

Hypertext marks in L^AT_EX

Sebastian Rahtz (deceased)
Heiko Oberdiek (inactive)
The L^AT_EX Project
<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

```

4.2 Disable patches

If new latex interfaces are used with \DocumentMetadata various patches are unneeded or do harm, so we disable them. Not handled yet: \hyper@nopatch@ams-math@tag, \hyper@nopatch@mathenv

```

232 \IfFormatAtLeastT{2025-11-01}
233 {
234   \IfDocumentMetadataT
235   {
236     \def\hyper@nopatch@counter{} % disabled since 2024-11-01 anyway
237     \def\hyper@nopatch@bib{}
238     \def\hyper@nopatch@thm{}
239     \def\hyper@nopatch@caption{}
240     \def\hyper@nopatch@footnote{}
241     \def\hyper@nopatch@sectioning{}

```

```

242 \def\hyper@nopatch@toc{}
243 \def\hyper@nopatch@longtable{}
244 }
245 }

```

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. change 2024-05-23: load stringenc always (for pdfx)

```

246 \RequirePackage{iftex}[2019/10/24]
247 \RequirePackage{keyval}[1997/11/10]
248 \RequirePackage{kvsetkeys}[2007/09/29]
249 \RequirePackage{kvdefinekeys}[2011/04/07]
250 \RequirePackage{pdfescape}[2007/11/11]
251 \RequirePackage{hycolor}
252 \RequirePackage{nameref}[2012/07/28]
253 \RequirePackage{etoolbox}
254 \RequirePackage{stringenc}[2009/12/15]%
255 \def\Hy@Error{\PackageError{hyperref}}
256 \def\Hy@Warning{\PackageWarning{hyperref}}
257 \def\Hy@WarningNoLine{\PackageWarningNoLine{hyperref}}
258 \def\Hy@Info{\PackageInfo{hyperref}}
259 \def\Hy@InfoNoLine#1{\PackageInfo{hyperref}{#1\@gobble}}
260 \def\Hy@Message#1{%
261   \GenericWarning{%
262     (hyperref)\@spaces\@spaces\@spaces\@spaces
263   }{%
264     Package hyperref Message: #1\@gobble
265   }%
266 }

```

4.3 Version check

\Hy@VersionChecked

```

267 \chardef\Hy@VersionChecked=0 %

```

\Hy@VersionCheck

```

268 \def\Hy@VersionCheck#1{%
269   \begingroup
270   \@ifundefined{ver@hyperref.sty}{%
271     \Hy@Error{%
272       This should not happen!\MessageBreak
273       Missing hyperref version%
274     }\@ehd
275   }{%
276     \@ifundefined{ver@#1}{%
277       \Hy@Error{%
278         This should not happen!\MessageBreak
279         Missing version of `#1'%
280       }\@ehd
281     }{%
282       \def\x##1##2##3{%
283         \expandafter\expandafter\expandafter\Hy@@VersionCheck
284         \expandafter\expandafter\expandafter##2%

```

```

285     \csname ver@##3\endcsname##1##1\@nil
286 }%
287 \x{ } \y{hyperref.sty}%
288 \x{ } \z{#1}%
289 \ifx \y \z
290 \else
291   \edef \a{#1}%
292   \edef \b{\HyOpt@CustomDriver.def}%
293   \ifx \a \b
294     \Hy@WarningNoLine{%
295       Version mismatch (custom driver)!\MessageBreak
296       * \y: hyperref.sty\MessageBreak
297       * \z: \a
298     }%
299   \else
300     \Hy@Error{%
301       Version mismatch!\MessageBreak
302       * \y: hyperref.sty\MessageBreak
303       * \z: \a
304     } \@ehd
305   \fi
306 \fi
307 }%
308 }%
309 \endgroup
310 \chardef \Hy@VersionChecked=1 %
311 }

```

\Hy@@VersionCheck

```

312 \def \Hy@@VersionCheck #1#2 #3 #4 \@nil{%
313   \def #1{#2 #3}%
314 }

```

4.4 Checks with regular expressions

```

315 \edef \Hy@leftbracechar{\string{ }
316 \edef \Hy@rightbracechar{\string} }
317 \@ifundefined{pdfmatch}{%
318   \def \Hy@Match#1#2#3#4#5{%
319     {%
320       \def \Hy@Match#1#2#3{%
321         \begingroup
322         \edef \^{\@backslashchar\string^}%
323         \edef \. {\@backslashchar.}%
324         \edef \[ {\@backslashchar[]}%
325         \edef \$ {\@backslashchar$}%
326         \edef \({\@backslashchar(}%
327         \edef \){\@backslashchar)}%
328         \edef \| {\@backslashchar|}%
329         \edef \* {\@backslashchar*}%
330         \edef \+ {\@backslashchar+}%
331         \edef \? {\@backslashchar?}%
332         \edef \{ {\@backslashchar\Hy@leftbracechar}%
333         \edef \} {\Hy@rightbracechar}%

```

```

334 \edef\{\@backslashchar\@backslashchar}%
335 \let\ \Hy@space
336 \ifcase\pdfmatch#2{#3}{#1} %
337 \endgroup
338 \expandafter\@secondoftwo
339 \or
340 \endgroup
341 \expandafter\@firstoftwo
342 \else
343 \Hy@Warning{%
344   Internal error: Wrong pattern!\MessageBreak
345   --> #3 <--\MessageBreak
346   Pattern check ignored%
347 }%
348 \endgroup
349 \expandafter\@firstoftwo
350 \fi
351 }%
352 }

```

4.5 Compatibility with format dumps

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

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

```

353 \@ifundefined{AfterBeginDocument}{%
354   \def\AfterBeginDocument{\AtBeginDocument}%
355 }{}%

```

`\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.

```

356 \ExplSyntaxOn
357 \let\Hy@LocalAppendToMacro\tl_put_right:Nn
358 \let\Hy@GlobalAppendToMacro\tl_gput_right:Nn
359 \let\Hy@ifempty\tl_if_empty:nTF
360 \ExplSyntaxOff
361 \def\Hy@AtBeginDocument{%
362   \Hy@LocalAppendToMacro\Hy@AtBeginDocumentHook
363 }

```

`\Hy@AtEndOfPackage`

```

364 \def\Hy@AtEndOfPackage{%
365   \Hy@LocalAppendToMacro\Hy@AtEndOfPackageHook
366 }

```

`\Hy@AtBeginDocumentHook`

```

367 \let\Hy@AtBeginDocumentHook\@empty

```

`\Hy@AtEndOfPackageHook`

```
368 \let\Hy@AtEndOfPackageHook\@empty
```

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

