitebullet
18585 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}%* U+25E6
18586 % U+25EB WHITE SQUARE WITH VERTICAL BISECTING LINE;
18587 % \boxbar (stmaryrd)
18588 \DeclareTextCommand{\textboxbar}{PU}{\9045\353}%* U+25EB
18589 % U+25EF LARGE CIRCLE; largecircle
18590 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}%* U+25EF
18591 %* \textbigcircle -> \varbigcirc (stmaryrd)
18592 %

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47.2.29 Miscellaneous Symbols: U+2600 to U+26FF

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18593 % U+2601 CLOUD; \Cloud (ifsym)
18594 \DeclareTextCommand{\textCloud}{PU}{\9046\001}%* U+2601
18595 % U+2605 BLACK STAR; \FiveStar (bbding)
18596 \DeclareTextCommand{\textFiveStar}{PU}{\9046\005}%* U+2605
18597 % U+2606 WHITE STAR; \FiveStarOpen (bbding)
18598 \DeclareTextCommand{\textFiveStarOpen}{PU}{\9046\006}%* U+2606
18599 % U+260E BLACK TELEPHONE; telephoneblack; \Phone (bbding)
18600 \DeclareTextCommand{\textPhone}{PU}{\9046\016}%* U+260E
18601 %* \textPhone -> \Telefon (marvosym)
18602 % U+2610 BALLOT BOX; \boxempty (stmaryrd)
18603 \DeclareTextCommand{\textboxempty}{PU}{\9046\020}%* U+2610
18604 %* \textboxempty -> \Box (wasysym)
18605 % U+2611 BALLOT BOX WITH CHECK; \Checkedbox (marvosym)
18606 \DeclareTextCommand{\textCheckedbox}{PU}{\9046\021}%* U+2611
18607 %* \textCheckedbox -> \CheckedBox (marvosym)
18608 % U+2612 BALLOT BOX WITH X; \Crossedbox (marvosym)
18609 \DeclareTextCommand{\textCrossedbox}{PU}{\9046\022}%* U+2612
18610 %* \textCrossedbox -> \XBox (wasysym)
18611 %* \textCrossedbox -> \CrossedBox (marvosym)
18612 % U+2615 HOT BEVERAGE; \Coffeecup (marvosym)
18613 \DeclareTextCommand{\textCoffeecup}{PU}{\9046\025}%* U+2615
18614 % U+261A BLACK LEFT POINTING INDEX; \HandCuffLeft (bbding)
18615 \DeclareTextCommand{\textHandCuffLeft}{PU}{\9046\032}%* U+261A
18616 % U+261B BLACK RIGHT POINTING INDEX; \HandCuffRight (bbding)
18617 \DeclareTextCommand{\textHandCuffRight}{PU}{\9046\033}%* U+261B
18618 % U+261C WHITE LEFT POINTING INDEX; \HandLeft (bbding)
18619 \DeclareTextCommand{\textHandLeft}{PU}{\9046\034}%* U+261C
18620 %* \textHandLeft -> \rightpointleft (fourier)
18621 % U+261E WHITE RIGHT POINTING INDEX; \HandRight (bbding)
18622 \DeclareTextCommand{\textHandRight}{PU}{\9046\036}%* U+261E
18623 %* \textHandRight -> \leftpointright (fourier)
18624 %* \textHandRight -> \PointingHand (marvosym)
18625 %* \textHandRight -> \Pointinghand (marvosym)
18626 % U+2622 RADIOACTIVE SIGN; \Radioactivity (marvosym)
18627 \DeclareTextCommand{\textRadioactivity}{PU}{\9046\042}%* U+2622
18628 %* \textRadioactivity -> \Radiation (ifsym)
18629 % U+2623 BIOHAZARD SIGN; \Biohazard (marvosym)
18630 \DeclareTextCommand{\textBiohazard}{PU}{\9046\043}%* U+2623
18631 % U+2625 ANKH; \Ankh (marvosym)
18632 \DeclareTextCommand{\textAnkh}{PU}{\9046\045}%* U+2625

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18633 % U+262F YIN YANG; \YinYang (marvosym)
18634 \DeclareTextCommand{\textYinYang}{PU}{\9046\057}%* U+262F
18635 %* \textYinYang -> \Yinyang (marvosym)
18636 %* \textYinYang -> \YingYang (marvosym)
18637 %* \textYinYang -> \Yingyang (marvosym)
18638 % U+2639 WHITE FROWNING FACE; \frownie (wasysym)
18639 \DeclareTextCommand{\textfrownie}{PU}{\9046\071}%* U+2639
18640 %* \textfrownie -> \Frowny (marvosym)
18641 % U+263A WHITE SMILING FACE; \smiley (wasysym)
18642 \DeclareTextCommand{\textsmiley}{PU}{\9046\072}%* U+263A
18643 %* \textsmiley -> \Smiley (marvosym)
18644 % U+263B BLACK SMILING FACE; \blacksmiley (wasysym)
18645 \DeclareTextCommand{\textblacksmiley}{PU}{\9046\073}%* U+263B
18646 % U+263C WHITE SUN WITH RAYS; \sun (wasysym)
18647 \DeclareTextCommand{\textsun}{PU}{\9046\074}%* U+263C
18648 %* \textsun -> \Sun (marvosym)
18649 % U+263D FIRST QUARTER MOON; \leftmoon (wasysym, mathabx)
18650 \DeclareTextCommand{\textleftmoon}{PU}{\9046\075}%* U+263D
18651 % U+263E LAST QUARTER MOON; \rightmoon (wasysym, mathabx)
18652 \DeclareTextCommand{\textrightmoon}{PU}{\9046\076}%* U+263E
18653 % U+263F MERCURY; \mercury (wasysym)
18654 \DeclareTextCommand{\textmercury}{PU}{\9046\077}%* U+263F
18655 %* \textmercury -> \Mercury (marvosym)
18656 % U+2640 FEMALE SIGN; female; \female (wasysym)
18657 \DeclareTextCommand{\textPUfemale}{PU}{\9046\100}% U+2640
18658 %* \textPUfemale -> \textfemale (tipx)
18659 %* \textPUfemale -> \female (wasysym)
18660 %* \textPUfemale -> \venus (wasysym)
18661 %* \textPUfemale -> \Venus (marvosym)
18662 %* \textPUfemale -> \Female (marvosym)
18663 % U+2641 EARTH; \earth (wasysym)
18664 \DeclareTextCommand{\textearth}{PU}{\9046\101}%* U+2641
18665 %* \textearth -> \Earth (marvosym)
18666 % U+2642 MALE SIGN; male, mars; \male (wasysym)
18667 \DeclareTextCommand{\textmale}{PU}{\9046\102}%* U+2642
18668 %* \textmale -> \mars (wasysym)
18669 %* \textmale -> \Mars (marvosym)
18670 %* \textmale -> \Male (marvosym)
18671 % U+2643 JUPITER; \jupiter (wasysym)
18672 \DeclareTextCommand{\textjupiter}{PU}{\9046\103}%* U+2643
18673 %* \textjupiter -> \Jupiter (marvosym)
18674 % U+2644 SATURN; \saturn (wasysym)
18675 \DeclareTextCommand{\textsaturn}{PU}{\9046\104}%* U+2644
18676 %* \textsaturn -> \Saturn (marvosym)
18677 % U+2645 URANUS; \uranus (wasysym)
18678 \DeclareTextCommand{\texturanus}{PU}{\9046\105}%* U+2645
18679 %* \texturanus -> \Uranus (marvosym)
18680 % U+2646 NEPTUNE; \neptune (wasysym)
18681 \DeclareTextCommand{\textneptune}{PU}{\9046\106}%* U+2646
18682 %* \textneptune -> \Neptune (marvosym)
18683 % U+2647 PLUTO; \pluto (wasysym)
18684 \DeclareTextCommand{\textpluto}{PU}{\9046\107}%* U+2647
18685 %* \textpluto -> \Pluto (marvosym)
18686 % U+2648 ARIES; \aries (wasysym)

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18687 \DeclareTextCommand{\textaries}{PU}{\9046\110}%* U+2648
18688 %* \textaries -> \Aries (marvosym)
18689 % U+2649 TAURUS; \taurus (wasysym)
18690 \DeclareTextCommand{\texttaurus}{PU}{\9046\111}%* U+2649
18691 %* \texttaurus -> \Taurus (marvosym)
18692 % U+264A GEMINI; \gemini (wasysym)
18693 \DeclareTextCommand{\textgemini}{PU}{\9046\112}%* U+264A
18694 %* \textgemini -> \Gemini (marvosym)
18695 % U+264B CANCER; \cancer (wasysym)
18696 \DeclareTextCommand{\textcancer}{PU}{\9046\113}%* U+264B
18697 %* \textcancer -> \Cancer (marvosym)
18698 % U+264C LEO; \leo (wasysym)
18699 \DeclareTextCommand{\textleo}{PU}{\9046\114}%* U+264C
18700 %* \textleo -> \Leo (marvosym)
18701 % U+264D VIRGO; \virgo (wasysym)
18702 \DeclareTextCommand{\textvirgo}{PU}{\9046\115}%* U+264D
18703 %* \textvirgo -> \Virgo (marvosym)
18704 % U+264E LIBRA; \libra (wasysym)
18705 \DeclareTextCommand{\textlibra}{PU}{\9046\116}%* U+264E
18706 %* \textlibra -> \Libra (marvosym)
18707 % U+264F SCORPIO; \scorpio (wasysym)
18708 \DeclareTextCommand{\textscorpio}{PU}{\9046\117}%* U+264F
18709 %* \textscorpio -> \Scorpio (marvosym)
18710 % U+2650 SAGITTARIUS; \sagittarius (wasysym)
18711 \DeclareTextCommand{\textsagittarius}{PU}{\9046\120}%* U+2650
18712 %* \textsagittarius -> \Sagittarius (marvosym)
18713 % U+2651 CAPRICORN; \capricornus (wasysym)
18714 \DeclareTextCommand{\textcapricornus}{PU}{\9046\121}%* U+2651
18715 %* \textcapricornus -> \Capricorn (marvosym)
18716 % U+2652 AQUARIUS; \aquarius (wasysym)
18717 \DeclareTextCommand{\textaquarius}{PU}{\9046\122}%* U+2652
18718 %* \textaquarius -> \Aquarius (marvosym)
18719 % U+2653 PISCES; \pisces (wasysym)
18720 \DeclareTextCommand{\textpisces}{PU}{\9046\123}%* U+2653
18721 %* \textpisces -> \Pisces (marvosym)
18722 % U+2660 BLACK SPADE SUIT; spade, spadesuitblack; \spadesuit (LaTeX)
18723 \DeclareTextCommand{\textspadesuitblack}{PU}{\9046\140}% U+2660
18724 %* \textspadesuitblack -> \spadesuit (MnSymbol)
18725 % U+2661 WHITE HEART SUIT; heartsuitwhite; \heartsuit (LaTeX)
18726 \DeclareTextCommand{\textheartsuitwhite}{PU}{\9046\141}% U+2661
18727 %* \textheartsuitwhite -> \Heart (marvosym)
18728 %* \textheartsuitwhite -> \heartsuit (MnSymbol)
18729 % U+2662 WHITE DIAMOND SUIT; diamondsuitwhite; \diamondsuit (LaTeX)
18730 \DeclareTextCommand{\textdiamondsuitwhite}{PU}{\9046\142}% U+2662
18731 %* \textdiamondsuitwhite -> \diamondsuit (MnSymbol)
18732 % U+2663 BLACK CLUB SUIT; club, clubsuitblack; \clubsuit (LaTeX)
18733 \DeclareTextCommand{\textclubsuitblack}{PU}{\9046\143}% U+2663
18734 %* \textclubsuitblack -> \clubsuit (MnSymbol)
18735 % U+2664 WHITE SPADE SUIT; spadesuitwhite
18736 \DeclareTextCommand{\textspadesuitwhite}{PU}{\9046\144}% U+2664
18737 % U+2665 BLACK HEART SUIT; heartsuitblack, heart
18738 \DeclareTextCommand{\textheartsuitblack}{PU}{\9046\145}% U+2665
18739 % U+2666 BLACK DIAMOND SUIT; diamond
18740 \DeclareTextCommand{\textdiamondsuitblack}{PU}{\9046\146}% U+2666

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18741 % U+2667 WHITE CLUB SUIT; clubsuitwhite
18742 \DeclareTextCommand{\textclubsuitwhite}{PU}{\9046\147}% U+2667
18743 % U+2669 QUARTER NOTE; quarternote; \quarternote (wasysym, arev)
18744 \DeclareTextCommand{\textquarternote}{PU}{\9046\151}%* U+2669
18745 % U+266A EIGHTH NOTE; musicalnote; \textmusicalnote (textcomp)
18746 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
18747 %* \textmusicalnote -> \eighthnote (wasysym, arev)
18748 % U+266B BEAMED EIGHTH NOTES; eighthnotebeamed; \twonotes (wasysym)
18749 \DeclareTextCommand{\texttwonotes}{PU}{\9046\153}%* U+266B
18750 % U+266C BEAMED SIXTEENTH NOTES; beamedsixteenthnotes; \sixteenth-
note (arev)
18751 \DeclareTextCommand{\textsixteenthnote}{PU}{\9046\154}%* U+266C
18752 % U+266D MUSIC FLAT SIGN; musicflatsign; \flat (LaTeX)
18753 \DeclareTextCommand{\textflat}{PU}{\9046\155}%* U+266D
18754 % U+266E MUSIC NATURAL SIGN; \natural (LaTeX)
18755 \DeclareTextCommand{\textnatural}{PU}{\9046\156}%* U+266E
18756 % U+266F MUSIC SHARP SIGN; musicsharpsign; \sharp (LaTeX)
18757 \DeclareTextCommand{\textsharp}{PU}{\9046\157}%* U+266F
18758 % U+2672 UNIVERSAL RECYCLING SYMBOL; \recycle (recycle)
18759 \DeclareTextCommand{\textrecycle}{PU}{\9046\162}%* U+2672
18760 %* \textrecycle -> \Recycling (marvosym)
18761 % U+267F WHEELCHAIR SYMBOL; \Wheelchair (marvosym)
18762 \DeclareTextCommand{\textWheelchair}{PU}{\9046\177}%* U+267F
18763 % U+2691 BLACK FLAG; \Flag (ifsym)
18764 \DeclareTextCommand{\textFlag}{PU}{\9046\221}%* U+2691
18765 %* \textFlag -> \VarFlag (ifsym)
18766 % U+2692 HAMMER AND PICK; \MineSign (marvosym)
18767 \DeclareTextCommand{\textMineSign}{PU}{\9046\222}%* U+2692
18768 % U+2694 CROSSED SWORDS; \dsmlilitary (dictsym)
18769 \DeclareTextCommand{\textdsmlilitary}{PU}{\9046\224}%* U+2694
18770 %* \textdsmlilitary -> \textxswup (fourier)
18771 % U+2695 STAFF OF AESCULAPIUS; \dsmedical (dictsym)
18772 \DeclareTextCommand{\textdsmedical}{PU}{\9046\225}%* U+2695
18773 % U+2696 SCALES; \dsjuridical (dictsym)
18774 \DeclareTextCommand{\textdsjuridical}{PU}{\9046\226}%* U+2696
18775 % U+2697 ALEMBIC; \dschemical (dictsym)
18776 \DeclareTextCommand{\textdschemical}{PU}{\9046\227}%* U+2697
18777 % U+2698 FLOWER; \dsbiological (dictsym)
18778 \DeclareTextCommand{\textdsbiological}{PU}{\9046\230}%* U+2698
18779 % U+269A STAFF OF HERMES; \dscommercial (dictsym)
18780 \DeclareTextCommand{\textdscommercial}{PU}{\9046\232}%* U+269A
18781 % U+269D OUTLINED WHITE STAR; \manstar (manfnt)
18782 \DeclareTextCommand{\textmanstar}{PU}{\9046\235}%* U+269D
18783 % U+26A0 WARNING SIGN; \danger (fourier)
18784 \DeclareTextCommand{\textdanger}{PU}{\9046\240}%* U+26A0
18785 % U+26A2 DOUBLED FEMALE SIGN; \FemaleFemale (marvosym)
18786 \DeclareTextCommand{\textFemaleFemale}{PU}{\9046\242}%* U+26A2
18787 % U+26A3 DOUBLED MALE SIGN; \MaleMale (marvosym)
18788 \DeclareTextCommand{\textMaleMale}{PU}{\9046\243}%* U+26A3
18789 % U+26A4 INTERLOCKED FEMALE AND MALE SIGN; \FemaleMale (mar-
vosym)
18790 \DeclareTextCommand{\textFemaleMale}{PU}{\9046\244}%* U+26A4
18791 % U+26A5 MALE AND FEMALE SIGN; \Hermaphrodite (marvosym)
18792 \DeclareTextCommand{\textHermaphrodite}{PU}{\9046\245}%* U+26A5

18793 % U+26AA MEDIUM WHITE CIRCLE; \Neural (marvosym)
 18794 \DeclareTextCommand{\textNeutral}{PU}{\9046\252}%* U+26AA
 18795 % U+26AD MARRIAGE SYMBOL
 18796 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
 18797 % U+26AE DIVORCE SYMBOL
 18798 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE
 18799 % U+26B2 NEUTER; \textunconfemale (tipx)
 18800 \DeclareTextCommand{\textPUunconfemale}{PU}{\9046\262}% U+26B2
 18801 %* \textPUunconfemale -> \textunconfemale (tipx)
 18802 % U+26B9 SEXTILE; \hexstar (wasysym)
 18803 \DeclareTextCommand{\texthexstar}{PU}{\9046\271}%* U+26B9
 18804 % U+26BD SOCCER BALL; \Football (marvosym)
 18805 \DeclareTextCommand{\textSoccerBall}{PU}{\9046\275}% U+26BD
 18806 %* \textSoccerBall -> \Football (marvosym)
 18807 % U+26C5 SUN BEHIND CLOUD; \SunCloud (ifsym)
 18808 \DeclareTextCommand{\textSunCloud}{PU}{\9046\305}%* U+26C5
 18809 % U+26C6 RAIN; \Rain (ifsym)
 18810 \DeclareTextCommand{\textRain}{PU}{\9046\306}%* U+26C6
 18811 % U+26D4 NO ENTRY; \noway (fourier)
 18812 \DeclareTextCommand{\textnoway}{PU}{\9046\324}%* U+26D4
 18813 % U+26F0 MOUNTAIN; \Mountain (ifsym)
 18814 \DeclareTextCommand{\textMountain}{PU}{\9046\360}%* U+26F0
 18815 % U+26FA TENT; \Tent (ifsym)
 18816 \DeclareTextCommand{\textTent}{PU}{\9046\372}%* U+26FA