```
369 \AtEndOfPackage{%
370   \Hy@AtEndOfPackageHook
371   \let\Hy@AtEndOfPackageHook\@undefined
372   \AfterBeginDocument{%
373     \Hy@AtBeginDocumentHook{}}%
374   \let\Hy@AtBeginDocumentHook\@undefined
375 }%
376 }
```

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

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

4.6 Switches

```
378 \newif\ifHy@stoppedearly
379 \newif\ifHy@typexml
380 \newif\ifHy@activeanchor
381 \newif\ifHy@backref
382 \newif\ifHy@bookmarks
383 \newif\ifHy@bookmarksnumbered
384 \newif\ifHy@bookmarksopen
385 \newif\ifHy@breaklinks
386 \newif\ifHy@pdfcenterwindow
387 \newif\ifHy@CJKbookmarks
388 \newif\ifHy@colorlinks
389 \newif\ifHy@destlabel
390 \newif\ifHy@draft
391 \let\Hy@finaltrue\Hy@draftfalse
392 \let\Hy@finalfalse\Hy@drafttrue
393 \newif\ifHy@pdfescapeform
394 \newif\ifHy@hyperfigures
395 \newif\ifHy@pdffitwindow
396 \newif\ifHy@frenchlinks
397 \newif\ifHy@hyperfootnotes
398 \newif\ifHy@hyperindex
399 \newif\ifHy@hypertextnames
400 \newif\ifHy@implicit
401 \newif\ifHy@linktocpage
402 \newif\ifHy@localanchorname
403 \newif\ifHy@pdfmenubar
404 \newif\ifHy@naturalnames
405 \newif\ifHy@nesting
406 \newif\ifHy@pdfnewwindowset
407 \newif\ifHy@pdfnewwindow
408 \newif\ifHy@ocgcolorlinks
409 \newif\ifHy@pageanchor
410 \newif\ifHy@pdfpagelabels
411 \newif\ifHy@pdfstring
```

```

412 \newif\ifHy@plainpages
413 \newif\ifHy@psize
414 \newif\ifHy@raiselinks
415 \newif\ifHy@seminarslides
416 \newif\ifHy@setpagesize
417 \newif\ifHy@texht
418 \newif\ifHy@psdextra
419 \newif\ifHy@pdftoolbar
420 \newif\ifHy@unicode
421 \newif\ifHy@pdfusetitle
422 \newif\ifHy@verbose
423 \let\Hy@debugtrue\Hy@verbosetrue
424 \let\Hy@debugfalse\Hy@verbosefalse
425 \newif\ifHy@pdfwindowui
426 \newif\ifHy@pdfdisplaydoctitle
427 \newif\ifHy@pdfa

```

Defaults for the switches are now set.

```

428 \Hy@backreffalse
429 \Hy@bookmarksnumberedfalse
430 \Hy@bookmarksopenfalse
431 \Hy@bookmarkstrue
432 \Hy@breaklinksfalse
433 \Hy@pdfcenterwindowfalse
434 \Hy@CJKbookmarksfalse
435 \Hy@destlabelfalse
436 \Hy@pdfescapeformfalse
437 \Hy@hyperfiguresfalse
438 \Hy@pdfitwindowfalse
439 \Hy@hyperfootnotetrue
440 \Hy@hyperindextrue
441 \Hy@hypertextnamestrue
442 \Hy@implicittrue
443 \Hy@linktocpagefalse
444 \Hy@localanchornamefalse
445 \Hy@pdfmenubartrue
446 \Hy@naturalnamesfalse
447 \Hy@nestingfalse
448 \Hy@pdfnewwindowsetfalse
449 \Hy@pdfnewwindowfalse
450 \Hy@pageanchortrue
451 \Hy@pdfpagelabelstrue
452 \Hy@pdfstringfalse
453 \Hy@plainpagesfalse
454 \Hy@raiselinksfalse
455 \Hy@setpagesizetrue
456 \Hy@texhtfalse
457 \Hy@psdextrafalse
458 \Hy@pdftoolbartrue
459 \Hy@unicodetrue
460 \ifx\kanjiskip\@undefined
461 \else
462 \ifx\forcecjktoken\@undefined
463 \Hy@unicodefalse
464 \fi

```

```

465 \fi
466 \Hy@pdfusetitlefalse
467 \Hy@verbosefalse
468 \Hy@pdfwindowuitrue
469 \Hy@pdfdisplaydoctitlefalse
470 \Hy@pdfafalse

```

5 Common help macros

`\Hy@StepCount`

```

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

```

`\Hy@GlobalStepCount`

```

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

473 \newdimen\@linkdim
474 \let\Hy@driver\@empty
475 \let\MaybeStopEarly\relax
476 \newcount\Hy@linkcounter
477 \newcount\Hy@pagecounter
478 \Hy@linkcounter0
479 \Hy@pagecounter0
480 \def\Hy@space{ }

```

5.1 Macros for recursions

```

481 \let\Hy@ReturnEnd\@empty
482 \long\def\Hy@ReturnAfterFi#1\fi{\fi#1}
483 \long\def\Hy@ReturnAfterElseFi#1\else#2\fi{\fi#1}
484 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
485 \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.

```

486 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
487 \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 (T_EX):

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

\hypercalcbp
488 \def\hypercalcbp#1{%
489   \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
490 }%
491 \def\hypercalcbpdef{\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 T_EX's view PDF strings are written to a file and are expanded only in its mouth. Stomach commands that cannot be expanded further aren't executed, they are written verbatim. But the PDF reader that reads such a string isn't a T_EX 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.

```

ppercaseUnsupportedInPdfStrings
lowercaseUnsupportedInPdfStrings 492 \providecommand*\BCPdata[1]{}
493 \ExplSyntaxOn
494 \@ifundefined{text_uppercase:n}{}
495 {
496   \def\MakeUppercaseUnsupportedInPdfStrings#1
497     {\use:e
498       {\exp_args:Ne
499         \text_uppercase:nn{\BCPdata { casing }}{#1}
500       }
501     }
502   \def\MakeLowercaseUnsupportedInPdfStrings#1
503     {\use:e
504       {\exp_args:Ne
505         \text_lowercase:nn{\BCPdata { casing }}{#1}
506       }
507     }
508 }
509 \ExplSyntaxOff

```

```

\hyper@natlinkstart We provide the natbib hooks always, for better tagging support, see issue #406
\hyper@natlinkend 510 \def\hyper@natlinkstart#1{}
\hyper@natlinkbreak 511 \def\hyper@natlinkend{}
\hyper@natanchorstart 512 \def\hyper@natlinkbreak#1#2{}
\hyper@natanchorend 513 \def\hyper@natanchorstart#1{}
514 \def\hyper@natanchorend{}

```

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

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

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

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

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

```
516   \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.

```
517 \escapechar`\\%
```

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

```
518 \edef\0{\string\0}%
519 \edef\1{\string\1}%
520 \edef\2{\string\2}%
521 \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.