47.2.30 Dingbats: U+2700 to U+27BF

18817 % U+2701 UPPER BLADE SCISSORS; \ScissorRightBrokenBottom (bbding)
 18818 \DeclareTextCommand{\textScissorRightBrokenBottom}{PU}{\9047\001}% U+2701
 18819 %* \textScissorRightBrokenBottom -> \CutLeft (marvosym)
 18820 %* \textScissorRightBrokenBottom -> \Cutright (marvosym)
 18821 % U+2702 BLACK SCISSORS; \ScissorRight (bbding)
 18822 \DeclareTextCommand{\textScissorRight}{PU}{\9047\002}%* U+2702
 18823 %* \textScissorRight -> \RightScissors (marvosym)
 18824 %* \textScissorRight -> \Leftscissors (marvosym)
 18825 % U+2703 LOWER BLADE SCISSORS; \ScissorRightBrokenTop (bbding)
 18826 \DeclareTextCommand{\textScissorRightBrokenTop}{PU}{\9047\003}%* U+2703
 18827 % U+2704 WHITE SCISSORS; \ScissorHollowRight (bbding)
 18828 \DeclareTextCommand{\textScissorHollowRight}{PU}{\9047\004}%* U+2704
 18829 % U+2706 TELEPHONE LOCATION SIGN; \PhoneHandset (bbding)
 18830 \DeclareTextCommand{\textPhoneHandset}{PU}{\9047\006}%* U+2706
 18831 % U+2707 TAPE DRIVE; \Tape (bbding)
 18832 \DeclareTextCommand{\textTape}{PU}{\9047\007}%* U+2707
 18833 % U+2708 AIRPLANE; \Plane (bbding)
 18834 \DeclareTextCommand{\textPlane}{PU}{\9047\010}%* U+2708
 18835 % U+2709 ENVELOPE; \Envelope (bbding),
 18836 \DeclareTextCommand{\textEnvelope}{PU}{\9047\011}%* U+2709
 18837 %* \textEnvelope -> \Letter (marvosym)
 18838 % U+270C VICTORY HAND; \Peace (bbding)
 18839 \DeclareTextCommand{\textPeace}{PU}{\9047\014}%* U+270C
 18840 % U+270D WRITING HAND; \WritingHand (marvosym)
 18841 \DeclareTextCommand{\textWritingHand}{PU}{\9047\015}%* U+270D
 18842 %* \textWritingHand -> \Writinghand (marvosym)
 18843 % U+270E LOWER RIGHT PENCIL; \PencilRightDown (bbding)
 18844 \DeclareTextCommand{\textPencilRightDown}{PU}{\9047\016}%* U+270E

18845 % U+270F PENCIL; \PencilRight (bding)
18846 \DeclareTextCommand{\textPencilRight}{PU}{\9047\017}%* U+270F
18847 % U+2710 UPPER RIGHT PENCIL; \PencilRightUp (bding)
18848 \DeclareTextCommand{\textPencilRightUp}{PU}{\9047\020}%* U+2710
18849 % U+2711 WHITE NIB; \NibRight (bding)
18850 \DeclareTextCommand{\textNibRight}{PU}{\9047\021}%* U+2711
18851 % U+2712 BLACK NIB; \NibSolidRight (bding)
18852 \DeclareTextCommand{\textNibSolidRight}{PU}{\9047\022}%* U+2712
18853 % U+2713 CHECK MARK; checkmark; \Checkmark (bding)
18854 \DeclareTextCommand{\textCheckmark}{PU}{\9047\023}%* U+2713
18855 %* \textCheckmark -> \checkmark (MnSymbol)
18856 % U+2714 HEAVY CHECK MARK; \CheckmarkBold (bding)
18857 \DeclareTextCommand{\textCheckmarkBold}{PU}{\9047\024}%* U+2714
18858 % U+2715 MULTIPLICATION X; \XSolid (bding)
18859 \DeclareTextCommand{\textXSolid}{PU}{\9047\025}%* U+2715
18860 % U+2716 HEAVY MULTIPLICATION X; \XSolidBold (bding)
18861 \DeclareTextCommand{\textXSolidBold}{PU}{\9047\026}%* U+2716
18862 % U+2717 BALLOT X; \XSolidBrush (bding)
18863 \DeclareTextCommand{\textXSolidBrush}{PU}{\9047\027}%* U+2717
18864 % U+2719 OUTLINED GREEK CROSS; \PlusOutline (bding)
18865 \DeclareTextCommand{\textPlusOutline}{PU}{\9047\031}%* U+2719
18866 % U+271A HEAVY GREEK CROSS; \Plus (bding)
18867 \DeclareTextCommand{\textPlus}{PU}{\9047\032}%* U+271A
18868 % U+271B OPEN CENTRE CROSS; \PlusThinCenterOpen (bding)
18869 \DeclareTextCommand{\textPlusThinCenterOpen}{PU}{\9047\033}%* U+271B
18870 % U+271C HEAVY OPEN CENTRE CROSS; \PlusCenterOpen (bding)
18871 \DeclareTextCommand{\textPlusCenterOpen}{PU}{\9047\034}%* U+271C
18872 % U+271D LATIN CROSS; \Cross (bding)
18873 \DeclareTextCommand{\textCross}{PU}{\9047\035}%* U+271D
18874 % U+271E SHADOWED WHITE LATIN CROSS; \CrossOpenShadow (bding)
18875 \DeclareTextCommand{\textCrossOpenShadow}{PU}{\9047\036}%* U+271E
18876 % U+271F OUTLINED LATIN CROSS; \CrossOutline (bding)
18877 \DeclareTextCommand{\textCrossOutline}{PU}{\9047\037}%* U+271F
18878 % U+2720 MALTESE CROSS; \CrossMaltese (bding)
18879 \DeclareTextCommand{\textCrossMaltese}{PU}{\9047\040}%* U+2720
18880 % U+2721 STAR OF DAVID; \DavidStar (bding)
18881 \DeclareTextCommand{\textDavidStar}{PU}{\9047\041}%* U+2721
18882 %* \textDavidStar -> \davidstar (wasysym)
18883 % U+2722 FOUR TEARDROP-SPOKED ASTERISK; \FourAsterisk (bding)
18884 \DeclareTextCommand{\textFourAsterisk}{PU}{\9047\042}%* U+2722
18885 % U+2723 FOUR BALLOON-SPOKED ASTERISK; \JackStar (bding)
18886 \DeclareTextCommand{\textJackStar}{PU}{\9047\043}%* U+2723
18887 % U+2724 HEAVY FOUR BALLOON-SPOKED ASTERISK; \JackStarBold (bding)
18888 \DeclareTextCommand{\textJackStarBold}{PU}{\9047\044}%* U+2724
18889 % U+2725 FOUR CLUB-SPOKED ASTERISK; \CrossClowerTips (bding)
18890 \DeclareTextCommand{\textClowerTips}{PU}{\9047\045}%* U+2725
18891 % U+2726 BLACK FOUR POINTED STAR; \FourStar (bding)
18892 \DeclareTextCommand{\textFourStar}{PU}{\9047\046}%* U+2726
18893 % U+2727 WHITE FOUR POINTED STAR; \FourStarOpen (bding)
18894 \DeclareTextCommand{\textFourStarOpen}{PU}{\9047\047}%* U+2727
18895 % U+272A CIRCLED WHITE STAR; \FiveStarOpenCircled (bding)
18896 \DeclareTextCommand{\textFiveStarOpenCircled}{PU}{\9047\052}%* U+272A
18897 % U+272B OPEN CENTRE BLACK STAR; \FiveStarCenterOpen (bding)

18898 \DeclareTextCommand{\textFiveStarCenterOpen}{PU}{\9047\053}%* U+272B
18899 % U+272C BLACK CENTRE WHITE STAR; \FiveStarOpenDotted (bding)
18900 \DeclareTextCommand{\textFiveStarOpenDotted}{PU}{\9047\054}%* U+272C
18901 % U+272D OUTLINED BLACK STAR; \FiveStarOutline (bding)
18902 \DeclareTextCommand{\textFiveStarOutline}{PU}{\9047\055}%* U+272D
18903 % U+272E HEAVY OUTLINED BLACK STAR; \FiveStarOutlineHeavy (bding)
18904 \DeclareTextCommand{\textFiveStarOutlineHeavy}{PU}{\9047\056}%* U+272E
18905 % U+272F PINWHEEL STAR; \FiveStarConvex (bding)
18906 \DeclareTextCommand{\textFiveStarConvex}{PU}{\9047\057}%* U+272F
18907 % U+2730 SHADOWED WHITE STAR; \FiveStarShadow (bding)
18908 \DeclareTextCommand{\textFiveStarShadow}{PU}{\9047\060}%* U+2730
18909 % U+2731 HEAVY ASTERISK; \AsteriskBold (bding)
18910 \DeclareTextCommand{\textAsteriskBold}{PU}{\9047\061}%* U+2731
18911 % U+2732 OPEN CENTRE ASTERISK; \AsteriskCenterOpen (bding)
18912 \DeclareTextCommand{\textAsteriskCenterOpen}{PU}{\9047\062}%* U+2732
18913 % U+2734 EIGHT POINTED BLACK STAR; \EightStarTaper (bding)
18914 \DeclareTextCommand{\textEightStarTaper}{PU}{\9047\064}%* U+2734
18915 % U+2735 EIGHT POINTED PINWHEEL STAR; \EightStarConvex (bding)
18916 \DeclareTextCommand{\textEightStarConvex}{PU}{\9047\065}%* U+2735
18917 % U+2736 SIX POINTED BLACK STAR; \SixStar (bding)
18918 \DeclareTextCommand{\textSixStar}{PU}{\9047\066}%* U+2736
18919 % U+2737 EIGHT POINTED RECTILINEAR BLACK STAR; \EightStar (bding)
18920 \DeclareTextCommand{\textEightStar}{PU}{\9047\067}%* U+2737
18921 % U+2738 HEAVY EIGHT POINTED RECTILINEAR BLACK STAR; \EightStarBold (bding)
18922 \DeclareTextCommand{\textEightStarBold}{PU}{\9047\070}%* U+2738
18923 % U+2739 TWELVE POINTED BLACK STAR; \TwelveStar (bding)
18924 \DeclareTextCommand{\textTwelveStar}{PU}{\9047\071}%* U+2739
18925 % U+273A SIXTEEN POINTED ASTERISK; \SixteenStarLight (bding)
18926 \DeclareTextCommand{\textSixteenStarLight}{PU}{\9047\072}%* U+273A
18927 % U+273B TEARDROP-SPOKED ASTERISK; \SixFlowerPetalRemoved (bding)
18928 \DeclareTextCommand{\textSixFlowerPetalRemoved}{PU}{\9047\073}%* U+273B
18929 % U+273C OPEN CENTRE TEARDROP-SPOKED ASTERISK;
18930 % \SixFlowerOpenCenter (bding)
18931 \DeclareTextCommand{\textSixFlowerOpenCenter}{PU}{\9047\074}%* U+273C
18932 % U+273D HEAVY TEARDROP-SPOKED ASTERISK; \Asterisk (bding)
18933 \DeclareTextCommand{\textAsterisk}{PU}{\9047\075}%* U+273D
18934 % U+273E SIX PETALLED BLACK AND WHITE FLORETTE; \SixFlowerAlternate (bding)
18935 \DeclareTextCommand{\textSixFlowerAlternate}{PU}{\9047\076}%* U+273E
18936 % U+273F BLACK FLORETTE; \FiveFlowerPetal (bding)
18937 \DeclareTextCommand{\textFiveFlowerPetal}{PU}{\9047\077}%* U+273F
18938 % U+2740 WHITE FLORETTE; \FiveFlowerOpen (bding)
18939 \DeclareTextCommand{\textFiveFlowerOpen}{PU}{\9047\100}%* U+2740
18940 % U+2741 EIGHT PETALLED OUTLINED BLACK FLORETTE; \EightFlowerPetal (bding)
18941 \DeclareTextCommand{\textEightFlowerPetal}{PU}{\9047\101}%* U+2741
18942 % U+2742 CIRCLED OPEN CENTRE EIGHT POINTED STAR; \SunshineOpenCircled (bding)
18943 \DeclareTextCommand{\textSunshineOpenCircled}{PU}{\9047\102}%* U+2742
18944 % U+2743 HEAVY TEARDROP-SPOKED PINWHEEL ASTERISK; \SixFlowerAltPetal (bding)

18945 \DeclareTextCommand{\textSixFlowerAltPetal}{PU}{\9047\103}%* U+2743
 18946 % U+2744 SNOWFLAKE; \SnowflakeChevron (bding)
 18947 \DeclareTextCommand{\textSnowflakeChevron}{PU}{\9047\104}%* U+2744
 18948 % U+2745 TIGHT TRIFOLIATE SNOWFLAKE; \Snowflake (bding)
 18949 \DeclareTextCommand{\textSnowflake}{PU}{\9047\105}%* U+2745
 18950 % U+2746 HEAVY CHEVRON SNOWFLAKE; \SnowflakeChevronBold (bding)
 18951 \DeclareTextCommand{\textSnowflakeChevronBold}{PU}{\9047\106}%* U+2746
 18952 % U+2747 SPARKLE; \Sparkle (bding)
 18953 \DeclareTextCommand{\textSparkle}{PU}{\9047\107}%* U+2747
 18954 % U+2748 HEAVY SPARKLE; \SparkleBold (bding)
 18955 \DeclareTextCommand{\textSparkleBold}{PU}{\9047\110}%* U+2748
 18956 % U+2749 BALLOON-SPOKED ASTERISK; \AsteriskRoundedEnds (bding)
 18957 \DeclareTextCommand{\textAsteriskRoundedEnds}{PU}{\9047\111}%* U+2749
 18958 % U+274A EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;
 18959 % \EightFlowerPetalRemoved (bding)
 18960 \DeclareTextCommand{\textEightFlowerPetalRemoved}{PU}{\9047\112}%* U+274A
 18961 % U+274B HEAVY EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;
 18962 % \EightAsterisk (bding)
 18963 \DeclareTextCommand{\textEightAsterisk}{PU}{\9047\113}%* U+274B
 18964 % U+274D SHADOWED WHITE CIRCLE; \CircleShadow (bding)
 18965 \DeclareTextCommand{\textCircleShadow}{PU}{\9047\115}%* U+274D
 18966 % U+274F LOWER RIGHT DROP-SHADOWED WHITE SQUARE;
 18967 % \SquareShadowBottomRight (bding)
 18968 \DeclareTextCommand{\textSquareShadowBottomRight}{PU}{\9047\117}%* U+274F
 18969 % U+2750 UPPER RIGHT DROP-SHADOWED WHITE SQUARE;
 18970 % \SquareShadowTopRight (bding)
 18971 \DeclareTextCommand{\textSquareShadowTopRight}{PU}{\9047\120}%* U+2750
 18972 % U+2751 LOWER RIGHT SHADOWED WHITE SQUARE;
 18973 % \SquareCastShadowBottomRight (bding)
 18974 \DeclareTextCommand{\textSquareCastShadowBottomRight}{PU}{\9047\121}%* U+2751
 18975 % U+2752 UPPER RIGHT SHADOWED WHITE SQUARE;
 18976 % \SquareCastShadowTopRight (bding)
 18977 \DeclareTextCommand{\textSquareCastShadowTopRight}{PU}{\9047\122}%* U+2752
 18978 % U+2756 BLACK DIAMOND MINUS WHITE X; \OrnamentDiamondSolid (bding)
 18979 \DeclareTextCommand{\textDiamondSolid}{PU}{\9047\126}%* U+2756
 18980 % U+2758 LIGHT VERTICAL BAR; \RectangleThin (bding)
 18981 \DeclareTextCommand{\textRectangleThin}{PU}{\9047\130}%* U+2758
 18982 % U+2759 MEDIUM VERTICAL BAR; \Rectangle (bding)
 18983 \DeclareTextCommand{\textRectangle}{PU}{\9047\131}%* U+2759
 18984 % U+275A HEAVY VERTICAL BAR; \RectangleBold (bding)
 18985 \DeclareTextCommand{\textRectangleBold}{PU}{\9047\132}%* U+275A

47.2.31 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

18986 % U+27C2 PERPENDICULAR; perpendicular; \perp (LaTeX)
 18987 \DeclareTextCommand{\textperp}{PU}{\9047\302}%* U+27C2
 18988 % \notperp (mathabx)
 18989 \DeclareTextCommand{\textnotperp}{PU}{\9047\302\83\070}%* U+27C2 U+0338
 18990 % U+27C7 OR WITH DOT INSIDE; \veedot (MnSymbol)
 18991 \DeclareTextCommand{\textveedot}{PU}{\9047\307}%* U+27C7
 18992 % U+27D1 AND WITH DOT; \wedgedot (MnSymbol)
 18993 \DeclareTextCommand{\textwedgedot}{PU}{\9047\321}%* U+27D1
 18994 % U+27DC LEFT MULTIMAP; \leftspoon (MnSymbol)
 18995 \DeclareTextCommand{\textleftspoon}{PU}{\9047\334}%* U+27DC

18996 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
18997 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}%* U+27E6
18998 %* \textlbrackdbl -> \lbracket (stmaryrd)
18999 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
19000 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}%* U+27E7
19001 %* \textrbrackdbl -> \rrbracket (stmaryrd)

47.2.32 Supplemental Arrows-A: U+27F0 to U+27FF

19002 % U+27F2 ANTICLOCKWISE GAPPED CIRCLE ARROW;
19003 % \circlearrowleft (AmS)
19004 \DeclareTextCommand{\textcirclearrowleft}{PU}{\9047\362}%* U+27F2
19005 % U+27F3 CLOCKWISE GAPPED CIRCLE ARROW; \circlearrowright (AmS)
19006 \DeclareTextCommand{\textcirclearrowright}{PU}{\9047\363}%* U+27F3
19007 % U+27F5 LONG LEFTWARDS ARROW; \longleftarrow (AmS)
19008 \DeclareTextCommand{\textlongleftarrow}{PU}{\9047\365}%* U+27F5
19009 % U+27F6 LONG RIGHTWARDS ARROW; \longrightarrow (AmS)
19010 \DeclareTextCommand{\textlongrightarrow}{PU}{\9047\366}%* U+27F6
19011 % U+27F7 LONG LEFT RIGHT ARROW; \longleftrightarrow (AmS)
19012 \DeclareTextCommand{\textlongleftrightarrow}{PU}{\9047\367}%* U+27F7
19013 % U+27F8 LONG LEFTWARDS DOUBLE ARROW; \Longleftarrow (AmS)
19014 \DeclareTextCommand{\textLongleftarrow}{PU}{\9047\370}%* U+27F8
19015 % U+27F9 LONG RIGHTWARDS DOUBLE ARROW; \longrightarrow (AmS)
19016 \DeclareTextCommand{\textLongrightarrow}{PU}{\9047\371}%* U+27F9
19017 % U+27FA LONG LEFT RIGHT DOUBLE ARROW; \Longleftrightarrow (AmS)
19018 \DeclareTextCommand{\textLongleftrightarrow}{PU}{\9047\372}%* U+27FA
19019 % U+27FC LONG RIGHTWARDS ARROW FROM BAR; \longmapsto (AmS)
19020 \DeclareTextCommand{\textlongmapsto}{PU}{\9047\374}%* U+27FC
19021 % U+27FD LONG LEFTWARDS DOUBLE ARROW FROM BAR; \Longmaps-
from (stmaryrd)
19022 \DeclareTextCommand{\textLongmapsfrom}{PU}{\9047\375}%* U+27FD
19023 % U+27FE LONG RIGHTWARDS DOUBLE ARROW FROM BAR; \Longmap-
sto (stmaryrd)
19024 \DeclareTextCommand{\textLongmapsto}{PU}{\9047\376}%* U+27FE