```
522 \ifHy@unicode
523 \edef\8{\string\8}%
524 \edef\9{\string\9}%
525 \fontencoding{PU}%
526 \HyPsd@UTFviii
527 \def\ifpdfstringunicode###1##2{##1}%
528 \else
529 \fontencoding{PD1}%
530 \def\ifpdfstringunicode###1##2{##2}%
531 \fi
532 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
533 \enc@update
```

Internal encoding commands. `\pdfstringdef` interprets 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).

```
534 \@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).

```
535 \let\@inmathwarn\HyPsd@inmathwarn
```

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

```
536 \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.

```
537 \let\{\textbraceleft
538 \let\}\textbraceright
539 \let\\\textbackslash
540 \let\#\textnumbersign
541 \let\$\textdollar
542 \let\%\textpercent
543 \let\&\textampersand
544 % \let~\textasciitilde
545 \let\_ \textunderscore
546 \let\textP\textparagraph
547 \let\ldots\textellipsis
548 \let\dots\textellipsis
549 \@ifundefined{textEncodingNoboundary}%
550 {\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.

```
551 \def\{\pdfstringdefWarn\}%
552 \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.

```
553 \def\TeX{\TeX}%
554 \def\LaTeX{\LaTeX}%
555 \def\LaTeXe{%
556 \LaTeX2%
```

```

557 \ifHy@unicode\83\265\else e\fi
558 }%
559 \def\TeX{%
560 \ifHy@unicode\83\265\else e\fi
561 -\TeX%
562 }%
563 \def\SLiTeX{SLi\TeX}%
564 \def\MF{Metafont}%
565 \def\MP{Metapost}%

```

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

```

566 \let\fontencoding\@gobble
567 \let\fontfamily\@gobble
568 \let\fontseries\@gobble
569 \let\fontshape\@gobble
570 \let\fontsize\@gobbletwo
571 \let\selectfont\@empty
572 \let\usefont\@gobblefour
573 \let\emph\@firstofone
574 \let\textnormal\@firstofone
575 \let\textrm\@firstofone
576 \let\textsf\@firstofone
577 \let\texttt\@firstofone
578 \let\textbf\@firstofone
579 \let\textmd\@firstofone
580 \let\textit\@firstofone
581 \let\textsc\@firstofone
582 \let\textsl\@firstofone
583 \let\textup\@firstofone
584 \let\normalfont\@empty
585 \let\rmfamily\@empty
586 \let\sffamily\@empty
587 \let\ttfamily\@empty
588 \let\bfseries\@empty
589 \let\mdseries\@empty
590 \let\itshape\@empty
591 \let\scshape\@empty
592 \let\slshape\@empty
593 \let\upshape\@empty
594 \let\em\@empty
595 \let\rm\@empty
596 \let\Huge\@empty
597 \let\LARGE\@empty
598 \let\Large\@empty
599 \let\footnotesize\@empty
600 \let\huge\@empty
601 \let\large\@empty
602 \let\normalsize\@empty
603 \let\scriptsize\@empty
604 \let\small\@empty
605 \let\tiny\@empty
606 \let\mathversion\@gobble

```

```

607 \let\phantom\@gobble
608 \let\vphantom\@gobble
609 \let\hphantom\@gobble

```

Package pifont.

```

610 \let\ding\HyPsd@ding
611 \let\Cube\HyPsd@DieFace
612 %* \HyPsd@DieFace -> \epsdice (epsdice)
613 %* \HyPsd@DieFace -> \fcdice (hhcount)

```

Environments.

```

614 \def\begin##1{\csname##1\endcsname}%
615 \def\end##1{\csname end##1\endcsname}%

```

Package color.

```

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

```

Upper- and lowercase.

```

617 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
618 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

619 \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.

```

620 \ifHy@psdextra
621 \ifHy@unicode
622 \csname psdmapshortnames\endcsname
623 \csname psdaliasnames\endcsname
624 \fi
625 \fi

```

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

```

626 \let\foreignlanguage\@secondoftwo
627 \let\textlatin\@firstofone
628 \@ifundefined{language@group}{}{%
629 \let\bbl@info\@gobble
630 \csname HyPsd@babel@language@group\endcsname
631 }%

```

```

632 \let\@safe@activetrue\relax
633 \let\@safe@activesfalse\relax

```

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

```

634 \let\cyr\relax

```

Package german.

```
635 \let\glqq\textglqq
636 \let\grqq\textgrqq
637 \let\glq\textglq
638 \let\grq\textgrq
639 \let\flqq\textflqq
640 \let\frqq\textfrqq
641 \let\flq\textflq
642 \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}

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

AMS classes.

```
644 \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.

```
645 \let\hspace\HyPsd@hspace
```

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

```
646 \let\label\@gobble
647 \let\index\@gobble
648 \let\glossary\@gobble
649 \let\href\HyPsd@href
650 \let\@mkboth\@gobbletwo
```

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

```
651 \let\ref\HyPsd@ref
652 \let\pageref\HyPsd@pageref
653 \let\nameref\HyPsd@nameref
654 \let\autoref\HyPsd@autoref
```

Miscellaneous commands.

```
655 \let\leavevmode\@empty
656 \let\mbox\@empty
```

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

```
657 \def\halign{\pdfstringdefWarn\halign\@gobble}%
658 \let\ignorespaces\HyPsd@ignorespaces
659 \let\Hy@SectionAnchorHref\@gobble
660 \let\ensuremath\@firstofone
```

Patch for cjk bookmarks.

```
661 \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`).

```
662 \Hy@pdfstringtrue
663 \pdfstringdefPreHook
```

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

```
664 \HyPsd@LetUnexpandableSpace\space
665 \HyPsd@LetUnexpandableSpace\ %
666 \HyPsd@LetUnexpandableSpace~%
667 \HyPsd@LetUnexpandableSpace\nobreakspace
```

Package xspace.

```
668 \@ifundefined{@xspace}{%
669 \let\xspace\HyPsd@ITALCORR
670 }{%
671 \let\xspace\HyPsd@XSPACE
672 }%
673 \let\@HyPsd@ITALCORR
674 \let\bgroup\@
675 \let\egroup\@
```

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
676 \let\discretionary\@gobbletwo
```

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

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

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

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

```
677 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
678 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
679 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
680 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

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

6.2.2 Expansion

There are several possibilities to expand tokens within \LaTeX :

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

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

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

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

```
682 \begingroup
683 \let\GenericError@gobblefour
684 \let\GenericWarning@gobbletwo
685 \let\GenericInfo@gobbletwo
```

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

```
686 \ifx\nofrenchguillemets\undefined
687 \else
688 \nofrenchguillemets
689 \fi
```

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

```
690 \let\Hy@temp\xdef
691 \let\def\HyPsd@DefCommand
692 \let\gdef\HyPsd@DefCommand
693 \let\edef\HyPsd@DefCommand
694 \let\xdef\HyPsd@DefCommand
695 \let\futurelet\HyPsd@LetCommand
696 \let\let\HyPsd@LetCommand
697 \Hy@temp#1{#2}%
698 \endgroup
```

6.2.3 Postprocessing

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

```
699 \ifx#1\@empty
700 \else
```

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

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

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

```
701 \HyPsd@ProtectSpaces#1%
702 \let\HyPsd@String\@empty
703 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
704 \global\let#1\HyPsd@String
```

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

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

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

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

```

705 \let\HyPsd@SPACEOPTI\relax
706 {%
707   \let\HyPsd@String\@empty
708   \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
709   \global\let#1\HyPsd@String
710 }%
711 \expandafter\HyPsd@RemoveMask\expandafter
712 |\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.

```

713 \expandafter
714 \HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
715 \let\HyPsd@String\@empty
716 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
717 \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.

```
718 \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.

```

719 \ifHy@unicode
720 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
721 \HyPsd@SPACEOPTI#1%
722 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
723 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
724 {\HyPsd@SPACEOPTI\80\273}#1%
725 \else
726 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
727 \expandafter\HyPsd@Subst\expandafter{%
728 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
729 \string\273}\HyPsd@SPACEOPTI\273}#1%
730 \fi

```

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

```

731 \ifHy@unicode
732 \HyPsd@StringSubst{\}){\80\051}#1%
733 \HyPsd@Subst){\80\051}#1%
734 \let\HyPsd@empty\relax
735 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
736 {\HyPsd@empty\80\051}#1%
737 \else
738 \HyPsd@StringSubst{\}){\051}#1%
739 \HyPsd@Subst){\051}#1%
740 \let\HyPsd@empty\relax
741 \HyPsd@StringSubst{\051}{\HyPsd@empty\string\})}#1%
742 \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`.

```

743 \expandafter\HyPsd@Subst\expandafter{\//}\HyPsd@empty#1%
744 \@ifundefined{@xspace}{%
745 }{%
746 \let\HyPsd@xspace\relax
747 \expandafter\HyPsd@Subst\expandafter
748 {\HyPsd@XSPACE}\HyPsd@xspace#1%
749 \let\HyPsd@xspace\HyPsd@doxspace
750 }%
751 \xdef#1{#1\HyPsd@empty}%

```

Ligatures. T_EX forms ligatures in its stomach, but the PDF strings are treated only by T_EX'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.

```

752 \HyPsd@Subst{---}\textemdash#1%
753 \HyPsd@Subst{--}\textendash#1%
754 % \HyPsd@Subst{fi}\textfi#1%
755 % \HyPsd@Subst{fl}\textfl#1%
756 \HyPsd@Subst{!}\textexclamdown#1%
757 \HyPsd@Subst{?}\textquestiondown#1%
```

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

```

758 \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 T_EX memory and time.

```

759 \ifHy@unicode
760 \HyPsd@StringSubst\(\textparenleft#1%
761 \HyPsd@Subst(\textparenleft#1%
762 \else
763 \HyPsd@StringSubst\({\050}#1%
764 \HyPsd@Subst({\050}#1%
765 \HyPsd@StringSubst{\050}\string\{ }#1%
766 \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.

```

767 \ifHy@unicode
768 \edef\HyPsd@SPACEOPTI{\80\040}%
769 \else
770 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
771 \fi
772 \xdef#1{#1\@empty}%
773 \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.

```

774 \endgroup
775 \begingroup
776 \ifHy@unicode
777 \HyPsd@ConvertToUnicode#1%

```

Try conversion back to PDFDocEncoding.

```

778 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
779 \EdefUnescapeString\HyPsd@temp#1%
780 \iftutex
781 \let\HyPsd@UnescapedString\HyPsd@temp
782 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
783 {utf16be}{ascii-print}{%
784 \EdefEscapeString\HyPsd@temp\HyPsd@temp
785 \global\let#1\HyPsd@temp
786 \HyPsd@EscapeTeX#1%
787 \Hy@unicodetfalse
788 }{%
789 \HyPsd@EscapeTeX#1%
790 }%
791 \else
792 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
793 {utf16be}{pdfdoc}{%
794 \EdefEscapeString\HyPsd@temp\HyPsd@temp
795 \global\let#1\HyPsd@temp
796 \HyPsd@EscapeTeX#1%
797 \Hy@unicodetfalse
798 }{}%
799 \fi
800 \fi
801 \fi

```

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

```

802 \pdfstringdefPostHook#1%
803 \endgroup
804 }

```

`\Hy@pdfstringdef`

```

805 \def\Hy@pdfstringdef#1#2{%
806 \pdfstringdef\Hy@gtemp{#2}%
807 \let#1\Hy@gtemp
808 }

```

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

```

809 \@ifpackageloaded{linguex}{%
810   \let\HyLinguex@OrgB\b
811   \let\HyLinguex@OrgC\c
812   \let\HyLinguex@OrgD\d
813   \def\HyLinguex@Restore{%
814     \let\b\HyLinguex@OrgB
815     \let\c\HyLinguex@OrgC
816     \let\d\HyLinguex@OrgD
817   }%
818   \Hy@AtEndOfPackage{%
819     \pdfstringdefDisableCommands{%
820       \@ifundefined{oldb}{-}{\let\b\oldb}%
821       \@ifundefined{oldc}{-}{\let\c\oldc}%
822       \@ifundefined{oldd}{-}{\let\d\oldd}%
823     }%
824   }%
825 }{%
826   \let\HyLinguex@Restore\relax
827 }%

```

6.3.3 Catcodes saving and restoring for .def files

\Hy@SaveCatcodeSettings

```

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

```

```

858 \catcode42 12 % *
859 \catcode46 12 % .
860 \catcode58 12 % :
861 \catcode60 12 % <
862 \catcode61 12 % =
863 \catcode62 12 % >
864 \catcode91 12 % [
865 \catcode92 0 % (backslash)
866 \catcode93 12 % ]
867 \catcode123 1 % {
868 \catcode124 12 % |
869 \catcode125 2 % }
870 \makeatletter
871 }

```

`\Hy@RestoreCatcodeSettings`

```

872 \def\Hy@RestoreCatcodeSettings#1{%
873   \csname Hy@cat@#1\endcsname
874   \expandafter\let\csname Hy@cat@#1\endcsname\relax
875 }

```

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.

```

876 \@ifundefined{T@PD1}{%
877   \Hy@SaveCatcodeSettings{pd1}%
878   \input{pd1enc.def}%
879   \Hy@RestoreCatcodeSettings{pd1}%
880   \HyLinguex@Restore
881 }{}
882 \DeclareFontFamily{PD1}{pdf}{}
883 \DeclareFontShape{PD1}{pdf}{m}{n}{<-> cmr10 }{}
884 \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`.