47.2.33 Supplemental Arrows-B: U+2900 to U+297F

19025 % U+2921 NORTH WEST AND SOUTH EAST ARROW; \nwsearrow (MnSym-
bol)
19026 \DeclareTextCommand{\textnwsearrow}{PU}{\9051\041}%* U+2921
19027 % U+2922 NORTH EAST AND SOUTH WEST ARROW; \neswarrow (MnSym-
bol)
19028 \DeclareTextCommand{\textneswarrow}{PU}{\9051\042}%* U+2922
19029 % U+2923 NORTH WEST ARROW WITH HOOK; \hooknwarrow (MnSymbol)
19030 \DeclareTextCommand{\texthooknwarrow}{PU}{\9051\043}%* U+2923
19031 % U+2924 NORTH EAST ARROW WITH HOOK; \hooknearrow (MnSymbol)
19032 \DeclareTextCommand{\textrhooknearrow}{PU}{\9051\044}%* U+2924
19033 % U+2925 SOUTH EAST ARROW WITH HOOK; \hooksearrow (MnSymbol)
19034 \DeclareTextCommand{\texthooksearrow}{PU}{\9051\045}%* U+2925
19035 % U+2926 SOUTH WEST ARROW WITH HOOK; \hookswarrow (MnSymbol)
19036 \DeclareTextCommand{\textrhookswarrow}{PU}{\9051\046}%* U+2926
19037 % U+2933 WAVE ARROW POINTING DIRECTLY RIGHT; \leadsto (wasysym)
19038 \DeclareTextCommand{\textleadsto}{PU}{\9051\063}%* U+2933
19039 % U+2934 ARROW POINTING RIGHTWARDS THEN CURVING UPWARDS;
19040 % \rcurvearrowne (MnSymbol)
19041 \DeclareTextCommand{\textrcurvearrowne}{PU}{\9051\064}%* U+2934

19042 % U+2935 ARROW POINTING RIGHTWARDS THEN CURVING DOWN-
 WARDS;
 19043 % \lcurvearrowse (MnSymbol)
 19044 \DeclareTextCommand{\textlcurvearrowse}{PU}{\9051\065}%* U+2935
 19045 % U+2936 ARROW POINTING DOWNWARDS THEN CURVING LEFT-
 WARDS;
 19046 % \lcurvearrowsw (MnSymbol)
 19047 \DeclareTextCommand{\textlcurvearrowsw}{PU}{\9051\066}%* U+2936
 19048 % U+2937 ARROW POINTING DOWNWARDS THEN CURVING RIGHT-
 WARDS;
 19049 % \rcurvearrowse (MnSymbol)
 19050 \DeclareTextCommand{\textrcurvearrowse}{PU}{\9051\067}%* U+2937
 19051 % U+2938 RIGHT-SIDE ARC CLOCKWISE ARROW; \lcurvearrowdown (Mn-
 Symbol)
 19052 \DeclareTextCommand{\textlcurvearrowdown}{PU}{\9051\070}%* U+2938
 19053 %* \textlcurvearrowdown -> \RightTorque (marvosym)
 19054 %* \textlcurvearrowdown -> \Righttorque (marvosym)
 19055 % U+2939 LEFT-SIDE ARC ANTICLOCKWISE ARROW;
 19056 % \rcurvearrowdown (MnSymbol)
 19057 \DeclareTextCommand{\textrcurvearrowdown}{PU}{\9051\071}%* U+2939
 19058 %* \textrcurvearrowdown -> \LeftTorque (marvosym)
 19059 %* \textrcurvearrowdown -> \Lefttorque (marvosym)
 19060 % U+293A TOP ARC ANTICLOCKWISE ARROW; \rcurvearrowleft (MnSym-
 bol)
 19061 \DeclareTextCommand{\textrcurvearrowleft}{PU}{\9051\072}%* U+293A
 19062 % U+293B BOTTOM ARC ANTICLOCKWISE ARROW;
 19063 % \rcurvearrowright (MnSymbol)
 19064 \DeclareTextCommand{\textrcurvearrowright}{PU}{\9051\073}%* U+293B
 19065 % U+294A LEFT BARB UP RIGHT BARB DOWN HARPOON; \lefttrighthar-
 poon (mathabx)
 19066 \DeclareTextCommand{\textlefttrightharpoon}{PU}{\9051\112}%* U+294A
 19067 % U+294B LEFT BARB DOWN RIGHT BARB UP HARPOON; \rightlefthar-
 poon (mathabx)
 19068 \DeclareTextCommand{\textrightleftharpoon}{PU}{\9051\113}%* U+294B
 19069 % U+294C UP BARB RIGHT DOWN BARB LEFT HARPOON;
 19070 % \updownharpoonrightleft (MnSymbol)
 19071 \DeclareTextCommand{\textupdownharpoonrightleft}{PU}{\9051\114}%* U+294C
 19072 % U+294D UP BARB LEFT DOWN BARB RIGHT HARPOON;
 19073 % \updownharpoonleftright (MnSymbol)
 19074 \DeclareTextCommand{\textupdownharpoonleftright}{PU}{\9051\115}%* U+294D
 19075 % U+2962 LEFTWARDS HARPOON WITH BARB UP ABOVE LEFTWARDS
 19076 % HARPOON WITH BARB DOWN; \leftleftharpoons (mathabx)
 19077 \DeclareTextCommand{\textleftleftharpoons}{PU}{\9051\142}%* U+2962
 19078 % U+2963 UPWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS
 19079 % HARPOON WITH BARB RIGHT; \upupharpoons (mathabx)
 19080 \DeclareTextCommand{\textupupharpoons}{PU}{\9051\143}%* U+2963
 19081 % U+2964 RIGHTWARDS HARPOON WITH BARB UP ABOVE RIGHT-
 WARDS HARPOON
 19082 % WITH BARB DOWN; \righttrightharpoons (mathabx)
 19083 \DeclareTextCommand{\textrighttrightharpoons}{PU}{\9051\144}%* U+2964
 19084 % U+2965 DOWNWARDS HARPOON WITH BARB LEFT BESIDE DOWN-
 WARDS HARPOON
 19085 % WITH BARB RIGHT; \downdownharpoons (mathabx)
 19086 \DeclareTextCommand{\textdowndownharpoons}{PU}{\9051\145}%* U+2965

19087 % U+296A LEFTWARDS HARPOON WITH BARB UP ABOVE LONG DASH;
 19088 % \leftbarharpoon (mathabx)
 19089 \DeclareTextCommand{\textleftbarharpoon}{PU}{\9051\152}%* U+296A
 19090 % U+296B LEFTWARDS HARPOON WITH BARB DOWN BELOW
 19091 % LONG DASH; \barleftharpoon (mathabx)
 19092 \DeclareTextCommand{\textbarleftharpoon}{PU}{\9051\153}%* U+296B
 19093 % U+296C RIGHTWARDS HARPOON WITH BARB UP ABOVE
 19094 % LONG DASH; \rightbarharpoon (mathabx)
 19095 \DeclareTextCommand{\textrightbarharpoon}{PU}{\9051\154}%* U+296C
 19096 % U+296D RIGHTWARDS HARPOON WITH BARB DOWN BELOW
 19097 % LONG DASH; \barrightharpoon (mathabx)
 19098 \DeclareTextCommand{\textbarrightharpoon}{PU}{\9051\155}%* U+296D
 19099 % U+296E UPWARDS HARPOON WITH BARB LEFT BESIDE DOWN-
 WARDS HARPOON
 19100 % WITH BARB RIGHT; \updownharpoons (mathabx)
 19101 \DeclareTextCommand{\textupdownharpoons}{PU}{\9051\156}%* U+296E
 19102 % U+296F DOWNWARDS HARPOON WITH BARB LEFT BESIDE UP-
 WARDS HARPOON
 19103 % WITH BARB RIGHT; \downupharpoons (mathabx)
 19104 \DeclareTextCommand{\textdownupharpoons}{PU}{\9051\157}%* U+296F
 19105 % U+297F DOWN FISH TAIL
 19106 \DeclareTextCommand{\textmoo}{PU}{\9051\177\83\066}%* U+297F U+0336

47.2.34 Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF

19107 % U+2987 Z NOTATION LEFT IMAGE BRACKET; \lparenthesis (stmaryrd)
 19108 \DeclareTextCommand{\textllparenthesis}{PU}{\9051\207}%* U+2987
 19109 % U+2988 Z NOTATION RIGHT IMAGE BRACKET; \rrparenthesis (stmaryrd)
 19110 \DeclareTextCommand{\textrrparenthesis}{PU}{\9051\210}%* U+2988
 19111 % U+29B0 REVERSED EMPTY SET; \invdiameter (wasysym)
 19112 \DeclareTextCommand{\textinvdiameter}{PU}{\9051\260}%* U+29B0
 19113 % U+29B6 CIRCLED VERTICAL BAR; \obar (stmaryrd)
 19114 \DeclareTextCommand{\textobar}{PU}{\9051\266}%* U+29B6
 19115 %* \textobar -> \textvarobar (stmaryrd)
 19116 % U+29B8 CIRCLED REVERSE SOLIDUS; \obslash (stmaryrd)
 19117 \DeclareTextCommand{\textobslash}{PU}{\9051\270}%* U+29B8
 19118 %* \textobslash -> \circledbslash (txfonts/pxfonts)
 19119 %* \textobslash -> \obackslash (mathabx)
 19120 %* \textobslash -> \varobslash (stmaryrd)
 19121 % U+29BA CIRCLE DIVIDED BY HORIZONTAL BAR AND TOP HALF
 19122 % DIVIDED BY VERTICAL BAR; \obot (mathabx)
 19123 \DeclareTextCommand{\textobot}{PU}{\9051\272}%* U+29BA
 19124 %* \textobot -> \odplus (ulsy)
 19125 % U+29BB CIRCLE WITH SUPERIMPOSED X; \NoChemicalCleaning (mar-
 vosym)
 19126 \DeclareTextCommand{\textNoChemicalCleaning}{PU}{\9051\273}%* U+29BB
 19127 % U+29C0 CIRCLED LESS-THAN; \olessthan (stmaryrd)
 19128 \DeclareTextCommand{\textolessthan}{PU}{\9051\300}%* U+29C0
 19129 %* \textolessthan -> \varolessthan (stmaryrd)
 19130 % U+29C1 CIRCLED GREATER-THAN; \ogreaterthan (stmaryrd)
 19131 \DeclareTextCommand{\textogreaterthan}{PU}{\9051\301}%* U+29C1
 19132 %* \textogreaterthan -> \varogreaterthan (stmaryrd)
 19133 % U+29C4 SQUARED RISING DIAGONAL SLASH; \boxslash (mathabx, stmaryrd)
 19134 \DeclareTextCommand{\textboxslash}{PU}{\9051\304}%* U+29C4
 19135 % U+29C5 SQUARED FALLING DIAGONAL SLASH; \boxbslash (stmaryrd)

19136 \DeclareTextCommand{\textboxslash}{PU}{\9051\305}%* U+29C5
 19137 % U+29C6 SQUARED ASTERISK; \boxast (stmaryrd)
 19138 \DeclareTextCommand{\textboxast}{PU}{\9051\306}%* U+29C6
 19139 % U+29C7 SQUARED SMALL CIRCLE; \boxcircle (stmaryrd)
 19140 \DeclareTextCommand{\textboxcircle}{PU}{\9051\307}%* U+29C7
 19141 % U+29C8 SQUARED SQUARE; \boxbox (stmaryrd)
 19142 \DeclareTextCommand{\textboxbox}{PU}{\9051\310}%* U+29C8
 19143 % U+29D3 BLACK BOWTIE; \Valve (marvosym)
 19144 \DeclareTextCommand{\textValve}{PU}{\9051\323}%* U+29D3
 19145 % U+29DF DOUBLE-ENDED MULTIMAP; \multimapboth (txfonts/pxfonts)
 19146 \DeclareTextCommand{\textmultimapboth}{PU}{\9051\337}%* U+29DF
 19147 % U+29E2 SHUFFLE PRODUCT; \shuffle (shuffle)
 19148 \DeclareTextCommand{\textshuffle}{PU}{\9051\342}%* U+29E2

47.2.35 Supplemental Mathematical Operators: U+2A00 to U+2AFF

19149 % U+2A04 N-ARY UNION OPERATOR WITH PLUS; \uplus (LaTeX)
 19150 \DeclareTextCommand{\textuplus}{PU}{\9052\004}%* U+2A04
 19151 % U+2A07 TWO LOGICAL AND OPERATOR; \bigdoublewedge (MnSymbol)
 19152 \DeclareTextCommand{\textbigdoublewedge}{PU}{\9052\007}%* U+2A07
 19153 % U+2A08 TWO LOGICAL OR OPERATOR; \bigdoublevee (MnSymbol)
 19154 \DeclareTextCommand{\textbigdoublevee}{PU}{\9052\010}%* U+2A08
 19155 % U+2A1D JOIN; \Join (latexsym, amsfonts, amssymb, mathabx, txfonts,
 19156 % pxfonts, wasysym)
 19157 \DeclareTextCommand{\textJoin}{PU}{\9052\035}%* U+2A1D
 19158 % U+2A1F Z NOTATION SCHEMA COMPOSITION; \fatsemi (stmaryrd)
 19159 \DeclareTextCommand{\textfatsemi}{PU}{\9052\037}%* U+2A1F
 19160 % U+2A22 PLUS SIGN WITH SMALL CIRCLE ABOVE; \circplus (mathabx)
 19161 \DeclareTextCommand{\textcircplus}{PU}{\9052\042}%* U+2A22
 19162 % U+2A2A MINUS SIGN WITH DOT BELOW; \minusdot (MnSymbol)
 19163 \DeclareTextCommand{\textminusdot}{PU}{\9052\052}%* U+2A2A
 19164 %* \textminusdot -> \divdot (mathabx)
 19165 % U+2A30 MULTIPLICATION SIGN WITH DOT ABOVE; \dottimes (mathabx)
 19166 \DeclareTextCommand{\textdottimes}{PU}{\9052\060}%* U+2A30
 19167 % U+2A32 SEMIDIRECT PRODUCT WITH BOTTOM CLOSED;
 19168 % \dtimes (mathdesign)
 19169 \DeclareTextCommand{\textdtimes}{PU}{\9052\062}%* U+2A32
 19170 % U+2A38 CIRCLED DIVISION SIGN; \odiv (mathabx)
 19171 \DeclareTextCommand{\textodiv}{PU}{\9052\070}%* U+2A38
 19172 % U+2A3C INTERIOR PRODUCT; \invneg (MnSymbol)
 19173 \DeclareTextCommand{\textinvneg}{PU}{\9052\074}%* U+2A3C
 19174 % U+2A4E DOUBLE SQUARE INTERSECTION; \sqdoublecap (mathabx)
 19175 \DeclareTextCommand{\textsqdoublecap}{PU}{\9052\116}%* U+2A4E
 19176 %* \textsqdoublecap -> \doublesqcap (MnSymbol)
 19177 % U+2A40 INTERSECTION WITH DOT; \capdot (MnSymbol)
 19178 \DeclareTextCommand{\textcapdot}{PU}{\9052\100}%* U+2A40
 19179 % U+2A4F DOUBLE SQUARE UNION; \sqdoublecup (mathabx)
 19180 \DeclareTextCommand{\textsqdoublecup}{PU}{\9052\117}%* U+2A4F
 19181 %* \textsqdoublecup -> \doublesqcup (MnSymbol)
 19182 % U+2A55 TWO INTERSECTING LOGICAL AND; \doublewedge (MnSymbol)
 19183 \DeclareTextCommand{\textdoublewedge}{PU}{\9052\125}%* U+2A55
 19184 % U+2A56 TWO INTERSECTING LOGICAL OR; \doublevee (MnSymbol)
 19185 \DeclareTextCommand{\textdoublevee}{PU}{\9052\126}%* U+2A56
 19186 %* \textdoublevee -> \merge (stmaryrd)
 19187 % U+2A5E LOGICAL AND WITH DOUBLE OVERBAR;


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19188 % \doublebarwedge (AmS)
19189 \DeclareTextCommand{\textdoublebarwedge}{PU}{\9052\136}%* U+2A5E
19190 % U+2A63 LOGICAL OR WITH DOUBLE UNDERBAR;
19191 % \veedoublebar (mahtabx)
19192 \DeclareTextCommand{\textveedoublebar}{PU}{\9052\143}%* U+2A63
19193 % U+2A66 EQUALS SIGN WITH DOT BELOW; \eqdot (MnSymbol)
19194 \DeclareTextCommand{\texteqdot}{PU}{\9052\146}%* U+2A66
19195 % \neqdot (MnSymbol)
19196 \DeclareTextCommand{\textneqdot}{PU}{\9052\146\83\070}%* U+2A66 U+0338
19197 % U+2A74 DOUBLE COLON EQUAL; \coloncolonequals (colonequals)
19198 \DeclareTextCommand{\textcoloncolonequals}{PU}{\9052\164}%* U+2A74
19199 % U+2A7D LESS-THAN OR SLANTED EQUAL TO; \leqslant (AmS)
19200 \DeclareTextCommand{\textleqslant}{PU}{\9052\175}%* U+2A7D
19201 % \nleqslant (txfonts/pxfonts)
19202 \DeclareTextCommand{\textnleqslant}{PU}{\9052\175\83\070}%* U+2A7D U+0338
19203 % U+2A7E GREATER-THAN OR SLANTED EQUAL TO; \geqslant (AmS)
19204 \DeclareTextCommand{\textgeqslant}{PU}{\9052\176}%* U+2A7E
19205 % \ngeqslant (txfonts/pxfonts)
19206 \DeclareTextCommand{\textngeqslant}{PU}{\9052\176\83\070}%* U+2A7E U+0338
19207 % U+2A85 LESS-THAN OR APPROXIMATE; \lessapprox (AmS)
19208 \DeclareTextCommand{\textlessapprox}{PU}{\9052\205}%* U+2A85
19209 % \nlessapprox (txfonts/pxfonts)
19210 \DeclareTextCommand{\textnlessapprox}{PU}{\9052\205\83\070}%* U+2A85 U+0338
19211 % U+2A86 GREATER-THAN OR APPROXIMATE; \gtrapprox (AmS)
19212 \DeclareTextCommand{\textgtrapprox}{PU}{\9052\206}%* U+2A86
19213 % \ngtrapprox (txfonts/pxfonts)
19214 \DeclareTextCommand{\textngtrapprox}{PU}{\9052\206\83\070}%* U+2A86 U+0338
19215 % U+2A87 LESS-THAN AND SINGLE-LINE NOT EQUAL TO; \lneq (AmS)
19216 \DeclareTextCommand{\textlneq}{PU}{\9052\207}%* U+2A87
19217 % U+2A88 GREATER-THAN AND SINGLE-LINE NOT EQUAL TO;
19218 % \gneq (AmS)
19219 \DeclareTextCommand{\textgneq}{PU}{\9052\210}%* U+2A88
19220 % U+2A89 LESS-THAN AND NOT APPROXIMATE; \lnapprox (AmS)
19221 \DeclareTextCommand{\textlnapprox}{PU}{\9052\211}%* U+2A89
19222 % U+2A8A GREATER-THAN AND NOT APPROXIMATE; \gnapprox (AmS)
19223 \DeclareTextCommand{\textgnapprox}{PU}{\9052\212}%* U+2A8A
19224 % U+2A8B LESS-THAN ABOVE DOUBLE-LINE EQUAL ABOVE GREATER-
    THAN;
19225 % \lesseqgtr (AmS)
19226 \DeclareTextCommand{\textlesseqgtr}{PU}{\9052\213}%* U+2A8B
19227 % U+2A8C GREATER-THAN ABOVE DOUBLE-LINE EQUAL ABOVE LESS-
    THAN;
19228 % \gtreqless (AmS)
19229 \DeclareTextCommand{\textgtreqless}{PU}{\9052\214}%* U+2A8C
19230 % U+2A95 SLANTED EQUAL TO OR LESS-THAN; \eqslantless (AmS)
19231 \DeclareTextCommand{\texteqslantless}{PU}{\9052\225}%* U+2A95
19232 % U+2A96 SLANTED EQUAL TO OR GREATER-THAN; \eqslantgtr (AmS)
19233 \DeclareTextCommand{\texteqslantgtr}{PU}{\9052\226}%* U+2A96
19234 % U+2AA6 LESS-THAN CLOSED BY CURVE; \leftslice (stmaryrd)
19235 \DeclareTextCommand{\textleftslice}{PU}{\9052\246}%* U+2AA6
19236 % U+2AA7 GREATER-THAN CLOSED BY CURVE; \rightslice (stmaryrd)
19237 \DeclareTextCommand{\textright slice}{PU}{\9052\247}%* U+2AA7
19238 % U+2AAF PRECEDES ABOVE SINGLE-LINE EQUALS SIGN; \preceq (Mn-
    Symbol)