```

885 \def\HyPsd@LoadUnicode{%
886   \@ifundefined{T@PU}{%
887     \Hy@SaveCatcodeSettings{pu}%

```

```

888 \input{puenc.def}%
889 \Hy@RestoreCatcodeSettings{pu}%
890 \HyLinguex@Restore
891 }{}%
892 \DeclareFontFamily{PU}{pdf}{}%
893 \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
894 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
895 \HyPsd@LoadExtra
896 \let\HyPsd@LoadUnicode\relax
897 }

```

\HyPsd@LoadExtra

```

898 \def\Hy@iffileloaded#1{%
899 \ifundefined{ver@#1}\@secondoftwo\@firstoftwo
900 }
901 \def\HyPsd@LoadExtra{%
902 \ifHy@psdextra
903 \Hy@iffileloaded{puenc.def}{}%
904 \Hy@SaveCatcodeSettings{psdextra}%
905 \input{psdextra.def}%
906 \Hy@RestoreCatcodeSettings{psdextra}%
907 \let\HyPsd@LoadExtra\relax
908 }{}%
909 \fi
910 }

```

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.

```

911 \def\texorpdfstring{%
912 \ifHy@pdfstring
913 \expandafter\@secondoftwo
914 \else
915 \expandafter\@firstoftwo
916 \fi
917 }

```

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.

```

918 \@ifundefined{pdfstringdefPreHook}{}%
919 \let\pdfstringdefPreHook\@empty
920 {}%
921 \@ifundefined{pdfstringdefPostHook}{}%
922 \let\pdfstringdefPostHook\@gobble
923 {}%

```

`\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`.

```
924 \def\pdfstringdefDisableCommands{%
925   \begingroup
926     \makeatletter
927     \HyPsd@DisableCommands
928 }
```

`\HyPsd@DisableCommands`

```
929 \long\def\HyPsd@DisableCommands#1{%
930   \Hy@GlobalAppendToMacro\pdfstringdefPreHook{#1}%
931   \endgroup
932 }
```

`\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`.

```
933 \def\pdfstringdefWarn#1{%
934   \expandafter\noexpand\csname<>-string#1\endcsname
935 }
```

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.

```
936 \begingroup
```

```

937 \catcode0=12 %
938 \def\x{\endgroup
939 \def\HyPsd@ignorespaces{%
940 \romannumeral\expandafter`\expandafter^^@%
941 \romannumeral^^@%
942 }%
943 }%
944 \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.

```

945 \newif\ifHy@next
946 \</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.

```

947 \*package>

```

6.5.3 CJK patch

```

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

\HyPsd@CJKhook

949 \def\HyPsd@CJKhook{%
950 \ifpackageloaded{CJK}{%
951 \let\CJK@kern\relax
952 \let\CJKkern\relax
953 \let\CJK@CJK\relax
954 \ifHy@CJKbookmarks
955 \HyPsd@CJKhook@bookmarks
956 \fi
957 \HyPsd@CJKhook@unicode
958 }-}%
959 }

```

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 ($\geq 0x40$).

```

960 \begingroup
961   \catcode"7F=\active
962   \toks@{%
963     \let\CJK@ignorespaces\empty
964     \def\CJK@char#1{\@gobbletwo}%
965     \let\CJK@charx\@gobblefour
966     \let\CJK@punctchar\@gobblefour
967     \def\CJK@punctcharx#1{\@gobblefour}%
968     \catcode"7F=\active
969     \def^^7f#1^^7f#2^^7f{%
970       \string #1\HyPsd@DecimalToOctal{#2}%
971     }%
972     % ... ?
973     \ifHy@unicode
974       \def\Hy@cjkpu{\80}%
975     \else
976       \let\Hy@cjkpu\@empty
977     \fi
978     \HyPsd@CJKActiveChars
979   }%
980   \count@=127 %
981   \@whilenum\count@<255 \do{%
982     \advance\count@ by 1 %
983     \lccode`\~=\count@
984     \lowercase{%
985       \toks@\expandafter{\the\toks@ ~}%
986     }%
987   }%
988   \toks@\expandafter{\the\toks@ !}%
989   \xdef\HyPsd@CJKhook@bookmarks{%
990     \the\toks@
991   }%
992 \endgroup

```

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

```

993 \def\HyPsd@CJKActiveChars#1{%
994   \ifx#1!%
995     \let\HyPsd@CJKActiveChars\relax
996   \else
997     \edef#1{\noexpand\Hy@cjkpu\string#1}%
998   \fi

```

```

999  \HyPsd@CJKActiveChars
1000 }

```

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

```

1001 \def\HyPsd@DecimalToOctal#1{%
1002   \ifcase #1 %
1003     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1004     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1005     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1006     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1007     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1008     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1009     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1010     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
1011     \or @\or A\or B\or C\or D\or E\or F\or G%
1012     \or H\or I\or J\or K\or L\or M\or N\or O%
1013     \or P\or Q\or R\or S\or T\or U\or V\or W%
1014     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
1015     \or \140\or a\or b\or c\or d\or e\or f\or g%
1016     \or h\or i\or j\or k\or l\or m\or n\or o%
1017     \or p\or q\or r\or s\or t\or u\or v\or w%
1018     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
1019     \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1020     \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1021     \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1022     \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1023     \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1024     \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1025     \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1026     \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1027     \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1028     \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1029     \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1030     \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1031     \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1032     \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1033     \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1034     \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1035   \fi
1036 }

```

6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1037 \def\HyPsd@CJKhook@unicode{%
1038   \let\Unicode\HyPsd@CJK@Unicode
1039   \let\CJKnumber\HyPsd@CJKnumber
1040   \let\CJKdigits\HyPsd@CJKdigits
1041 }

```

\HyPsd@CJK@Unicode

```

1042 \def\HyPsd@CJK@Unicode#1#2{%
1043   \ifnum#1<256 %
1044     \HyPsd@DecimalToOctalFirst{#1}%

```

```

1045 \HyPsd@DecimalToOctalSecond{#2}%
1046 \else
1047 \933%
1048 \expandafter\expandafter\expandafter\HyPsd@HighA
1049 \intcalcDiv{#1}{4}!%
1050 \933%
1051 \ifcase\intcalcMod{#1}{4} %
1052 4\or 5\or 6\or 7%
1053 \fi
1054 \HyPsd@DecimalToOctalSecond{#2}%
1055 \fi
1056 }

1057 \def\HyPsd@HighA#1!{%
1058 \expandafter\expandafter\expandafter\HyPsd@HighB
1059 \IntCalcDiv#1!64!!%
1060 \expandafter\expandafter\expandafter\HyPsd@HighD
1061 \IntCalcMod#1!64!!%
1062 }
1063 \def\HyPsd@HighB#1!{%
1064 \expandafter\expandafter\expandafter\HyPsd@HighC
1065 \IntCalcDec#1!!%
1066 }
1067 \def\HyPsd@HighC#1!{%
1068 \IntCalcDiv#1!4!%
1069 \@backslashchar
1070 \IntCalcMod#1!4!%
1071 }
1072 \def\HyPsd@HighD#1!{%
1073 \ifcase\IntCalcDiv#1!8! %
1074 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1075 \fi
1076 \ifcase\IntCalcMod#1!8! %
1077 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1078 \fi
1079 }
1080 \def\HyPsd@DecimalToOctalFirst#1{%
1081 \9%
1082 \ifcase#1 %
1083 000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1084 \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1085 \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1086 \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1087 \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1088 \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1089 \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1090 \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1091 \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1092 \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1093 \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1094 \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1095 \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1096 \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1097 \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%

```

```

1098 \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1099 \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1100 \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1101 \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1102 \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1103 \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1104 \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1105 \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1106 \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1107 \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1108 \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1109 \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1110 \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1111 \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1112 \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1113 \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1114 \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1115 \fi
1116 }
1117 \def\HyPsd@DecimalToOctalSecond#1{%
1118 \ifcase #1 %
1119 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1120 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1121 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1122 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1123 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1124 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1125 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1126 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1127 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1128 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1129 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1130 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1131 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1132 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1133 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1134 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1135 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1136 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1137 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1138 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1139 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1140 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1141 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1142 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1143 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1144 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1145 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1146 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1147 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1148 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1149 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1150 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1151 \fi

```

```

1152 }
1153 \def\HyPsd@CJKnumber#1{%
1154   \ifnum#1<\z@
1155     \CJK@minus
1156     \expandafter\HyPsd@@CJKnumber\expandafter{\number-\number#1}%
1157   \else
1158     \expandafter\HyPsd@@CJKnumber\expandafter{\number#1}%
1159   \fi
1160 }
1161 \def\HyPsd@@CJKnumber#1{%
1162   \ifcase#1 %
1163     \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1164     \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1165     \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or
1166     \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1167     \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1168     \CJK@ten\CJK@nine
1169   \else
1170     \ifnum#1<10000 %
1171       \HyPsd@CJKnumberFour#1!\@empty{20}%
1172       \@empty
1173     \else
1174       \ifnum#1<100000000 %
1175         \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1176         \IntCalcDiv#1!10000!%
1177         !\{20}%
1178         \CJK@tenthousand
1179         \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1180         \IntCalcMod#1!10000!%
1181         !\CJK@zero{10}%
1182         \@empty
1183       \else
1184         \expandafter\HyPsd@CJKnumberLarge
1185         \number\IntCalcDiv#1!100000000!\expandafter!%
1186         \number\IntCalcMod#1!100000000!!%
1187       \fi
1188     \fi
1189   \fi
1190 }
1191 \def\HyPsd@CJKnumberLarge#1!#2!{%
1192   \HyPsd@CJKnumberFour#1!\{20}%
1193   \CJK@hundredmillion
1194   \ifnum#2=\z@
1195   \else
1196     \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1197     \IntCalcDiv#2!10000!%
1198     !\CJK@zero{10}%
1199     \CJK@tenthousand
1200     \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1201     \IntCalcMod#2!10000!%
1202     !\CJK@zero{10}%
1203     \@empty
1204   \fi
1205 }

```

```

1206 \def\HyPsd@CJKnumberFour#1!#2#3{%
1207   \ifnum#1=\z@
1208     \expandafter\@gobble
1209   \else
1210     \ifnum#1<1000 %
1211       #2%
1212       \HyPsd@CJKnumberThree#1!#{#3}%
1213     \else
1214       \HyPsd@@CJKnumber{\IntCalcDiv#1!1000!}%
1215       \CJK@thousand
1216       \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1217       \IntCalcMod#1!1000!%
1218       !\CJK@zero{10}%
1219     \fi
1220   \fi
1221 }
1222 \def\HyPsd@CJKnumberThree#1!#2#3{%
1223   \ifnum#1=\z@
1224   \else
1225     \ifnum#1<100 %
1226       #2%
1227       \HyPsd@CJKnumberTwo#1!#{#3}%
1228     \else
1229       \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1230       \CJK@hundred
1231       \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1232       \IntCalcMod#1!100!%
1233       !\CJK@zero{10}%
1234     \fi
1235   \fi
1236 }
1237 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1238   \ifnum#1=\z@
1239   \else
1240     \ifnum#1<#3 %
1241       #2%
1242       \HyPsd@@CJKnumber{#1}%
1243     \else
1244       \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1245       \CJK@ten
1246       \ifnum\IntCalcMod#1!10!=\z@
1247       \else
1248         \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1249       \fi
1250     \fi
1251   \fi
1252 }
1253 \def\HyPsd@CJKdigits#1{%
1254   \ifx*#1\relax
1255     \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1256   \else
1257     \HyPsd@@CJKdigits\CJK@null{#1}%
1258   \fi
1259 }

```

```

1260 \def\HyPsd@@@CJKdigits#1#2{%
1261   \ifx\|#2\|
1262   \else
1263     \HyPsd@@@CJKdigits#1#2\@nil
1264   \fi
1265 }%
1266 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1267   \HyPsd@CJKdigit#1{#2}%
1268   \ifx\|#3\|
1269     \expandafter\@gobble
1270   \else
1271     \expandafter\@firstofone
1272   \fi
1273   {%
1274     \HyPsd@@@CJKdigits#1#3\@nil
1275   }%
1276 }
1277 \def\HyPsd@CJKdigit#1#2{%
1278   \ifcase#2 %
1279     #1\or
1280     \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1281     \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1282   \fi
1283 }

```

6.5.6 \@inmathwarn-Patch

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

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

```

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

1284 \def\HyPsd@inmathwarn#1#2{%
1285 \ifx#2\expandafter
1286 \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1287 \HyPsd@GLYPHERR
1288 \expandafter\@gobble\string#1%
1289 >%
1290 \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1291 \else
1292 \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1293 \fi
1294 \else
1295 \expandafter#2%
1296 \fi
1297 }
1298 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1299 \def\HyPsd@EndWithElse#1\else\else{}

\HyPsd@add@accent

1300 \def\HyPsd@add@accent#1#2{%
1301 \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1302 #2%
1303 }%

```

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`.

```

1304 \def\HyPsd@LetUnexpandableSpace#1{%
1305 \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1306 }

```

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

```
1307 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace
```

6.5.8 Marker for commands

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

```
1308 \edef\HyPsd@XSPACE{\string#\string X}
1309 \edef\HyPsd@ITALCORR{\string#\string I}
1310 \edef\HyPsd@GLYPHERR{\string#\string G}
```