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19239 \DeclareTextCommand{\textpreceq}{PU}{\9052\257}%* U+2AAF
19240 % \npreceq (txfonts/pxfonts)
19241 \DeclareTextCommand{\textnpreceq}{PU}{\9052\257\83\070}%* U+2AAF U+0338
19242 % U+2AB0 SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN; \succeq (Mn-
      Symbol)
19243 \DeclareTextCommand{\textsucceq}{PU}{\9052\260}%* U+2AB0
19244 % \nsucceq (txfonts/pxfonts)
19245 \DeclareTextCommand{\textnsucceq}{PU}{\9052\260\83\070}%* U+2AB0 U+0338
19246 % U+2AB1 PRECEDES ABOVE SINGLE-LINE NOT EQUAL TO; \prec-
      neq (mathabx)
19247 \DeclareTextCommand{\textprecneq}{PU}{\9052\261}%* U+2AB1
19248 % U+2AB2 SUCCEEDS ABOVE SINGLE-LINE NOT EQUAL TO; \succ-
      neq (mathabx)
19249 \DeclareTextCommand{\textsuccneq}{PU}{\9052\262}%* U+2AB2
19250 % U+2AB3 PRECEDES ABOVE EQUALS SIGN; \preceqq (txfonts/pxfonts)
19251 \DeclareTextCommand{\textpreceqq}{PU}{\9052\263}%* U+2AB3
19252 % \npreceqq (txfonts/pxfonts)
19253 \DeclareTextCommand{\textnpreceqq}{PU}{\9052\263\83\070}%* U+2AB3 U+0338
19254 % U+2AB4 SUCCEEDS ABOVE EQUALS SIGN; \succeqq (txfonts/pxfonts)
19255 \DeclareTextCommand{\textsucceqq}{PU}{\9052\264}%* U+2AB4
19256 % \nsucceqq (txfonts/pxfonts)
19257 \DeclareTextCommand{\textnsucceqq}{PU}{\9052\264\83\070}%* U+2AB4 U+0338
19258 % U+2AB5 PRECEDES ABOVE NOT EQUAL TO; \precneqq (txfonts/pxfonts)
19259 \DeclareTextCommand{\textprecneqq}{PU}{\9052\265}%* U+2AB5
19260 % U+2AB6 SUCCEEDS ABOVE NOT EQUAL TO; \succneqq (txfonts/pxfonts)
19261 \DeclareTextCommand{\textsuccneqq}{PU}{\9052\266}%* U+2AB6
19262 % U+2AB7 PRECEDES ABOVE ALMOST EQUAL TO; \precapprox (AmS)
19263 \DeclareTextCommand{\textprecapprox}{PU}{\9052\267}%* U+2AB7
19264 % \nprecapprox (txfonts/pxfonts)
19265 \DeclareTextCommand{\textnprecapprox}{PU}{\9052\267\83\070}%* U+2AB7 U+0338
19266 % U+2AB8 SUCCEEDS ABOVE ALMOST EQUAL TO; \succapprox (AmS)
19267 \DeclareTextCommand{\textsuccapprox}{PU}{\9052\270}%* U+2AB8
19268 % \nsuccapprox (txfonts/pxfonts)
19269 \DeclareTextCommand{\textnsuccapprox}{PU}{\9052\270\83\070}%* U+2AB8 U+0338
19270 % U+2AB9 PRECEDES ABOVE NOT ALMOST EQUAL TO; \precnap-
      prox (AmS)
19271 \DeclareTextCommand{\textprecnapprox}{PU}{\9052\271}%* U+2AB9
19272 % U+2ABA SUCCEEDS ABOVE NOT ALMOST EQUAL TO; \succnap-
      prox (AmS)
19273 \DeclareTextCommand{\textsuccnapprox}{PU}{\9052\272}%* U+2ABA
19274 % U+2AC5 SUBSET OF ABOVE EQUALS SIGN; \subseteqq (AmS)
19275 \DeclareTextCommand{\textsubseteqq}{PU}{\9052\305}%* U+2AC5
19276 % \nsubseteqq (txfonts/pxfonts, mathabx)
19277 \DeclareTextCommand{\textnsubseteqq}{PU}{\9052\305\83\070}%* U+2AC5 U+0338
19278 % U+2AC6 SUPERSET OF ABOVE EQUALS SIGN; \supseteqq (AmS)
19279 \DeclareTextCommand{\textsupseteqq}{PU}{\9052\306}%* U+2AC6
19280 % \nsupseteqq (mathabx)
19281 \DeclareTextCommand{\textnsupseteqq}{PU}{\9052\306\83\070}%* U+2AC6 U+0338
19282 % U+2AE3 DOUBLE VERTICAL BAR LEFT TURNSTILE
19283 \DeclareTextCommand{\textdashV}{PU}{\9052\343}%* U+2AE3
19284 %* \textdashV -> \leftVdash (MnSymbol)
19285 % \ndashV (mathabx)
19286 \DeclareTextCommand{\textndashV}{PU}{\9052\343\83\070}%* U+2AE3 U+0338
19287 %* \textndashV -> \nleftVdash (MnSymbol)

```

19288 % U+2AE4 VERTICAL BAR DOUBLE LEFT TURNSTILE; \Dashv (mathabx)
 19289 \DeclareTextCommand{\textDashv}{PU}{\9052\344}%* U+2AE4
 19290 %* \textDashv -> \leftmodels (MnSymbol)
 19291 % \nDashv (mathabx)
 19292 \DeclareTextCommand{\textnDashv}{PU}{\9052\344\83\070}%* U+2AE4 U+0338
 19293 %* \textnDashv -> \nleftmodels (MnSymbol)
 19294 % U+2AE5 DOUBLE VERTICAL BAR DOUBLE LEFT TURNSTILE;
 19295 % \DashV (mathabx)
 19296 \DeclareTextCommand{\textDashV}{PU}{\9052\345}%* U+2AE5
 19297 %* \textDashV -> \leftModels (MnSymbol)
 19298 % \nDashV (mathabx)
 19299 \DeclareTextCommand{\textnDashV}{PU}{\9052\345\83\070}%* U+2AE5 U+0338
 19300 %* \textnDashV -> \nleftModels (MnSymbol)
 19301 % U+2AEA DOUBLE DOWN TACK; \downmodels (MnSymbol)
 19302 \DeclareTextCommand{\textdownmodels}{PU}{\9052\352}%* U+2AEA
 19303 % \ndownmodels (MnSymbol)
 19304 \DeclareTextCommand{\textndownmodels}{PU}{\9052\352\83\070}%* U+2AEA U+0338
 19305 % U+2AEB DOUBLE UP TACK; \upmodels (MnSymbol)
 19306 \DeclareTextCommand{\textupmodels}{PU}{\9052\353}%* U+2AEB
 19307 % \nupmodels (MnSymbol)
 19308 \DeclareTextCommand{\textnupmodels}{PU}{\9052\353\83\070}%* U+2AEB U+0338
 19309 % U+2AEF VERTICAL LINE WITH CIRCLE ABOVE; \upspoon (MnSymbol)
 19310 \DeclareTextCommand{\textupspoon}{PU}{\9052\357}%* U+2AEF
 19311 % U+2AF4 TRIPLE VERTICAL BAR BINARY RELATION;
 19312 % \interleave (stmaryrd)
 19313 \DeclareTextCommand{\textinterleave}{PU}{\9052\364}%* U+2AF4
 19314 % U+2AFD DOUBLE SOLIDUS OPERATOR; \sslash (stmaryrd)
 19315 \DeclareTextCommand{\textsslash}{PU}{\9052\375}%* U+2AFD
 19316 %* \textsslash -> \varparallel (txfonts\pxfonts)

47.2.36 Miscellaneous Symbols and Arrows: U+2B00 to U+2BFF

19317 % U+2B20 WHITE PENTAGON; \pentagon (wasysym)
 19318 \DeclareTextCommand{\textpentagon}{PU}{\9053\040}%* U+2B20
 19319 % U+2B21 WHITE HEXAGON; \varhexagon (wasysym)
 19320 \DeclareTextCommand{\textvarhexagon}{PU}{\9053\041}%* U+2B21

47.2.37 Latin Extended-C: U+2C60 to U+2C7F

19321 % U+2C7C LATIN SUBSCRIPT SMALL LETTER J
 19322 \DeclareTextCommand{\textjinferior}{PU}{\9054\174}%* U+2C7C

47.2.38 Supplemental Punctuation: U+2E00 to U+2E7F

19323 % U+2E13 DOTTED OBELOS; \slashdiv (MnSymbol)
 19324 \DeclareTextCommand{\textslashdiv}{PU}{\9056\023}%* U+2E13
 19325 % U+2E18 INVERTED INTERROBANG; \textinterrobangdown (textcomp)
 19326 \DeclareTextCommand{\textinterrobangdown}{PU}{\9056\030}% U+2E18
 19327 % U+2E2D FIVE DOT MARK; \fivedots (MnSymbol)
 19328 \DeclareTextCommand{\textfivedots}{PU}{\9056\055}%* U+2E2D

47.2.39 Modifier Tone Letters: U+A700 to U+A71F

19329 % U+A71B MODIFIER LETTER RAISED UP ARROW; \textupstep (tipa)
 19330 \DeclareTextCommand{\textupstep}{PU}{\9247\033}% U+A71B
 19331 % U+A71C MODIFIER LETTER RAISED DOWN ARROW;
 19332 % \textdownstep (tipa)
 19333 \DeclareTextCommand{\textdownstep}{PU}{\9247\034}% U+A71C

47.2.40 Latin Extended-D: U+A720 to U+A7FF

```
19334 % U+A727 LATIN SMALL LETTER HENG; \textheng (tipx)
19335 \DeclareTextCommand{\textPUheng}{PU}{\9247\047}% U+A727
19336 %* \textPUheng -> \textheng (tipx)
19337 % U+A72C LATIN CAPITAL LETTER CUATRILLO; \textlhookfour (tipx)
19338 \DeclareTextCommand{\textPULhookfour}{PU}{\9247\054}% U+A72C
19339 %* \textPULhookfour -> \textlhookfour (tipx)
19340 % U+A730 LATIN LETTER SMALL CAPITAL F; \textscf (tipx)
19341 \DeclareTextCommand{\textPUScf}{PU}{\9247\060}% U+A730
19342 %* \textPUScf -> \textscf (tipx)
19343 % U+A735 LATIN SMALL LETTER AO; \textao lig (tipx)
19344 \DeclareTextCommand{\textPUaolig}{PU}{\9247\065}% U+A735
19345 %* \textPUaolig -> \textao lig (tipx)
19346 % U+A74F LATIN SMALL LETTER OO; \oo (wsuipa)
19347 \DeclareTextCommand{\textoo}{PU}{\9247\117}%* U+A74F
19348 % U+A788 MODIFIER LETTER LOW CIRCUMFLEX ACCENT
19349 \DeclareTextCommand{\textcircumlw}{PU}{\9247\210}% U+A788
```

47.2.41 Alphabetic Presentation Forms: U+FB00 to U+FB4F

```
19350 % U+FB01 LATIN SMALL LIGATURE FI; fi
19351 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
19352 % U+FB02 LATIN SMALL LIGATURE FL; fl
19353 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02
```

47.2.42 Musical Symbols: U+1D100 to U+1D1FF

```
19354 % U+1D13B MUSICAL SYMBOL WHOLE REST; \GaPa (harmony)
19355 \DeclareTextCommand{\textGaPa}{PU}{\9330\064\9335\073}%* U+1D13B
19356 % U+1D13C MUSICAL SYMBOL HALF REST; \HaPa (harmony)
19357 \DeclareTextCommand{\textHaPa}{PU}{\9330\064\9335\074}%* U+1D13C
19358 % U+1D13D MUSICAL SYMBOL QUARTER REST; \ViPa (harmony)
19359 \DeclareTextCommand{\textViPa}{PU}{\9330\064\9335\075}%* U+1D13D
19360 % U+1D13E MUSICAL SYMBOL EIGHTH REST; \AcPa (harmony)
19361 \DeclareTextCommand{\textAcPa}{PU}{\9330\064\9335\076}%* U+1D13E
19362 % U+1D13F MUSICAL SYMBOL SIXTEENTH REST; \SePa (harmony)
19363 \DeclareTextCommand{\textSePa}{PU}{\9330\064\9335\077}%* U+1D13F
19364 % U+1D140 MUSICAL SYMBOL THIRTY-SECOND REST; \ZwPa (harmony)
19365 \DeclareTextCommand{\textZwPa}{PU}{\9330\064\9335\100}%* U+1D140
19366 % U+1D15D MUSICAL SYMBOL WHOLE NOTE; \fullnote (wasysym)
19367 \DeclareTextCommand{\textfullnote}{PU}{\9330\064\9335\135}%* U+1D15D
19368 %* \textfullnote -> \Ganz (harmony)
19369 % U+1D15E MUSICAL SYMBOL HALF NOTE; \halfnote (wasysym)
19370 \DeclareTextCommand{\texthalfnote}{PU}{\9330\064\9335\136}%* U+1D15E
19371 %* \texthalfnote -> \Halb (harmony)
19372 % U+1D15F MUSICAL SYMBOL QUARTER NOTE; \Vier (harmony)
19373 \DeclareTextCommand{\textVier}{PU}{\9330\064\9335\137}%* U+1D15F
19374 % U+1D160 MUSICAL SYMBOL EIGHTH NOTE; \Acht (harmony)
19375 \DeclareTextCommand{\textAcht}{PU}{\9330\064\9335\140}%* U+1D160
19376 % U+1D161 MUSICAL SYMBOL SIXTEENTH NOTE; \Sech (harmony)
19377 \DeclareTextCommand{\textSech}{PU}{\9330\064\9335\141}%* U+1D161
19378 % U+1D162 MUSICAL SYMBOL THIRTY-SECOND NOTE; \Zwdr (harmony)
19379 \DeclareTextCommand{\textZwdr}{PU}{\9330\064\9335\142}%* U+1D162
```

47.2.43 Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF

19380 % U+1F30D EARTH GLOBE EUROPE-AFRICA; \Mundus (marvosym)
 19381 \DeclareTextCommand{\textMundus}{PU}{\9330\074\9337\015}%* U+1F30D
 19382 % U+1F319 CRESCENT MOON; \Moon (marvosym)
 19383 \DeclareTextCommand{\textMoon}{PU}{\9330\074\9337\031}%* U+1F319
 19384 % U+1F468 MAN; \ManFace (marvosym)
 19385 \DeclareTextCommand{\textManFace}{PU}{\9330\075\9334\150}%* U+1F468
 19386 % U+1F469 WOMAN; \WomanFace (marvosym)
 19387 \DeclareTextCommand{\textWomanFace}{PU}{\9330\075\9334\151}%* U+1F469
 19388 %* \textWomanFace -> \Womanface (marvosym)
 19389 % U+1F4E0 FAX MACHINE; \Fax (marvosym)
 19390 \DeclareTextCommand{\textFax}{PU}{\9330\075\9334\340}%* U+1F4E0
 19391 %* \textFax -> \Faxmachine (marvosym)
 19392 % U+1F525 FIRE; \Fire (ifsym)
 19393 \DeclareTextCommand{\textFire}{PU}{\9330\075\9335\045}%* U+1F525

47.2.44 Transport and Map Symbols: U+1F680 to U+1F6FF

19394 % U+1F6B2 BICYCLE; \Bicycle (marvosym)
 19395 \DeclareTextCommand{\textBicycle}{PU}{\9330\075\9336\262}%* U+1F6B2
 19396 % U+1F6B9 MENS SYMBOL; \Gentsroom (marvosym)
 19397 \DeclareTextCommand{\textGentsroom}{PU}{\9330\075\9336\271}%* U+1F6B9
 19398 % U+1F6BA WOMENS SYMBOL; \Ladiesroom (marvosym)
 19399 \DeclareTextCommand{\textLadiesroom}{PU}{\9330\075\9336\272}%* U+1F6BA

47.2.45 Miscellaneous

19400 \DeclareTextCommand{\SS}{PU}{SS}%
 19401 % \textcopyleft (textcomp)
 19402 \DeclareTextCommand{\textcopyleft}{PU}{\9041\204\9040\335}% U+2184 U+20DD
 19403 % \ccnc (ccllicenses)
 19404 \DeclareTextCommand{\textccnc}{PU}{\80\044\9040\340}%* U+0024 U+20E0
 19405 % \ccnd (ccllicenses)
 19406 \DeclareTextCommand{\textccnd}{PU}{=\9040\335}%* U+003D U+20DD
 19407 % \ccsa (ccllicenses)
 19408 \DeclareTextCommand{\textccsa}{PU}{\9047\362\9040\335}%* U+27F2 U+20DD
 19409 % \Info (marvosym, china2e)
 19410 \DeclareTextCommand{\textInfo}{PU}{\9330\065\9334\042\9040\336}%* U+1D422 U+20DE
 19411 % \CESign (marvosym)
 19412 \DeclareTextCommand{\textCESign}{PU}{\80\103\80\105}%* U+0043 U+0045
 19413 %* \textCESign -> \CESign (marvosym)

47.2.46 Aliases

Aliases (german.sty)

19414 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}%
 19415 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}%
 19416 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}%
 19417 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}%
 19418 \DeclareTextCommand{\textflqq}{PU}{\guillemetleft}%
 19419 \DeclareTextCommand{\textfrqq}{PU}{\guillemetright}%
 19420 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}%
 19421 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}%
 Aliases (math names)

19422 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}%*
 19423 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}%*
 19424 \DeclareTextCommand{\textdiv}{PU}{\textdivide}%*