6.5.9 `\hspace` fix

`\HyPsd@hspace`

```
1311 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*END}
```

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

```
1312 \def\HyPsd@@hspace#1*#2\END{%
1313   \ifx\#2\%
1314     \HyPsd@hspacetest{#1}%
1315   \else
1316     \expandafter\HyPsd@hspacetest
1317   \fi
1318 }
```

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

```
1319 \def\HyPsd@hspacetest#1{\ifdim\dimexpr#1\relax>\z@\space\fi}
```

6.5.10 Fix for AMS classes

```
1320 \@ifundefined{tocsection}{%
1321   \let\HyPsd@AMSclassfix\relax
1322 }{%
1323   \def\HyPsd@AMSclassfix{%
1324     \let\tocpart\HyPsd@tocsection
1325     \let\tocchapter\HyPsd@tocsection
1326     \let\tocappendix\HyPsd@tocsection
1327     \let\tocsection\HyPsd@tocsection
1328     \let\tocsubsection\HyPsd@tocsection
1329     \let\tocsubsubsection\HyPsd@tocsection
1330     \let\tocparagraph\HyPsd@tocsection
1331   }%
1332   \def\HyPsd@tocsection#1#2#3{%
1333     \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
1334     #3%
1335   }%
1336 }
```

6.5.11 Reference commands

`\HyPsd@href`

```
1337 \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.

```
1338 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1339 \def\HyPsd@@ref#1*#2\END{%
1340   \ifx\#2\%
1341     \HyPsd@@@ref{#1}%
1342   \else
1343     \expandafter\HyPsd@@@ref
1344   \fi
1345 }%
```

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

```
1346 \def\HyPsd@@@ref#1{%
1347   \expandafter\ifx\csname r@#1\endcsname\relax
1348     ??%
1349   \else
1350     \expandafter\expandafter\expandafter
1351     \@car\csname r@#1\endcsname\@nil
1352   \fi
1353 }
```

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

```
1354 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*\END}
```

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

```
1355 \def\HyPsd@@pageref#1*#2\END{%
1356   \ifx\#2\%
1357     \HyPsd@@@pageref{#1}%
1358   \else
1359     \expandafter\HyPsd@@@pageref
1360   \fi
1361 }
```

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

```
1362 \def\HyPsd@@@pageref#1{%
1363   \expandafter\ifx\csname r@#1\endcsname\relax
1364     ??%
1365   \else
1366     \expandafter\expandafter\expandafter\expandafter
1367     \expandafter\expandafter\expandafter\@car
1368     \expandafter\expandafter\expandafter\@gobble
1369     \csname r@#1\endcsname{}\@nil
1370   \fi
1371 }
```

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

```
1372 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*\END}
```

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

```

1373 \def\HyPsd@@nameref#1*#2\END{%
1374   \ifx\|#2\|
1375     \HyPsd@@@nameref{#1}%
1376   \else
1377     \expandafter\HyPsd@@@nameref
1378   \fi
1379 }
```

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

```

1380 \def\HyPsd@@@nameref#1{%
1381   \expandafter\ifx\csname r@#1\endcsname\relax
1382     ??%
1383   \else
1384     \expandafter\expandafter\expandafter\expandafter
1385     \expandafter\expandafter\expandafter\@car
1386     \expandafter\expandafter\expandafter\@gobbletwo
1387     \csname r@#1\endcsname{}\}\@nil
1388   \fi
1389 }
```

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

```

1390 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}
```

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

```

1391 \def\HyPsd@@autoref#1*#2\END{%
1392   \ifx\|#2\|
1393     \HyPsd@@@autoref{#1}%
1394   \else
1395     \expandafter\HyPsd@@@autoref
1396   \fi
1397 }
```

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

```

1398 \def\HyPsd@@@autoref#1{%
1399   \expandafter\ifx\csname r@#1\endcsname\relax
1400     ??%
1401   \else
1402     \expandafter\expandafter\expandafter\HyPsd@autorefname
1403     \csname r@#1\endcsname{}\}\}\@nil
1404     \expandafter\expandafter\expandafter
1405     \@car\csname r@#1\endcsname\@nil
1406   \fi
1407 }
```

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

```

1408 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1409   \ifx\|#4\|
1410     \else
1411       \HyPsd@@autorefname#4.\@nil
1412     \fi
1413 }
```

`\HyPsd@@autorefname`

```

1414 \def\HyPsd@@autorefname#1.#2\@nil{%
1415   \@ifundefined{#1autorefname}{%
1416     \@ifundefined{#1name}{%
1417       }{%
1418         \csname#1name\endcsname\space
1419       }%
1420     }{%
1421       \csname#1autorefname\endcsname\space
1422     }%
1423 }

```

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`

```

1424 \begingroup
1425   \def\x#1#2{%
1426     \endgroup
1427     \let#1\def
1428     \def\HyPsd@DefCommand##1##2###{%
1429       #1%
1430       \expandafter\noexpand
1431       \csname\expandafter\@gobble\string##1\@empty\endcsname
1432       \@gobble

```

```

1433 }%
1434 \let#2\let
1435 \def\HyPsd@@LetCommand##1{%
1436   \expandafter\ifx\csname##1\expandafter\endcsname
1437     \csname iftrue\endcsname
1438     \pdfstringdefWarn\let
1439     \expandafter\@gobble
1440   \else
1441     \expandafter\ifx\csname##1\expandafter\endcsname
1442       \csname iffalse\endcsname
1443       \pdfstringdefWarn\let
1444       \expandafter\expandafter\expandafter\@gobble
1445     \else
1446       #2%
1447       \expandafter\noexpand
1448       \csname##1\expandafter\expandafter\expandafter\endcsname
1449     \fi
1450   \fi
1451 }%
1452 }%
1453 \expandafter\x\csname <def>-command\expandafter\endcsname
1454   \csname <let>-command\endcsname
1455 \def\HyPsd@LetCommand#1{%
1456   \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1457   \expandafter\expandafter\expandafter{%
1458     \expandafter\@gobble\string#1\@empty
1459   }%
1460 }

```

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).

```

1461 \def\HyPsd@ifnextchar#1{%
1462   \pdfstringdefWarn#1%
1463   \expandafter\@gobbletwo\@gobble
1464 }

```

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`.

```
1465 \def\HyPsd@protected@testopt#1{%
1466   \pdfstringdefWarn#1%
1467   \@gobbletwo
1468 }
```

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:

```
1469 \def\HyPsd@Warning#1{%
1470   \begingroup
1471   \let\space\Hy@space
1472   \Hy@Warning{#1}%
1473   \endgroup
1474 }
```

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`.