```

19425 \DeclareTextCommand{\textpm}{PU}{\textplusminus}%*
19426 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}%*
19427 </puenc>

```

47.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

19428 <*puvnenc>

19429 \DeclareTextCommand{\abreve}{PU}{\81\003}% U+0103
19430 \DeclareTextCommand{\acircumflex}{PU}{\80\342}% U+00E2
19431 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}% U+00EA
19432 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}% U+00F4
19433 \DeclareTextCommand{\ohorn}{PU}{\81\241}% U+01A1
19434 \DeclareTextCommand{\uhorn}{PU}{\81\260}% U+01B0
19435 \DeclareTextCommand{\ABREVE}{PU}{\81\002}% U+0102
19436 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}% U+00C2
19437 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}% U+00CA
19438 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}% U+00D4
19439 \DeclareTextCommand{\OHORN}{PU}{\81\240}% U+01A0
19440 \DeclareTextCommand{\UHORN}{PU}{\81\257}% U+01AF

19441 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
19442 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1
19443 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
19444 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}% U+1EA3
19445 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
19446 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}% U+1EAF
19447 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}% U+1EB7
19448 \DeclareTextCompositeCommand{\`}{PU}{\abreve}{\9036\261}% U+1EB1
19449 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}% U+1EB3
19450 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}% U+1EB5
19451 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}% U+1EA5
19452 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}% U+1EAD
19453 \DeclareTextCompositeCommand{\`}{PU}{\acircumflex}{\9036\247}% U+1EA7
19454 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}% U+1EA9
19455 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}% U+1EAB
19456 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
19457 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9
19458 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
19459 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}% U+1EBB
19460 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
19461 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}% U+1EBF
19462 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}% U+1EC7
19463 \DeclareTextCompositeCommand{\`}{PU}{\ecircumflex}{\9036\301}% U+1EC1
19464 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}% U+1EC3
19465 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}% U+1EC5
19466 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
19467 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB
19468 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
19469 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}% U+1EC9
19470 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
19471 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
19472 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD

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19473 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2
 19474 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}% U+1ECF
 19475 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
 19476 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}% U+1ED1
 19477 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}% U+1ED9
 19478 \DeclareTextCompositeCommand{\`}{PU}{\ocircumflex}{\9036\323}% U+1ED3
 19479 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}% U+1ED5
 19480 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}% U+1ED7
 19481 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}% U+1EDB
 19482 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}% U+1EE3
 19483 \DeclareTextCompositeCommand{\`}{PU}{\ohorn}{\9036\335}% U+1EDD
 19484 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}% U+1EDF
 19485 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}% U+1EE1
 19486 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
 19487 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5
 19488 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9
 19489 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}% U+1EE7
 19490 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
 19491 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}% U+1EE9
 19492 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}% U+1EF1
 19493 \DeclareTextCompositeCommand{\`}{PU}{\uhorn}{\9036\353}% U+1EEB
 19494 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}% U+1EED
 19495 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}% U+1EEF
 19496 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
 19497 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5
 19498 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3
 19499 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}% U+1EF7
 19500 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9
 19501 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
 19502 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0
 19503 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
 19504 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}% U+1EA2
 19505 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
 19506 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}% U+1EAE
 19507 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}% U+1EB6
 19508 \DeclareTextCompositeCommand{\`}{PU}{\ABREVE}{\9036\260}% U+1EB0
 19509 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}% U+1EB2
 19510 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}% U+1EB4
 19511 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}% U+1EA4
 19512 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}% U+1EAC
 19513 \DeclareTextCompositeCommand{\`}{PU}{\ACIRCUMFLEX}{\9036\246}% U+1EA6
 19514 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}% U+1EA8
 19515 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}% U+1EAA
 19516 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
 19517 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8
 19518 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
 19519 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}% U+1EBA
 19520 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EB C
 19521 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}% U+1EBE
 19522 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}% U+1EC6
 19523 \DeclareTextCompositeCommand{\`}{PU}{\ECIRCUMFLEX}{\9036\300}% U+1EC0
 19524 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}% U+1EC2
 19525 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}% U+1EC4
 19526 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD

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19527 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA
19528 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
19529 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}% U+1EC8
19530 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
19531 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
19532 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC
19533 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
19534 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}% U+1ECE
19535 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
19536 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}% U+1ED0
19537 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}% U+1ED8
19538 \DeclareTextCompositeCommand{\`}{PU}{\OCIRCUMFLEX}{\9036\322}% U+1ED2
19539 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}% U+1ED4
19540 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}% U+1ED6
19541 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}% U+1EDA
19542 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}% U+1EE2
19543 \DeclareTextCompositeCommand{\`}{PU}{\OHORN}{\9036\334}% U+1EDC
19544 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}% U+1EDE
19545 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}% U+1EE0
19546 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
19547 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4
19548 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
19549 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}% U+1EE6
19550 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
19551 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}% U+1EE8
19552 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}% U+1EF0
19553 \DeclareTextCompositeCommand{\`}{PU}{\UHORN}{\9036\352}% U+1EEA
19554 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}% U+1EEC
19555 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}% U+1EEE
19556 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
19557 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4
19558 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
19559 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}% U+1EF6
19560 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
19561 </p>

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47.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

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19562 (*puarenc)

19563 % U+0621;afii57409;ARABIC LETTER HAMZA
19564 \DeclareTextCommand{\hamza}{PU}{\86\041}% U+0621
19565 % U+0622;afii57410;ARABIC LETTER ALEF WITH MADDA ABOVE
19566 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% U+0622
19567 % U+0623;afii57411;ARABIC LETTER ALEF WITH HAMZA ABOVE
19568 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% U+0623
19569 % U+0624;afii57412;ARABIC LETTER WAW WITH HAMZA ABOVE
19570 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% U+0624
19571 % U+0625;afii57413;ARABIC LETTER ALEF WITH HAMZA BELOW
19572 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% U+0625
19573 % U+0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
19574 \DeclareTextCommand{\yahamza}{PU}{\86\046}% U+0626
19575 % U+0627;afii57415;ARABIC LETTER ALEF

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19576 \DeclareTextCommand{\alef}{PU}{\86\047}% U+0627
 19577 % U+0628;afii57416;ARABIC LETTER BEH
 19578 \DeclareTextCommand{\baa}{PU}{\86\050}% U+0628
 19579 % U+0629;afii57417;ARABIC LETTER TEH MARBUTA
 19580 \DeclareTextCommand{\T}{PU}{\86\051}% U+0629
 19581 % U+062A;afii57418;ARABIC LETTER TEH
 19582 \DeclareTextCommand{\taa}{PU}{\86\052}% U+062A
 19583 % U+062B;afii57419;ARABIC LETTER THEH
 19584 \DeclareTextCommand{\thaa}{PU}{\86\053}% U+062B
 19585 % U+062C;afii57420;ARABIC LETTER JEEM
 19586 \DeclareTextCommand{\jeem}{PU}{\86\054}% U+062C
 19587 % U+062D;afii57421;ARABIC LETTER HAH
 19588 \DeclareTextCommand{\Haa}{PU}{\86\055}% U+062D
 19589 % U+062E;afii57422;ARABIC LETTER KHAH
 19590 \DeclareTextCommand{\kha}{PU}{\86\056}% U+062E
 19591 % U+062F;afii57423;ARABIC LETTER DAL
 19592 \DeclareTextCommand{\dal}{PU}{\86\057}% U+062F
 19593 % U+0630;afii57424;ARABIC LETTER THAL
 19594 \DeclareTextCommand{\dhal}{PU}{\86\060}% U+0630
 19595 % U+0631;afii57425;ARABIC LETTER REH
 19596 \DeclareTextCommand{\ra}{PU}{\86\061}% U+0631
 19597 % U+0632;afii57426;ARABIC LETTER ZAIN
 19598 \DeclareTextCommand{\zay}{PU}{\86\062}% U+0632
 19599 % U+0633;afii57427;ARABIC LETTER SEEN
 19600 \DeclareTextCommand{\seen}{PU}{\86\063}% U+0633
 19601 % U+0634;afii57428;ARABIC LETTER SHEEN
 19602 \DeclareTextCommand{\sheen}{PU}{\86\064}% U+0634
 19603 % U+0635;afii57429;ARABIC LETTER SAD
 19604 \DeclareTextCommand{\sad}{PU}{\86\065}% U+0635
 19605 % U+0636;afii57430;ARABIC LETTER DAD
 19606 \DeclareTextCommand{\dad}{PU}{\86\066}% U+0636
 19607 % U+0637;afii57431;ARABIC LETTER TAH
 19608 \DeclareTextCommand{\Ta}{PU}{\86\067}% U+0637
 19609 % U+0638;afii57432;ARABIC LETTER ZAH
 19610 \DeclareTextCommand{\za}{PU}{\86\070}% U+0638
 19611 % U+0639;afii57433;ARABIC LETTER AIN
 19612 \DeclareTextCommand{\ayn}{PU}{\86\071}% U+0639
 19613 % U+063A;afii57434;ARABIC LETTER GHAIN
 19614 \DeclareTextCommand{\ghayn}{PU}{\86\072}% U+063A
 19615 % U+0640;afii57440;ARABIC TATWEEL
 19616 \DeclareTextCommand{\tatweel}{PU}{\86\100}% U+0640
 19617 % U+0641;afii57441;ARABIC LETTER FEH
 19618 \DeclareTextCommand{\fa}{PU}{\86\101}% U+0641
 19619 % U+0642;afii57442;ARABIC LETTER QAF
 19620 \DeclareTextCommand{\qaf}{PU}{\86\102}% U+0642
 19621 % U+0643;afii57443;ARABIC LETTER KAF
 19622 \DeclareTextCommand{\kaf}{PU}{\86\103}% U+0643
 19623 % U+0644;afii57444;ARABIC LETTER LAM
 19624 \DeclareTextCommand{\lam}{PU}{\86\104}% U+0644
 19625 % U+0645;afii57445;ARABIC LETTER MEEM
 19626 \DeclareTextCommand{\meem}{PU}{\86\105}% U+0645
 19627 % U+0646;afii57446;ARABIC LETTER NOON
 19628 \DeclareTextCommand{\nun}{PU}{\86\106}% U+0646
 19629 % U+0647;afii57470;ARABIC LETTER HEH

19630 \DeclareTextCommand{\ha}{PU}{\86\107}% U+0647
 19631 % U+0648;afii57448;ARABIC LETTER WAW
 19632 \DeclareTextCommand{\waw}{PU}{\86\110}% U+0648
 19633 % U+0649;afii57449;ARABIC LETTER ALEF MAKSURA
 19634 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% U+0649
 19635 % U+064A;afii57450;ARABIC LETTER YEH
 19636 \DeclareTextCommand{\ya}{PU}{\86\112}% U+064A

 19637 % U+064B;afii57451;ARABIC FATHATAN
 19638 \DeclareTextCommand{\nasb}{PU}{\86\113}% U+064B
 19639 % U+064C;afii57452;ARABIC DAMMATAN
 19640 \DeclareTextCommand{\raff}{PU}{\86\114}% U+064C
 19641 % U+064D;afii57453;ARABIC KASRATAN
 19642 \DeclareTextCommand{\jarr}{PU}{\86\115}% U+064D
 19643 % U+064E;afii57454;ARABIC FATHA
 19644 \DeclareTextCommand{\fatha}{PU}{\86\116}% U+064E
 19645 % U+064F;afii57455;ARABIC DAMMA
 19646 \DeclareTextCommand{\damma}{PU}{\86\117}% U+064F
 19647 % U+0650;afii57456;ARABIC KASRA
 19648 \DeclareTextCommand{\kasra}{PU}{\86\120}% U+0650
 19649 % U+0651;afii57457;ARABIC SHADDA
 19650 \DeclareTextCommand{\shadda}{PU}{\86\121}% U+0651
 19651 % U+0652;afii57458;ARABIC SUKUN
 19652 \DeclareTextCommand{\sukun}{PU}{\86\122}% U+0652

 Farsi
 19653 % U+067E ARABIC LETTER PEH; afii57506
 19654 \DeclareTextCommand{\peh}{PU}{\86\176}% U+067E
 19655 % U+0686 ARABIC LETTER TCHEH; afii57507
 19656 \DeclareTextCommand{\tcheh}{PU}{\86\206}% U+0686
 19657 % U+0698 ARABIC LETTER JEH; afii57508
 19658 \DeclareTextCommand{\jeh}{PU}{\86\230}% U+0698
 19659 % U+06A9 ARABIC LETTER KEHEH
 19660 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% U+06A9
 19661 % U+06AF ARABIC LETTER GAF; afii57509
 19662 \DeclareTextCommand{\gaf}{PU}{\86\257}% U+06AF
 19663 % U+06CC ARABIC LETTER FARSI YEH
 19664 \DeclareTextCommand{\farsiya}{PU}{\86\314}% U+06CC

 19665 % U+200C ZERO WIDTH NON-JOINER; afii61664
 19666 \DeclareTextCommand{\ZWJ}{PU}{\9040\014}% U+200C
 19667 % U+200D ZERO WIDTH JOINER; afii301
 19668 \DeclareTextCommand{\textEncodingNoboundary}{PU}{\9040\015}% U+200D
 19669 </puarenc>
 19670 <psdextra>
 19671 \Hy@VersionCheck{psdextra.def}
 19672 \DeclareTextCommand{\textGamma}{PU}{\83\223}%* U+0393
 19673 \DeclareTextCommand{\textDelta}{PU}{\83\224}%* U+0394
 19674 \DeclareTextCommand{\textTheta}{PU}{\83\230}%* U+0398
 19675 \DeclareTextCommand{\textLambda}{PU}{\83\233}%* U+039B
 19676 \DeclareTextCommand{\textXi}{PU}{\83\236}%* U+039E
 19677 \DeclareTextCommand{\textPi}{PU}{\83\240}%* U+03A0
 19678 \DeclareTextCommand{\textSigma}{PU}{\83\243}%* U+03A3
 19679 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}%* U+03A5
 19680 \DeclareTextCommand{\textPhi}{PU}{\83\246}%* U+03A6

19681 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
 19682 \DeclareTextCommand{\textPsi}{PU}{\83\250}%* U+03A8
 19683 \DeclareTextCommand{\textOmega}{PU}{\83\251}%* U+03A9
 19684 \DeclareTextCommand{\textalpha}{PU}{\83\261}%* U+03B1
 19685 \DeclareTextCommand{\textbeta}{PU}{\83\262}%* U+03B2
 19686 \DeclareTextCommand{\textgamma}{PU}{\83\263}%* U+03B3
 19687 \DeclareTextCommand{\textdelta}{PU}{\83\264}%* U+03B4
 19688 \DeclareTextCommand{\textepsilon}{PU}{\83\265}%* U+03B5
 19689 \DeclareTextCommand{\textzeta}{PU}{\83\266}%* U+03B6
 19690 \DeclareTextCommand{\texteta}{PU}{\83\267}%* U+03B7
 19691 \DeclareTextCommand{\texttheta}{PU}{\83\270}%* U+03B8
 19692 \DeclareTextCommand{\textiota}{PU}{\83\271}%* U+03B9
 19693 \DeclareTextCommand{\textkappa}{PU}{\83\272}%* U+03BA
 19694 \DeclareTextCommand{\textlambda}{PU}{\83\273}%* U+03BB
 19695 \DeclareTextCommand{\textmugreek}{PU}{\83\274}%* U+03BC
 19696 \DeclareTextCommand{\textnu}{PU}{\83\275}%* U+03BD
 19697 \DeclareTextCommand{\textxi}{PU}{\83\276}%* U+03BE
 19698 \DeclareTextCommand{\textpi}{PU}{\83\300}%* U+03C0
 19699 \DeclareTextCommand{\textrho}{PU}{\83\301}%* U+03C1
 19700 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}%* U+03C2
 19701 \DeclareTextCommand{\textsigma}{PU}{\83\303}%* U+03C3
 19702 \DeclareTextCommand{\texttau}{PU}{\83\304}%* U+03C4
 19703 \DeclareTextCommand{\textupsilon}{PU}{\83\305}%* U+03C5
 19704 \DeclareTextCommand{\textphi}{PU}{\83\306}%* U+03C6
 19705 \DeclareTextCommand{\textchi}{PU}{\83\307}%* U+03C7
 19706 \DeclareTextCommand{\textpsi}{PU}{\83\310}%* U+03C8
 19707 \DeclareTextCommand{\textomega}{PU}{\83\311}%* U+03C9
 19708 \newcommand*{\psdmapshortnames}{%
 19709 \let\MVPlus\textMVPlus
 19710 \let\MVComma\textMVComma
 19711 \let\MVMinus\textMVMinus
 19712 \let\MVPeriod\textMVPeriod
 19713 \let\MVDivision\textMVDivision
 19714 \let\MVZero\textMVZero
 19715 \let\MVOne\textMVOne
 19716 \let\MVTwo\textMVTwo
 19717 \let\MVThree\textMVThree
 19718 \let\MVFour\textMVFour
 19719 \let\MVFive\textMVFive
 19720 \let\MVSix\textMVSix
 19721 \let\MVSeven\textMVSeven
 19722 \let\MVEight\textMVEight
 19723 \let\MVNine\textMVNine
 19724 \let\MVAt\textMVAt
 19725 \let\copyright\textcopyright
 19726 \let\twosuperior\texttwosuperior
 19727 \let\threesuperior\textthreesuperior
 19728 \let\onesuperior\textonesuperior
 19729 \let\Thorn\textThorn
 19730 \let\thorn\textthorn
 19731 \let\hbar\texthbar
 19732 \let\hausA\texthausA
 19733 \let\hausD\texthausD
 19734 \let\hausK\texthausK

19735 \let\barl\textbarl
 19736 \let\inve\textinve
 19737 \let\slashc\textslashc
 19738 \let\scripta\textscripta
 19739 \let\openo\textopeno
 19740 \let\rtaild\textrtaild
 19741 \let\reve\textreve
 19742 \let\schwa\textschwa
 19743 \let\niepsilon\textniepsilon
 19744 \let\revepsilon\textrevepsilon
 19745 \let\rhookrevepsilon\texthookrevepsilon
 19746 \let\scriptg\textscriptg
 19747 \let\scg\textscg
 19748 \let\ipagamma\textipagamma
 19749 \let\babygamma\textbabygamma
 19750 \let\bari\textbari
 19751 \let\niiota\textniiota
 19752 \let\sci\textsci
 19753 \let\scn\textscn
 19754 \let\niphi\textniphi
 19755 \let\longlegr\textlonglegr
 19756 \let\scr\textscr
 19757 \let\invscr\textinvscr
 19758 \let\esh\textesh
 19759 \let\baru\textbaru
 19760 \let\niupsilon\textniupsilon
 19761 \let\scriptv\textscriptv
 19762 \let\turnv\textturnv
 19763 \let\turnw\textturnw
 19764 \let\turny\textturny
 19765 \let\scy\textscy
 19766 \let\yogh\textyogh
 19767 \let\glotstop\textglotstop
 19768 \let\revglotstop\textrevglotstop
 19769 \let\invglotstop\textinvglotstop
 19770 \let\Gamma\textGamma
 19771 \let\Delta\textDelta
 19772 \let\Theta\textTheta
 19773 \let\Lambda\textLambda
 19774 \let\Xi\textXi
 19775 \let\Pi\textPi
 19776 \let\Sigma\textSigma
 19777 \let\Upsilon\textUpsilon
 19778 \let\Phi\textPhi
 19779 \let\Psi\textPsi
 19780 \let\Omega\textOmega
 19781 \let\alpha\textalpha
 19782 \let\beta\textbeta
 19783 \let\gamma\textgamma
 19784 \let\delta\textdelta
 19785 \let\epsilon\textepsilon
 19786 \let\zeta\textzeta
 19787 \let\eta\texteta
 19788 \let\theta\texttheta

19789 \let\iota\textiota
19790 \let\kappa\textkappa
19791 \let\lambda\textlambda
19792 \let\mu\textmu
19793 \let\mugreek\textmugreek
19794 \let\nu\textnu
19795 \let\xi\textxi
19796 \let\pi\textpi
19797 \let\rho\textrho
19798 \let\varsigma\textvarsigma
19799 \let\sigma\textsigma
19800 \let\tau\texttau
19801 \let\upsilon\textupsilon
19802 \let\phi\textphi
19803 \let\chi\textchi
19804 \let\psi\textpsi
19805 \let\omega\textomega
19806 \let\scd\textscd
19807 \let\scu\textscu
19808 \let\iinferior\textiinferior
19809 \let\rinferior\extrinferior
19810 \let\uiinferior\textuiinferior
19811 \let\vinferior\textvinferior
19812 \let\betainferior\textbetainferior
19813 \let\gammainferior\textgammainferior
19814 \let\rhoinferior\textrhoinferior
19815 \let\phiinferior\textphiinferior
19816 \let\chiinferior\textchiinferior
19817 \let\barsci\textbarsci
19818 \let\barp\textbarp
19819 \let\barscu\textbarscu
19820 \let\htrtaild\texthtrtaild
19821 \let\dagger\textdagger
19822 \let\bullet\textbullet
19823 \let\hdotfor\texthdotfor
19824 \let\prime\textprime
19825 \let\second\textsecond
19826 \let\third\textthird
19827 \let\backprime\textbackprime
19828 \let\lefttherefore\textlefttherefore
19829 \let\fourth\textfourth
19830 \let\diamonddots\textdiamonddots
19831 \let\zerosuperior\textzerosuperior
19832 \let\isuperior\textisuperior
19833 \let\foursuperior\textfoursuperior
19834 \let\fivesuperior\textfivesuperior
19835 \let\sixsuperior\textsixsuperior
19836 \let\sevensuperior\textsevensuperior
19837 \let\eightsuperior\texteightsuperior
19838 \let\ninesuperior\textninesuperior
19839 \let\plussuperior\textplussuperior
19840 \let\minussuperior\textminussuperior
19841 \let\equalsuperior\textequalsuperior
19842 \let\parenleftsuperior\textparenleftsuperior

19843 \let\parenrightsuperior\textparenrightsuperior
 19844 \let\nsuperior\textnsuperior
 19845 \let\zeroinferior\textzeroinferior
 19846 \let\oneinferior\textoneinferior
 19847 \let\twoinferior\texttwoinferior
 19848 \let\threeinferior\textthreeinferior
 19849 \let\fourinferior\textfourinferior
 19850 \let\fiveinferior\textfiveinferior
 19851 \let\sixinferior\textsixinferior
 19852 \let\seveninferior\textseveninferior
 19853 \let\eightinferior\texteightinferior
 19854 \let\nineinferior\textnineinferior
 19855 \let\plusinferior\textplusinferior
 19856 \let\minusinferior\textminusinferior
 19857 \let\equalsinferior\textequalsinferior
 19858 \let\parenleftinferior\textparenleftinferior
 19859 \let\parenrightinferior\textparenrightinferior
 19860 \let\ainferior\textainferior
 19861 \let\einferior\texteinferior
 19862 \let\oinferior\textoinferior
 19863 \let\xinferior\textxinferior
 19864 \let\schwainferior\textschwainferior
 19865 \let\hinferior\texthinferior
 19866 \let\kinferior\textkinferior
 19867 \let\linferior\textlinferior
 19868 \let\minferior\textminferior
 19869 \let\ninferior\textninferior
 19870 \let\pinferior\textpinferior
 19871 \let\sinferior\textsinferior
 19872 \let\tinferior\texttinferior
 19873 \let\Deleatur\textDeleatur
 19874 \let\hslash\texthslash
 19875 \let\Im\textIm
 19876 \let\ell\textell
 19877 \let\wp\textwp
 19878 \let\Re\textRe
 19879 \let\mho\textmho
 19880 \let\riota\textriota
 19881 \let\Finv\textFinv
 19882 \let\aleph\textaleph
 19883 \let\beth\textbeth
 19884 \let\gimel\textgimel
 19885 \let\daleth\textdaleth
 19886 \let\x\textx
 19887 \let\Game\textGame
 19888 \let\leftarrow\textleftarrow
 19889 \let\uparrow\textuparrow
 19890 \let\rightarrow\textrightarrow
 19891 \let\downarrow\textdownarrow
 19892 \let\leftrightarrow\textleftrightarrow
 19893 \let\updownarrow\textupdownarrow
 19894 \let\nwarrow\textnwarrow
 19895 \let\nearrow\textnearrow
 19896 \let\searrow\textsearrow

19897 \let\swarrow\textswarrow
 19898 \let\nleftarrow\textnleftarrow
 19899 \let\nrightarrow\textnrightarrow
 19900 \let\twoheadleftarrow\texttwoheadleftarrow
 19901 \let\ntwoheadleftarrow\textntwoheadleftarrow
 19902 \let\twoheaduparrow\texttwoheaduparrow
 19903 \let\twoheadrightarrow\texttwoheadrightarrow
 19904 \let\ntwoheadrightarrow\textntwoheadrightarrow
 19905 \let\twoheaddownarrow\texttwoheaddownarrow
 19906 \let\leftarrowtail\textleftarrowtail
 19907 \let\rightarrowtail\textrightarrowtail
 19908 \let\mapsto\textmapsto
 19909 \let\hookrightarrow\texthookrightarrow
 19910 \let\hookrightarrow\texthookrightarrow
 19911 \let\looparrowleft\textlooparrowleft
 19912 \let\looparrowright\textlooparrowright
 19913 \let\nleftrightarrow\textnleftrightarrow
 19914 \let\lightning\textlightning
 19915 \let\dlsh\textdlsh
 19916 \let\curvearrowleft\textcurvearrowleft
 19917 \let\curvearrowright\textcurvearrowright
 19918 \let\leftharpoonup\textleftharpoonup
 19919 \let\leftharpoondown\textleftharpoondown
 19920 \let\upharpoonright\textupharpoonright
 19921 \let\upharpoonleft\textupharpoonleft
 19922 \let\rightharpoonup\text\rightharpoonup
 19923 \let\rightharpoondown\text\rightharpoondown
 19924 \let\downharpoonright\textdownharpoonright
 19925 \let\downharpoonleft\textdownharpoonleft
 19926 \let\rightleftarrows\textrightleftarrows
 19927 \let\updownarrows\textupdownarrows
 19928 \let\leftrightarrows\textleftrightarrows
 19929 \let\leftleftarrows\textleftleftarrows
 19930 \let\upuparrows\textupuparrows
 19931 \let\righttrightarrows\textrighttrightarrows
 19932 \let\downdownarrows\textdowndownarrows
 19933 \let\leftrightharpoons\textleftrightharpoons
 19934 \let\rightleftharpoons\textrightleftharpoons
 19935 \let\nLeftarrow\textnLeftarrow
 19936 \let\nLeftrightarrow\textnLeftrightarrow
 19937 \let\nRrightarrow\textnRrightarrow
 19938 \let\Leftarrow\textLeftarrow
 19939 \let\Uparrow\textUparrow
 19940 \let\Rrightarrow\textRrightarrow
 19941 \let\Downarrow\textDownarrow
 19942 \let\Leftrightarrow\textLeftrightarrow
 19943 \let\Updownarrow\textUpdownarrow
 19944 \let\Narrow\textNarrow
 19945 \let\Nearrow\textNearrow
 19946 \let\Searrow\textSearrow
 19947 \let\Swarrow\textSwarrow
 19948 \let\Lleftarrow\textLleftarrow
 19949 \let\Rrightarrow\textRrightarrow
 19950 \let\leftsquigarrow\textleftsquigarrow

19951 $\backslash\mathrm{rightsquigarrow}\mathrm{textrightsquigarrow}$
 19952 $\backslash\mathrm{dashleftarrow}\mathrm{texdashleftarrow}$
 19953 $\backslash\mathrm{dasheduparrow}\mathrm{texdasheduparrow}$
 19954 $\backslash\mathrm{dashrightarrow}\mathrm{texdashrightarrow}$
 19955 $\backslash\mathrm{dasheddownarrow}\mathrm{texdasheddownarrow}$
 19956 $\backslash\mathrm{pointer}\mathrm{textpointer}$
 19957 $\backslash\mathrm{downuparrows}\mathrm{texdownuparrows}$
 19958 $\backslash\mathrm{leftarrowtriangle}\mathrm{texleftarrowtriangle}$
 19959 $\backslash\mathrm{rightarrowtriangle}\mathrm{texrightarrowtriangle}$
 19960 $\backslash\mathrm{leftrightarrowtriangle}\mathrm{texleftrightarrowtriangle}$
 19961 $\backslash\mathrm{forall}\mathrm{textforall}$
 19962 $\backslash\mathrm{complement}\mathrm{textcomplement}$
 19963 $\backslash\mathrm{partial}\mathrm{textpartial}$
 19964 $\backslash\mathrm{exists}\mathrm{textexists}$
 19965 $\backslash\mathrm{nexists}\mathrm{texnexists}$
 19966 $\backslash\mathrm{emptyset}\mathrm{textemptyset}$
 19967 $\backslash\mathrm{triangle}\mathrm{texttriangle}$
 19968 $\backslash\mathrm{nabla}\mathrm{texnabla}$
 19969 $\backslash\mathrm{in}\mathrm{textin}$
 19970 $\backslash\mathrm{notin}\mathrm{textnotin}$
 19971 $\backslash\mathrm{smallin}\mathrm{textsmallin}$
 19972 $\backslash\mathrm{ni}\mathrm{textni}$
 19973 $\backslash\mathrm{notowner}\mathrm{textnotowner}$
 19974 $\backslash\mathrm{smallowns}\mathrm{textsmallowns}$
 19975 $\backslash\mathrm{prod}\mathrm{textprod}$
 19976 $\backslash\mathrm{amalg}\mathrm{textamalg}$
 19977 $\backslash\mathrm{sum}\mathrm{textsum}$
 19978 $\backslash\mathrm{mp}\mathrm{textmp}$
 19979 $\backslash\mathrm{dotplus}\mathrm{texdotplus}$
 19980 $\backslash\mathrm{Divides}\mathrm{textDivides}$
 19981 $\backslash\mathrm{DividesNot}\mathrm{textDividesNot}$
 19982 $\backslash\mathrm{setminus}\mathrm{textsetminus}$
 19983 $\backslash\mathrm{ast}\mathrm{textast}$
 19984 $\backslash\mathrm{circ}\mathrm{textcirc}$
 19985 $\backslash\mathrm{surd}\mathrm{textsurd}$
 19986 $\backslash\mathrm{propto}\mathrm{textpropto}$
 19987 $\backslash\mathrm{infty}\mathrm{textinfty}$
 19988 $\backslash\mathrm{angle}\mathrm{textangle}$
 19989 $\backslash\mathrm{measuredangle}\mathrm{textmeasuredangle}$
 19990 $\backslash\mathrm{sphericalangle}\mathrm{textsphericalangle}$
 19991 $\backslash\mathrm{mid}\mathrm{textmid}$
 19992 $\backslash\mathrm{nmid}\mathrm{texnmid}$
 19993 $\backslash\mathrm{parallel}\mathrm{textparallel}$
 19994 $\backslash\mathrm{nparallel}\mathrm{texnparallel}$
 19995 $\backslash\mathrm{wedge}\mathrm{textwedge}$
 19996 $\backslash\mathrm{owedge}\mathrm{textowedge}$
 19997 $\backslash\mathrm{vee}\mathrm{textvee}$
 19998 $\backslash\mathrm{ovee}\mathrm{textovee}$
 19999 $\backslash\mathrm{cap}\mathrm{textcap}$
 20000 $\backslash\mathrm{cup}\mathrm{textcup}$
 20001 $\backslash\mathrm{int}\mathrm{textint}$
 20002 $\backslash\mathrm{iint}\mathrm{textiint}$
 20003 $\backslash\mathrm{iiint}\mathrm{textiiint}$
 20004 $\backslash\mathrm{oint}\mathrm{textoint}$

20005 \let\oiint\textoiint
 20006 \let\ointclockwise\textointclockwise
 20007 \let\ointctrlockwise\textointctrlockwise
 20008 \let\therefore\texttherefore
 20009 \let\because\textbecause
 20010 \let\vdotdot\textvdotdot
 20011 \let\squaredots\textsquaredots
 20012 \let\dotminus\textdotminus
 20013 \let\eqcolon\texteqcolon
 20014 \let\sim\textsim
 20015 \let\backsim\textbacksim
 20016 \let\nbacksim\textnbacksim
 20017 \let\wr\textwr
 20018 \let\nsim\textnsim
 20019 \let\eqsim\texteqsim
 20020 \let\neqsim\textneqsim
 20021 \let\simeq\textsimeq
 20022 \let\nsimeq\textnsimeq
 20023 \let\cong\textcong
 20024 \let\ncong\textncong
 20025 \let\approx\textapprox
 20026 \let\napprox\textnapprox
 20027 \let\approxeq\textapproxeq
 20028 \let\napproxeq\textnapproxeq
 20029 \let\triplesim\texttriplesim
 20030 \let\ntriplesim\textntriplesim
 20031 \let\backcong\textbackcong
 20032 \let\nbackcong\textnbackcong
 20033 \let\asymp\textasymp
 20034 \let\nasymp\textnasymp
 20035 \let\Bumpeq\textBumpeq
 20036 \let\nBumpeq\textnBumpeq
 20037 \let\bumpeq\textbumpeq
 20038 \let\nbumpeq\textnbumpeq
 20039 \let\doteq\textdoteq
 20040 \let\ndoteq\textndoteq
 20041 \let\doteqdot\textdoteqdot
 20042 \let\ndoteq\textndoteq
 20043 \let\fallingdoteq\textfallingdoteq
 20044 \let\nfallingdoteq\textnfallingdoteq
 20045 \let\risingdoteq\textrisingdoteq
 20046 \let\nrisingdoteq\textnrisingdoteq
 20047 \let\colonequals\textcolonequals
 20048 \let\equalscolon\textequalscolon
 20049 \let\eqcirc\texteqcirc
 20050 \let\neqcirc\textneqcirc
 20051 \let\circeq\textcirceq
 20052 \let\ncirceq\textncirceq
 20053 \let\hateq\texthateq
 20054 \let\nhateq\textnhateq
 20055 \let\triangleeq\texttriangleeq
 20056 \let\neq\textneq
 20057 \let\ne\textne
 20058 \let\equiv\textequiv

20059 \let\nequiv\textnequiv
 20060 \let\leq\textleq
 20061 \let\le\textle
 20062 \let\geq\textgeq
 20063 \let\ge\textge
 20064 \let\leqq\textleqq
 20065 \let\leqq\textnleqq
 20066 \let\geqq\textgeqq
 20067 \let\geqq\textngeqq
 20068 \let\leqq\textlneqq
 20069 \let\gneqq\textgneqq
 20070 \let\ll\textll
 20071 \let\nll\textnll
 20072 \let\gg\textgg
 20073 \let\ngg\textngg
 20074 \let\between\textbetween
 20075 \let\nless\textnless
 20076 \let\ngtr\textngtr
 20077 \let\leq\textnleq
 20078 \let\ngtr\textngeq
 20079 \let\less\textless
 20080 \let\gtr\textgtr
 20081 \let\nless\textnless
 20082 \let\ngtr\textngtr
 20083 \let\less\textless
 20084 \let\gtr\textgtr
 20085 \let\ngtr\textngtr
 20086 \let\nless\textnless
 20087 \let\prec\textprec
 20088 \let\succ\textsucc
 20089 \let\preccurlyeq\textpreccurlyeq
 20090 \let\succcurlyeq\textsucccurlyeq
 20091 \let\prec\textprec
 20092 \let\nprec\textnprec
 20093 \let\succ\textsucc
 20094 \let\nsucc\textnsucc
 20095 \let\prec\textprec
 20096 \let\nsucc\textnsucc
 20097 \let\subset\textsubset
 20098 \let\supset\textsupset
 20099 \let\nsubset\textnsubset
 20100 \let\nsupset\textnsupset
 20101 \let\subseteq\textsubseteq
 20102 \let\supseteq\textsupseteq
 20103 \let\nsubseteq\textnsubseteq
 20104 \let\nsupseteq\textnsupseteq
 20105 \let\subsetneq\textsubsetneq
 20106 \let\supsetneq\textsupsetneq
 20107 \let\cup\textcup
 20108 \let\cup\textcup
 20109 \let\sqsubset\textsqsubset
 20110 \let\nsqsubset\textnsqsubset
 20111 \let\sqsupset\textsqsupset
 20112 \let\nsqsupset\textnsqsupset

20113 $\backslash\text{let}\backslash\text{sqsubseteq}\backslash\text{textsqsubseteq}$
 20114 $\backslash\text{let}\backslash\text{nsqsubseteq}\backslash\text{textnsqsubseteq}$
 20115 $\backslash\text{let}\backslash\text{sqsupseteq}\backslash\text{textsqsupseteq}$
 20116 $\backslash\text{let}\backslash\text{nsqsupseteq}\backslash\text{textnsqsupseteq}$
 20117 $\backslash\text{let}\backslash\text{sqcap}\backslash\text{textsqcap}$
 20118 $\backslash\text{let}\backslash\text{sqcup}\backslash\text{textsqcup}$
 20119 $\backslash\text{let}\backslash\text{oplus}\backslash\text{textoplus}$
 20120 $\backslash\text{let}\backslash\text{ominus}\backslash\text{textominus}$
 20121 $\backslash\text{let}\backslash\text{otimes}\backslash\text{textotimes}$
 20122 $\backslash\text{let}\backslash\text{oslash}\backslash\text{textoslash}$
 20123 $\backslash\text{let}\backslash\text{odot}\backslash\text{textodot}$
 20124 $\backslash\text{let}\backslash\text{circledcirc}\backslash\text{textcircledcirc}$
 20125 $\backslash\text{let}\backslash\text{circledast}\backslash\text{textcircledast}$
 20126 $\backslash\text{let}\backslash\text{circleddash}\backslash\text{textcircleddash}$
 20127 $\backslash\text{let}\backslash\text{boxplus}\backslash\text{textboxplus}$
 20128 $\backslash\text{let}\backslash\text{boxminus}\backslash\text{textboxminus}$
 20129 $\backslash\text{let}\backslash\text{boxtimes}\backslash\text{textboxtimes}$
 20130 $\backslash\text{let}\backslash\text{boxdot}\backslash\text{textboxdot}$
 20131 $\backslash\text{let}\backslash\text{vdash}\backslash\text{textvdash}$
 20132 $\backslash\text{let}\backslash\text{dashv}\backslash\text{texdashv}$
 20133 $\backslash\text{let}\backslash\text{ndashv}\backslash\text{textndashv}$
 20134 $\backslash\text{let}\backslash\text{top}\backslash\text{texttop}$
 20135 $\backslash\text{let}\backslash\text{ndownvdash}\backslash\text{textndownvdash}$
 20136 $\backslash\text{let}\backslash\text{bot}\backslash\text{textbot}$
 20137 $\backslash\text{let}\backslash\text{nupvdash}\backslash\text{textnupvdash}$
 20138 $\backslash\text{let}\backslash\text{vDash}\backslash\text{textvDash}$
 20139 $\backslash\text{let}\backslash\text{VDash}\backslash\text{textVDash}$
 20140 $\backslash\text{let}\backslash\text{Vvdash}\backslash\text{textVvdash}$
 20141 $\backslash\text{let}\backslash\text{nVdash}\backslash\text{textnVdash}$
 20142 $\backslash\text{let}\backslash\text{VDash}\backslash\text{textVDash}$
 20143 $\backslash\text{let}\backslash\text{nvDash}\backslash\text{textnvDash}$
 20144 $\backslash\text{let}\backslash\text{nvDash}\backslash\text{textnvDash}$
 20145 $\backslash\text{let}\backslash\text{nVdash}\backslash\text{textnVdash}$
 20146 $\backslash\text{let}\backslash\text{nVDash}\backslash\text{textnVDash}$
 20147 $\backslash\text{let}\backslash\text{lhs}\backslash\text{texlhs}$
 20148 $\backslash\text{let}\backslash\text{rhs}\backslash\text{texrhs}$
 20149 $\backslash\text{let}\backslash\text{unlhs}\backslash\text{textunlhs}$
 20150 $\backslash\text{let}\backslash\text{unrhs}\backslash\text{textunrhs}$
 20151 $\backslash\text{let}\backslash\text{multimapdotbothA}\backslash\text{textmultimapdotbothA}$
 20152 $\backslash\text{let}\backslash\text{multimapdotbothB}\backslash\text{textmultimapdotbothB}$
 20153 $\backslash\text{let}\backslash\text{multimap}\backslash\text{textmultimap}$
 20154 $\backslash\text{let}\backslash\text{veebar}\backslash\text{textveebar}$
 20155 $\backslash\text{let}\backslash\text{barwedge}\backslash\text{textbarwedge}$
 20156 $\backslash\text{let}\backslash\text{star}\backslash\text{textstar}$
 20157 $\backslash\text{let}\backslash\text{divideontimes}\backslash\text{textdivideontimes}$
 20158 $\backslash\text{let}\backslash\text{bowtie}\backslash\text{textbowtie}$
 20159 $\backslash\text{let}\backslash\text{ltimes}\backslash\text{texltimes}$
 20160 $\backslash\text{let}\backslash\text{rtimes}\backslash\text{texrtimes}$
 20161 $\backslash\text{let}\backslash\text{leftthreetimes}\backslash\text{textleftthreetimes}$
 20162 $\backslash\text{let}\backslash\text{rightthreetimes}\backslash\text{textrightthreetimes}$
 20163 $\backslash\text{let}\backslash\text{backsimeq}\backslash\text{textbacksimeq}$
 20164 $\backslash\text{let}\backslash\text{nbacksimeq}\backslash\text{textnbacksimeq}$
 20165 $\backslash\text{let}\backslash\text{curlyvee}\backslash\text{textcurlyvee}$
 20166 $\backslash\text{let}\backslash\text{curlywedge}\backslash\text{textcurlywedge}$

20167 \let\Subset\textSubset
 20168 \let\NSubset\textNSubset
 20169 \let\Supset\textSupset
 20170 \let\NSupset\textNSupset
 20171 \let\Cap\textCap
 20172 \let\Cup\textCup
 20173 \let\pitchfork\textpitchfork
 20174 \let\lessdot\textlessdot
 20175 \let\gtrdot\textgtrdot
 20176 \let\lll\textlll
 20177 \let\ggg\textggg
 20178 \let\lesseqgtr\textlesseqgtr
 20179 \let\gtreqless\textgtreqless
 20180 \let\curlyeqprec\textcurlyeqprec
 20181 \let\ncurlyeqprec\textncurlyeqprec
 20182 \let\curlyeqsucc\textcurlyeqsucc
 20183 \let\ncurlyeqsucc\textncurlyeqsucc
 20184 \let\preccurlyeq\textpreccurlyeq
 20185 \let\nsucccurlyeq\textnsucccurlyeq
 20186 \let\sqsubseteq\textsqsubseteq
 20187 \let\sqsupseteq\textsqsupseteq
 20188 \let\sqsubsetneq\textsqsubsetneq
 20189 \let\sqsupsetneq\textsqsupsetneq
 20190 \let\lnsim\textlnsim
 20191 \let\gnsim\textgnsim
 20192 \let\precnsim\textprecnsim
 20193 \let\succnsim\textsuccnsim
 20194 \let\triangleleft\texttriangleleft
 20195 \let\triangleright\texttriangleright
 20196 \let\trianglelefteq\texttrianglelefteq
 20197 \let\trianglerighteq\texttrianglerighteq
 20198 \let\vdots\textvdots
 20199 \let\cdots\textcdots
 20200 \let\udots\textudots
 20201 \let\ddots\textddots
 20202 \let\barin\textbarin
 20203 \let\diameter\textdiameter
 20204 \let\backneg\textbackneg
 20205 \let\wasylozenge\textwasylozenge
 20206 \let\invbackneg\textinvbackneg
 20207 \let\clock\textclock
 20208 \let\ulcorner\textulcorner
 20209 \let\urcorner\texturcorner
 20210 \let\llcorner\textllcorner
 20211 \let\lrcorner\textlrcorner
 20212 \let\frown\textfrown
 20213 \let\smile\textsmile
 20214 \let\Keyboard\textKeyboard
 20215 \let\langle\textlangle
 20216 \let\rangle\textrangle
 20217 \let\APLinv\textAPLinv
 20218 \let\Tumbler\textTumbler
 20219 \let\notslash\textnotslash
 20220 \let\notbackslash\textnotbackslash

20221 \let\boxbackslash\textboxbackslash
 20222 \let\APLleftarrowbox\textAPLleftarrowbox
 20223 \let\APLrightarrowbox\textAPLrightarrowbox
 20224 \let\APLuparrowbox\textAPLuparrowbox
 20225 \let\APLdownarrowbox\textAPLdownarrowbox
 20226 \let\APLinput\textAPLinput
 20227 \let\Request\textRequest
 20228 \let\Beam\textBeam
 20229 \let\hexagon\texthexagon
 20230 \let\APLbox\textAPLbox
 20231 \let\ForwardToIndex\textForwardToIndex
 20232 \let\RewindToIndex\textRewindToIndex
 20233 \let\bbslash\textbbslash
 20234 \let\CircledA\textCircledA
 20235 \let\CleaningF\textCleaningF
 20236 \let\CleaningFF\textCleaningFF
 20237 \let\CleaningP\textCleaningP
 20238 \let\CleaningPP\textCleaningPP
 20239 \let\CuttingLine\textCuttingLine
 20240 \let\UParrow\textUParrow
 20241 \let\bigtriangleup\textbigtriangleup
 20242 \let\Forward\textForward
 20243 \let\triangleright\texttriangleright
 20244 \let\RHD\textRHD
 20245 \let\DOWNarrow\textDOWNarrow
 20246 \let\bigtriangledown\textbigtriangledown
 20247 \let\Rewind\textRewind
 20248 \let\triangleleft\texttriangleleft
 20249 \let\LHD\textLHD
 20250 \let\diamond\textdiamond
 20251 \let\lozenge\textlozenge
 20252 \let\LEFTCIRCLE\textLEFTCIRCLE
 20253 \let\RIGHTCIRCLE\textRIGHTCIRCLE
 20254 \let\openbullet\textopenbullet
 20255 \let\boxbar\textboxbar
 20256 \let\bigcircle\textbigcircle
 20257 \let\Cloud\textCloud
 20258 \let\FiveStar\textFiveStar
 20259 \let\FiveStarOpen\textFiveStarOpen
 20260 \let\Phone\textPhone
 20261 \let\boxempty\textboxempty
 20262 \let\Checkedbox\textCheckedbox
 20263 \let\Crossedbox\textCrossedbox
 20264 \let\Coffeecup\textCoffeecup
 20265 \let\HandCuffLeft\textHandCuffLeft
 20266 \let\HandCuffRight\textHandCuffRight
 20267 \let\HandLeft\textHandLeft
 20268 \let\HandRight\textHandRight
 20269 \let\Radioactivity\textRadioactivity
 20270 \let\Biohazard\textBiohazard
 20271 \let\Ankh\textAnkh
 20272 \let\YinYang\textYinYang
 20273 \let\frownie\textfrownie
 20274 \let\smiley\textsmiley

20275 \let\blacksmiley\textblacksmiley
 20276 \let\sun\textsun
 20277 \let\leftmoon\textleftmoon
 20278 \let\rightmoon\textrightmoon
 20279 \let\mercury\textmercury
 20280 \let\earth\textearth
 20281 \let\male\textmale
 20282 \let\jupiter\textjupiter
 20283 \let\saturn\textsaturn
 20284 \let\uranus\texturanus
 20285 \let\neptune\textneptune
 20286 \let\pluto\textpluto
 20287 \let\aries\textaries
 20288 \let\taurus\texttaurus
 20289 \let\gemini\textgemini
 20290 \let\cancer\textcancer
 20291 \let\leo\textleo
 20292 \let\virgo\textvirgo
 20293 \let\libra\textlibra
 20294 \let\scorpio\textscorpio
 20295 \let\sagittarius\textsagittarius
 20296 \let\capricornus\textcapricornus
 20297 \let\aquarius\textaquarius
 20298 \let\pisces\textpisces
 20299 \let\quarternote\textquarternote
 20300 \let\twonotes\texttwonotes
 20301 \let\sixteenthnote\textsixteenthnote
 20302 \let\flat\textflat
 20303 \let\natural\textnatural
 20304 \let\sharp\textsharp
 20305 \let\recycle\textrecycle
 20306 \let\Wheelchair\textWheelchair
 20307 \let\Flag\textFlag
 20308 \let\MineSign\textMineSign
 20309 \let\ds\textds
 20310 \let\ds\textds
 20311 \let\ds\textds
 20312 \let\ds\textds
 20313 \let\ds\textds
 20314 \let\ds\textds
 20315 \let\manstar\textmanstar
 20316 \let\danger\textdanger
 20317 \let\FemaleFemale\textFemaleFemale
 20318 \let\MaleMale\textMaleMale
 20319 \let\FemaleMale\textFemaleMale
 20320 \let\Hermaphrodite\textHermaphrodite
 20321 \let\Neutral\textNeutral
 20322 \let\hexstar\texthexstar
 20323 \let\SunCloud\textSunCloud
 20324 \let\Rain\textRain
 20325 \let\noway\textnoway
 20326 \let\Mountain\textMountain
 20327 \let\Tent\textTent
 20328 \let\ScissorRight\textScissorRight

20329 \let\ScissorRightBrokenTop\textScissorRightBrokenTop
 20330 \let\ScissorHollowRight\textScissorHollowRight
 20331 \let\PhoneHandset\textPhoneHandset
 20332 \let\Tape\textTape
 20333 \let\Plane\textPlane
 20334 \let\Envelope\textEnvelope
 20335 \let\Peace\textPeace
 20336 \let\WritingHand\textWritingHand
 20337 \let\PencilRightDown\textPencilRightDown
 20338 \let\PencilRight\textPencilRight
 20339 \let\PencilRightUp\textPencilRightUp
 20340 \let\NibRight\textNibRight
 20341 \let\NibSolidRight\textNibSolidRight
 20342 \let\Checkmark\textCheckmark
 20343 \let\CheckmarkBold\textCheckmarkBold
 20344 \let\XSolid\textXSolid
 20345 \let\XSolidBold\textXSolidBold
 20346 \let\XSolidBrush\textXSolidBrush
 20347 \let\PlusOutline\textPlusOutline
 20348 \let\Plus\textPlus
 20349 \let\PlusThinCenterOpen\textPlusThinCenterOpen
 20350 \let\PlusCenterOpen\textPlusCenterOpen
 20351 \let\Cross\textCross
 20352 \let\CrossOpenShadow\textCrossOpenShadow
 20353 \let\CrossOutline\textCrossOutline
 20354 \let\CrossMaltese\textCrossMaltese
 20355 \let\DavidStar\textDavidStar
 20356 \let\FourAsterisk\textFourAsterisk
 20357 \let\JackStar\textJackStar
 20358 \let\JackStarBold\textJackStarBold
 20359 \let\ClowerTips\textClowerTips
 20360 \let\FourStar\textFourStar
 20361 \let\FourStarOpen\textFourStarOpen
 20362 \let\FiveStarOpenCircled\textFiveStarOpenCircled
 20363 \let\FiveStarCenterOpen\textFiveStarCenterOpen
 20364 \let\FiveStarOpenDotted\textFiveStarOpenDotted
 20365 \let\FiveStarOutline\textFiveStarOutline
 20366 \let\FiveStarOutlineHeavy\textFiveStarOutlineHeavy
 20367 \let\FiveStarConvex\textFiveStarConvex
 20368 \let\FiveStarShadow\textFiveStarShadow
 20369 \let\AsteriskBold\textAsteriskBold
 20370 \let\AsteriskCenterOpen\textAsteriskCenterOpen
 20371 \let\EightStarTaper\textEightStarTaper
 20372 \let\EightStarConvex\textEightStarConvex
 20373 \let\SixStar\textSixStar
 20374 \let\EightStar\textEightStar
 20375 \let\EightStarBold\textEightStarBold
 20376 \let\TwelveStar\textTwelveStar
 20377 \let\SixteenStarLight\textSixteenStarLight
 20378 \let\SixFlowerPetalRemoved\textSixFlowerPetalRemoved
 20379 \let\SixFlowerOpenCenter\textSixFlowerOpenCenter
 20380 \let\Asterisk\textAsterisk
 20381 \let\SixFlowerAlternate\textSixFlowerAlternate
 20382 \let\FiveFlowerPetal\textFiveFlowerPetal

20383 \let\FiveFlowerOpen\textFiveFlowerOpen
 20384 \let\EightFlowerPetal\textEightFlowerPetal
 20385 \let\SunshineOpenCircled\textSunshineOpenCircled
 20386 \let\SixFlowerAltPetal\textSixFlowerAltPetal
 20387 \let\SnowflakeChevron\textSnowflakeChevron
 20388 \let\Snowflake\textSnowflake
 20389 \let\SnowflakeChevronBold\textSnowflakeChevronBold
 20390 \let\Sparkle\textSparkle
 20391 \let\SparkleBold\textSparkleBold
 20392 \let\AsteriskRoundedEnds\textAsteriskRoundedEnds
 20393 \let\EightFlowerPetalRemoved\textEightFlowerPetalRemoved
 20394 \let\EightAsterisk\textEightAsterisk
 20395 \let\CircleShadow\textCircleShadow
 20396 \let\SquareShadowBottomRight\textSquareShadowBottomRight
 20397 \let\SquareTopRight\textSquareTopRight
 20398 \let\SquareCastShadowBottomRight\textSquareCastShadowBottomRight
 20399 \let\SquareCastShadowTopRight\textSquareCastShadowTopRight
 20400 \let\DiamondSolid\textDiamondSolid
 20401 \let\RectangleThin\textRectangleThin
 20402 \let\Rectangle\textRectangle
 20403 \let\RectangleBold\textRectangleBold
 20404 \let\perp\textperp
 20405 \let\notperp\textnotperp
 20406 \let\veedot\textveedot
 20407 \let\wedgedot\textwedgedot
 20408 \let\leftspoon\textleftspoon
 20409 \let\lbrackdbl\textlbrackdbl
 20410 \let\rbrackdbl\textrbrackdbl
 20411 \let\circlearrowleft\textcirclearrowleft
 20412 \let\circlearrowright\textcirclearrowright
 20413 \let\longleftarrow\textlongleftarrow
 20414 \let\longrightarrow\textlongrightarrow
 20415 \let\longlefttrightarrow\textlonglefttrightarrow
 20416 \let\Longleftarrow\textLongleftarrow
 20417 \let\Longrightarrow\textLongrightarrow
 20418 \let\Longlefttrightarrow\textLonglefttrightarrow
 20419 \let\longmapsto\textlongmapsto
 20420 \let\Longmapsfrom\textLongmapsfrom
 20421 \let\Longmapsto\textLongmapsto
 20422 \let\nwsearrow\textnwsearrow
 20423 \let\neswarrow\textneswarrow
 20424 \let\hookrightarrow\texthookrightarrow
 20425 \let\rhookrightarrow\text\rhookrightarrow
 20426 \let\hookrightarrow\texthookrightarrow
 20427 \let\rhookrightarrow\text\rhookrightarrow
 20428 \let\leadsto\textleadsto
 20429 \let\curvearrowright\textcurvearrowright
 20430 \let\lcurvearrowright\textlcurvearrowright
 20431 \let\lcurvearrowrightsw\textlcurvearrowrightsw
 20432 \let\curvearrowright\textcurvearrowright
 20433 \let\lcurvearrowrightdown\textlcurvearrowrightdown
 20434 \let\curvearrowrightdown\textcurvearrowrightdown
 20435 \let\curvearrowrightleft\textcurvearrowrightleft
 20436 \let\curvearrowright\textcurvearrowright

20437 `\let\leftrightharpoon\textleftrightharpoon`
 20438 `\let\rightleftharpoon\textrightleftharpoon`
 20439 `\let\updownharpoonrightleft\textupdownharpoonrightleft`
 20440 `\let\updownharpoonleftright\textupdownharpoonleftright`
 20441 `\let\leftleftharpoons\textleftleftharpoons`
 20442 `\let\upupharpoons\textupupharpoons`
 20443 `\let\righttrightharpoons\textrighttrightharpoons`
 20444 `\let\downdownharpoons\textdowndownharpoons`
 20445 `\let\leftbarharpoon\textleftbarharpoon`
 20446 `\let\barleftharpoon\textbarleftharpoon`
 20447 `\let\rightbarharpoon\textrightbarharpoon`
 20448 `\let\barriightharpoon\textbarriightharpoon`
 20449 `\let\updownharpoons\textupdownharpoons`
 20450 `\let\downupharpoons\textdownupharpoons`
 20451 `\let\moo\textmoo`
 20452 `\let\llparenthesis\textllparenthesis`
 20453 `\let\rrparenthesis\textrrparenthesis`
 20454 `\let\invdiameter\textinvdiameter`
 20455 `\let\obar\textobar`
 20456 `\let\obslash\textobslash`
 20457 `\let\obot\textobot`
 20458 `\let\NoChemicalCleaning\textNoChemicalCleaning`
 20459 `\let\olessthan\textolessthan`
 20460 `\let\ogreaterthan\textogreaterthan`
 20461 `\let\boxslash\textboxslash`
 20462 `\let\boxbslash\textboxbslash`
 20463 `\let\boxast\textboxast`
 20464 `\let\boxcircle\textboxcircle`
 20465 `\let\boxbox\textboxbox`
 20466 `\let\Valve\textValve`
 20467 `\let\multimapboth\textmultimapboth`
 20468 `\let\shuffle\textshuffle`
 20469 `\let\uplus\textuplus`
 20470 `\let\bigdoublewedge\textbigdoublewedge`
 20471 `\let\bigdoublevee\textbigdoublevee`
 20472 `\let\Join\textJoin`
 20473 `\let\fatsemi\textfatsemi`
 20474 `\let\cirplus\textcirplus`
 20475 `\let\minusdot\textminusdot`
 20476 `\let\dottimes\textdottimes`
 20477 `\let\dtimes\textdtimes`
 20478 `\let\odiv\textodiv`
 20479 `\let\invneg\textinvneg`
 20480 `\let\sqdoublecap\textsdoublecap`
 20481 `\let\capdot\textcapdot`
 20482 `\let\sqdoublecup\textsdoublecup`
 20483 `\let\doublewedge\textdoublewedge`
 20484 `\let\doublevee\textdoublevee`
 20485 `\let\doublebarwedge\textdoublebarwedge`
 20486 `\let\veedoublebar\textveedoublebar`
 20487 `\let\eqdot\texteqdot`
 20488 `\let\neqdot\textneqdot`
 20489 `\let\coloncolonequals\textcoloncolonequals`
 20490 `\let\leqslant\textleqslant`

20491 `\let\nleqslant\textnleqslant`
 20492 `\let\geqslant\textgeqslant`
 20493 `\let\ngeqslant\textngeqslant`
 20494 `\let\lessapprox\textlessapprox`
 20495 `\let\nlessapprox\textnlessapprox`
 20496 `\let\gtrapprox\textgtrapprox`
 20497 `\let\ngtrapprox\textngtrapprox`
 20498 `\let\lneq\textlneq`
 20499 `\let\gneq\textgneq`
 20500 `\let\lnapprox\textlnapprox`
 20501 `\let\gnapprox\textgnapprox`
 20502 `\let\lesseqqgtr\textlesseqqgtr`
 20503 `\let\gtreqqless\textgtreqqless`
 20504 `\let\eqslantless\texteqslantless`
 20505 `\let\eqslantgtr\texteqslantgtr`
 20506 `\let\leftslice\textleftslice`
 20507 `\let\rightslice\textright slice`
 20508 `\let\preceq\textpreceq`
 20509 `\let\npreceq\textnpreceq`
 20510 `\let\succeq\textsucceq`
 20511 `\let\nsucceq\textnsucceq`
 20512 `\let\precneq\textprecneq`
 20513 `\let\succneq\textsuccneq`
 20514 `\let\preceqq\textpreceqq`
 20515 `\let\npreceqq\textnpreceqq`
 20516 `\let\succeqq\textsucceqq`
 20517 `\let\nsucceqq\textnsucceqq`
 20518 `\let\precneqq\textprecneqq`
 20519 `\let\succneqq\textsuccneqq`
 20520 `\let\precapprox\textprecapprox`
 20521 `\let\nprecapprox\textnprecapprox`
 20522 `\let\succapprox\textsuccapprox`
 20523 `\let\nsuccapprox\textnsuccapprox`
 20524 `\let\precnapprox\textprecnapprox`
 20525 `\let\succnapprox\textsuccnapprox`
 20526 `\let\subteqq\textsubteqq`
 20527 `\let\nsubteqq\textnsubteqq`
 20528 `\let\supseteqq\textsupseteqq`
 20529 `\let\nsupseteqq\textnsupseteqq`
 20530 `\let\dashV\textdashV`
 20531 `\let\ndashV\textndashV`
 20532 `\let\Dashv\textDashv`
 20533 `\let\NDashv\textNDashv`
 20534 `\let\DashV\textDashV`
 20535 `\let\NDashV\textNDashV`
 20536 `\let\downmodels\textdownmodels`
 20537 `\let\ndownmodels\textndownmodels`
 20538 `\let\upmodels\textupmodels`
 20539 `\let\nupmodels\textnupmodels`
 20540 `\let\upspoon\textupspoon`
 20541 `\let\interleave\textinterleave`
 20542 `\let\slash\textslash`
 20543 `\let\pentagon\textpentagon`
 20544 `\let\varhexagon\textvarhexagon`

20545 \let\jinferior\textjinferior
 20546 \let\slashdiv\textslashdiv
 20547 \let\fivedots\textfivedots
 20548 \let\oo\textoo
 20549 \let\GaPa\textGaPa
 20550 \let\HaPa\textHaPa
 20551 \let\ViPa\textViPa
 20552 \let\AcPa\textAcPa
 20553 \let\SePa\textSePa
 20554 \let\ZwPa\textZwPa
 20555 \let\fullnote\textfullnote
 20556 \let\halfnote\texthalfnote
 20557 \let\Vier\textVier
 20558 \let\Acht\textAcht
 20559 \let\Sech\textSech
 20560 \let\Zwdr\textZwdr
 20561 \let\Mundus\textMundus
 20562 \let\Moon\textMoon
 20563 \let\ManFace\textManFace
 20564 \let\WomanFace\textWomanFace
 20565 \let\Fax\textFax
 20566 \let\Fire\textFire
 20567 \let\Bicycle\textBicycle
 20568 \let\Gentsroom\textGentsroom
 20569 \let\Ladiesroom\textLadiesroom
 20570 \let\ccnc\textccnc
 20571 \let\ccsa\textccsa
 20572 \let\Info\textInfo
 20573 \let\CESign\textCESign
 20574 \let\neg\textneg
 20575 \let\times\texttimes
 20576 \let\div\textdiv
 20577 \let\pm\textpm
 20578 \let\cdot\textcdot
 20579 }% \psdmapshortnames
 20580 \newcommand*{\psdaliasnames}{%
 20581 \let\epsdice\HyPsd@DieFace
 20582 \let\fcdice\HyPsd@DieFace
 20583 \let\MoonPha\HyPsd@MoonPha
 20584 \let\mathdollar\textdollar
 20585 \let\EyesDollar\textdollar
 20586 \let\binampersand\textampersand
 20587 \let\with\textampersand
 20588 \let\mathunderscore\textunderscore
 20589 \let\textvertline\textbar
 20590 \let\mathsterling\textsterling
 20591 \let\pounds\textsterling
 20592 \let\brokenvert\textbrokenbar
 20593 \let\mathsection\textsection
 20594 \let\S\textsection
 20595 \let\mathparagraph\textparagraph
 20596 \let\MultiplicationDot\textperiodcentered
 20597 \let\Squaredot\textperiodcentered
 20598 \let\vartimes\textmultiply

20599 \let\MVMultiplication\textmultiply
 20600 \let\eth\dh
 20601 \let\crossd\textcrd
 20602 \let\textbard\textcrd
 20603 \let\bard\textcrd
 20604 \let\textcrh\texthbar
 20605 \let\crossh\texthbar
 20606 \let\planck\texthbar
 20607 \let\eng\ng
 20608 \let\engma\ng
 20609 \let\crossb\textcrb
 20610 \let\textbarb\textcrb
 20611 \let\barb\textcrb
 20612 \let\Florin\textflorin
 20613 \let\hv\texthvl
 20614 \let\hausak\texthtk
 20615 \let\crossnilambda\textcrlambda
 20616 \let\barlambda\textcrlambda
 20617 \let\lambdabar\textcrlambda
 20618 \let\lambdash\textcrlambda
 20619 \let\textnrleg\textPUnrleg
 20620 \let\textpipevar\textpipe
 20621 \let\textdoublepipevar\textdoublepipe
 20622 \let\textdoublebarpipevar\textdoublebarpipe
 20623 \let\textcrg\textgslash
 20624 \let\textdblig\textPUdblig
 20625 \let\textqplig\textPUqplig
 20626 \let\textcentoldstyle\textslashc
 20627 \let\textbarc\textslashc
 20628 \let\inva\textturna
 20629 \let\vara\textscripta
 20630 \let\invscripta\textturnscripta
 20631 \let\rotvara\textturnscripta
 20632 \let\hookb\texthtb
 20633 \let\hausab\texthtb
 20634 \let\varopeno\textopeno
 20635 \let\curlyc\textctc
 20636 \let\taild\textrtaild
 20637 \let\hookd\texthtd
 20638 \let\hausad\texthtd
 20639 \let\er\textrhookswa
 20640 \let\epsi\textniepsilon
 20641 \let\hookrepsilon\texthookrepsilon
 20642 \let\closedrepsilon\textcloserepsilon
 20643 \let\barj\textbardotlessj
 20644 \let\hookg\texthtg
 20645 \let\varg\textscriptg
 20646 \let\vod\textipagamma
 20647 \let\invh\textturnh
 20648 \let\udesc\textturnh
 20649 \let\hookh\texthth
 20650 \let\voicedh\texthth
 20651 \let\hookheng\texththeng
 20652 \let\ibar\textbari

20653 \let\vari\textniiota
 20654 \let\tildel\textltilde
 20655 \let\latfric\textbeltl
 20656 \let\tail\texttrtail
 20657 \let\lz\textlyoghlig
 20658 \let\invm\textturnm
 20659 \let\rotm\textturnm
 20660 \let\legm\textturnmrleg
 20661 \let\labdentainas\textltailm
 20662 \let\emgma\textltailm
 20663 \let\nj\textltailn
 20664 \let\enya\textltailn
 20665 \let\tailn\texttrtailn
 20666 \let\closedniomega\textcloseomega
 20667 \let\varomega\textcloseomega
 20668 \let\invr\textturnr
 20669 \let\rotr\textturnr
 20670 \let\invlegr\textturnlonglegr
 20671 \let\tailinvr\textturnrrtail
 20672 \let\legr\textlonglegr
 20673 \let\tailr\texttrtailr
 20674 \let\flapr\textfishhookr
 20675 \let\flap\textfishhookr
 20676 \let\tails\texttrtails
 20677 \let\curlyesh\textctesh
 20678 \let\clickt\textturnt
 20679 \let\tailt\texttrtailt
 20680 \let\ubar\textbaru
 20681 \let\rotOmega\textniupsilon
 20682 \let\invv\textturnv
 20683 \let\pwedge\textturnv
 20684 \let\invw\textturnw
 20685 \let\rotw\textturnw
 20686 \let\invy\textturny
 20687 \let\roty\textturny
 20688 \let\tailz\texttrtailz
 20689 \let\curlyz\textctz
 20690 \let\curlyyogh\textctyogh
 20691 \let\ejective\textglotstop
 20692 \let\glottal\textglotstop
 20693 \let\reveject\textrevglotstop
 20694 \let\clickc\textstretchc
 20695 \let\textstretchcvar\textstretchc
 20696 \let\clickb\textbullseye
 20697 \let\textObullseye\textbullseye
 20698 \let\textctjvar\textctj
 20699 \let\textturnsck\textturnk
 20700 \let\dz\textdzlig
 20701 \let\tesh\textteshlig
 20702 \let\digamma\textdigammagreek
 20703 \let\hardsign\cyrrhdsn
 20704 \let\softsign\cyrsftsn
 20705 \let\hebsin\hebshin
 20706 \let\textsck\textPUscck

20707 \let\textscm\textPUscm
 20708 \let\textscp\textPUscp
 20709 \let\textrevscr\textPUrevscr
 20710 \let\textrhoaka\textPURhooka
 20711 \let\textrhooke\textPURhooko
 20712 \let\textrhookepsilon\textPURhookepsilon
 20713 \let\texthookopeno\textPURhookopeno
 20714 \let\textdoublevertline\textbardbl
 20715 \let\dag\textdagger
 20716 \let\ddagger\textdaggerdbl
 20717 \let\ddag\textdaggerdbl
 20718 \let\mathellipsis\textellipsis
 20719 \let\EurDig\texteuro
 20720 \let\EURdig\texteuro
 20721 \let\EurHv\texteuro
 20722 \let\EURhv\texteuro
 20723 \let\EurCr\texteuro
 20724 \let\EURcr\texteuro
 20725 \let\EurTm\texteuro
 20726 \let\EURtm\texteuro
 20727 \let\Eur\texteuro
 20728 \let\Denarius\textDeleatur
 20729 \let\agemO\textmho
 20730 \let\EstimatedSign\textestimated
 20731 \let\Ecommerce\textestimated
 20732 \let\bindnasrepma\textinvamp
 20733 \let\parr\textinvamp
 20734 \let\MVRightArrow\textrightarrow
 20735 \let\MVRightarrow\textrightarrow
 20736 \let\MVArrowDown\textdownarrow
 20737 \let\Force\textdownarrow
 20738 \let\textglobrise\textnearrow
 20739 \let\textglobfall\textsearrow
 20740 \let\Lightning\textlightning
 20741 \let\Conclusion\textrightarrow
 20742 \let\dashedleftarrow\textdashleftarrow
 20743 \let\dashedrightarrow\textdashrightarrow
 20744 \let\varnothing\textemptyset
 20745 \let\owns\textni
 20746 \let\notni\textnotowner
 20747 \let\varprop\textpropto
 20748 \let\varangle\textsphericalangle
 20749 \let\Anglesign\textsphericalangle
 20750 \let\AngleSign\textsphericalangle
 20751 \let\notdivides\textnmid
 20752 \let\varowedge\textowedge
 20753 \let\varovee\textovee
 20754 \let\varint\textint
 20755 \let\varoint\textoint
 20756 \let\downtherefore\textbecause
 20757 \let\textdotdiv\textdotminus
 20758 \let\AC\textsim
 20759 \let\wreath\textwr
 20760 \let\nthickapprox\textnapprox

20761 \let\VHF\texttriplesim
 20762 \let\notasymp\textnasymp
 20763 \let\Doteq\textdoteqdot
 20764 \let\corresponds\texthateq
 20765 \let\Corresponds\texthateq
 20766 \let\nequal\textneq
 20767 \let\Congruent\textequiv
 20768 \let\NotCongruent\textnequiv
 20769 \let\notequiv\textnequiv
 20770 \let\LessOrEqual\textleq
 20771 \let\LargerOrEqual\textgeq
 20772 \let\apprle\textless
 20773 \let\apprge\textgtr
 20774 \let\varoplus\textoplus
 20775 \let\varominus\textominus
 20776 \let\varotimes\textotimes
 20777 \let\varoslash\textoslash
 20778 \let\varodot\textodot
 20779 \let\ocirc\textcircledcirc
 20780 \let\varocircle\textcircledcirc
 20781 \let\varoast\textcircledast
 20782 \let\oasterisk\textcircledast
 20783 \let\rightvdash\textvdash
 20784 \let\leftvdash\textdashv
 20785 \let\leftvdash\textndashv
 20786 \let\downvdash\texttop
 20787 \let\upvdash\textbot
 20788 \let\rightnmid\textnupdash
 20789 \let\models\textvDash
 20790 \let\rightmodels\textvDash
 20791 \let\rightVdash\textVdash
 20792 \let\rightModels\textVDash
 20793 \let\rightnmid\textnvdash
 20794 \let\rightmodels\textnvdash
 20795 \let\rightmodels\textnvdash
 20796 \let\rightVdash\textnVdash
 20797 \let\rightModels\textnVDash
 20798 \let\lessclosed\textlhd
 20799 \let\gtrclosed\textrhd
 20800 \let\leqclosed\textunlhd
 20801 \let\trianglelefteq\textunlhd
 20802 \let\geqclosed\textunrhd
 20803 \let\trianglerighteq\textunrhd
 20804 \let\Bowtie\textbowtie
 20805 \let\varcurlyvee\textcurlyvee
 20806 \let\varcurlywedge\textcurlywedge
 20807 \let\doublecap\textCap
 20808 \let\doublecup\textCup
 20809 \let\varsubsetneq\textsubsetneq
 20810 \let\varsupsetneq\textsupsetneq
 20811 \let\lessclosed\textntriangleleft
 20812 \let\ngtrclosed\textntriangleright
 20813 \let\Clocklogo\textclock
 20814 \let\ClockLogo\textclock

20815 \let\baro\textstmaryrdbaro
 20816 \let\varparallelinv\textbbslash
 20817 \let\CleaningA\textCircledA
 20818 \let\Kutline\textCuttingLine
 20819 \let\CutLine\textCuttingLine
 20820 \let\Cutline\textCuttingLine
 20821 \let\MoveUp\textUParrow
 20822 \let\APLup\textbigtriangleup
 20823 \let\Bleech\textbigtriangleup
 20824 \let\MoveDown\textDOWNarrow
 20825 \let\APLdown\textbigtriangledown
 20826 \let\Diamond\textdiamond
 20827 \let\varbigcirc\textbigcircle
 20828 \let\Telefon\textPhone
 20829 \let\Box\textboxempty
 20830 \let\CheckedBox\textCheckedbox
 20831 \let\XBox\textCrossedbox
 20832 \let\CrossedBox\textCrossedbox
 20833 \let\rightpointleft\textHandLeft
 20834 \let\leftpointright\textHandRight
 20835 \let\PointingHand\textHandRight
 20836 \let\Pointinghand\textHandRight
 20837 \let\Radiation\textRadioactivity
 20838 \let\Yinyang\textYinYang
 20839 \let\YingYang\textYinYang
 20840 \let\Yingyang\textYinYang
 20841 \let\Frowny\textfrownie
 20842 \let\Smiley\textsmiley
 20843 \let\Sun\textsun
 20844 \let\Mercury\textmercury
 20845 \let\textfemale\textPUfemale
 20846 \let\female\textPUfemale
 20847 \let\venus\textPUfemale
 20848 \let\Venus\textPUfemale
 20849 \let\Female\textPUfemale
 20850 \let\Earth\textearth
 20851 \let\mars\textmale
 20852 \let\Mars\textmale
 20853 \let\Male\textmale
 20854 \let\Jupiter\textjupiter
 20855 \let\Saturn\textsaturn
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