```
1475 \let\HyPsd@fi\fi
1476 \def\HyPsd@ProtectSpaces#1{%
1477   \xdef#1{%
1478     \iftrue
1479       \expandafter\HyPsd@@ProtectSpacesFi
1480       \expandafter|\expandafter\@empty#1| %
1481       \HyPsd@fi
1482   }%
1483   \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1484 }
```

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

```
1485 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1486   \fi
1487   \unexpanded{#1}%
1488   \ifx\scrollmode#2\scrollmode
1489   \else
1490     \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1491   \HyPsd@fi
1492 }
```

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.

```
1493 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1494   \xdef#2{\unexpanded\expandafter{#1}}%
1495 }%
```

6.6.3 Remove grouping braces

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

```
1496 \def\HyPsd@RemoveBraces#1{%
1497   \ifx\scrollmode#1\scrollmode
1498   \else
1499     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1500   \fi
1501 }
```

`\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`.

```
1502 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1503   \fi
1504   \def\Hy@temp@A{#1#2}%
1505   \def\Hy@temp@B{#3}%
1506   \ifx\Hy@temp@A\Hy@temp@B
1507     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1508       \HyPsd@String#1%
1509     }%
1510     \ifx\scrollmode#2\scrollmode
1511     \else
1512       \Hy@ReturnAfterFiFiEnd{%
1513         \HyPsd@RemoveBraces{#2}%
1514       }%
1515     \fi
1516   \else
1517     \def\Hy@temp@A{#1}%
1518     \HyPsd@AppendItalcorr\HyPsd@String
1519     \ifx\Hy@temp@A\@empty
1520       \Hy@ReturnAfterElseFiFiEnd{%
1521         \HyPsd@RemoveBraces{#2}%
1522       }%
1523     \else
1524       \HyPsd@ProtectSpaces\Hy@temp@A
1525       \HyPsd@AppendItalcorr\Hy@temp@A
```

```

1526 \Hy@ReturnAfterFiFiEnd{%
1527 \expandafter\HyPsd@RemoveBraces\expandafter
1528 {\Hy@temp@A#2}%
1529 }%
1530 \fi
1531 \fi
1532 \Hy@ReturnEnd
1533 }

```

`\HyPsd@AppendItalcrr` 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`.

```

1534 \def\HyPsd@AppendItalcrr#1{%
1535 \expandafter\HyPsd@@AppendItalcrr\expandafter{\/#1%
1536 }
1537 \def\HyPsd@@AppendItalcrr#1#2{%
1538 \expandafter\def\expandafter#2\expandafter{#2#1}%
1539 }

```

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>.

```

1540 \@ifundefined{directlua}{%
1541 }{%
1542 \expandafter\ifx\csname\endcsname\relax\fi
1543 }

```

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`.

```

1544 \begingroup
1545 \catcode`\Q=\active
1546 \let Q\@empty
1547 \gdef\HyPsd@CheckCatcodes#1#2\HyPsd@End{%
1548 \global\let\HyPsd@Rest\relax
1549 \ifcat\relax\noexpand#1\relax
1550 \ifx#1\protect
1551 \else
1552 \ifx#1\penalty
1553 \setbox\z@=\hbox{%

```

```

1554         \afterassignment\HyPsd@AfterCountRemove
1555         \count@=#2\HyPsd@End
1556     }%
1557 \else
1558     \ifx#1\kern
1559         \setbox\z@=\hbox{%
1560             \afterassignment\HyPsd@AfterDimenRemove
1561             \dimen@=#2\HyPsd@End
1562         }%
1563     \else
1564         \ifx#1\hskip
1565             \setbox\z@=\hbox{%
1566                 \afterassignment\HyPsd@AfterSkipRemove
1567                 \skip@=#2\HyPsd@End
1568             }%
1569         \else
1570             \HyPsd@CatcodeWarning{#1}%
1571         \fi
1572     \fi
1573 \fi
1574 \fi
1575 \else
1576     \ifcat\noexpand#1\noexpandQ% active character
1577         \expandafter\expandafter\expandafter\def
1578         \expandafter\expandafter\expandafter\HyPsd@String
1579         \expandafter\expandafter\expandafter{%
1580             \expandafter\HyPsd@String\string#1%
1581         }%
1582     \else
1583         \ifcat#1A% letter
1584             \expandafter\def\expandafter\HyPsd@String\expandafter{%
1585                 \HyPsd@String#1%
1586             }%
1587         \else
1588             \ifcat#1 % SPACE
1589                 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1590                     \HyPsd@String\HyPsd@SPACEOPTI
1591                 }%
1592             \else
1593                 \ifcat$#1%
1594                     \HyPsd@CatcodeWarning{math shift}%
1595                 \else
1596                     \ifcat&#1%
1597                         \HyPsd@CatcodeWarning{alignment tab}%
1598                     \else
1599                         \ifcat^#1%
1600                             \HyPsd@CatcodeWarning{superscript}%
1601                         \else
1602                             \ifcat_#1%
1603                                 \HyPsd@CatcodeWarning{subscript}%
1604                             \else
1605                                 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1606                                     \HyPsd@String#1%
1607                                 }%

```

```

1608         \fi
1609         \fi
1610         \fi
1611         \fi
1612         \fi
1613         \fi
1614         \fi
1615         \fi
1616         \ifx\HyPsd@Rest\relax
1617         \ifx\scrollmode#2\scrollmode
1618         \else
1619         \Hy@ReturnAfterFiFiEnd{%
1620         \HyPsd@CheckCatcodes#2\HyPsd@End
1621         }%
1622         \fi
1623         \else
1624         \ifx\HyPsd@Rest\@empty
1625         \else
1626         \Hy@ReturnAfterFiFiEnd{%
1627         \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1628         }%
1629         \fi
1630         \fi
1631         \Hy@ReturnEnd
1632     }%
1633 \endgroup

```

Remove counts, dimens, skips.

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

```

1634 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1635   \gdef\HyPsd@Rest{#1}%
1636 }

```

`\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.

```

1637 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1638   \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@ \fi > 1ex %
1639   \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1640   \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1641   \else
1642   \ifdim\dimen@=\z@
1643   \else
1644   \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1645   \fi
1646   \gdef\HyPsd@Rest{#1}%
1647   \fi
1648 }

```

`\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).

```

1649 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1650   \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@ \fi >lex %
1651   \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1652   \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1653   \else
1654     \ifdim\skip@=\z@
1655     \else
1656       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1657     \fi
1658     \gdef\HyPsd@Rest{#1}%
1659   \fi
1660 }

```

Catcode warnings.

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

```

1661 \def\HyPsd@CatcodeWarning#1{%
1662   \HyPsd@Warning{%
1663     Token not allowed in a PDF string (%
1664     \ifHy@unicode
1665       Unicode%
1666     \else
1667       PDFDocEncoding%
1668     \fi
1669     ):%
1670     \MessageBreak removing ` \HyPsd@RemoveCmdPrefix#1'%
1671   }%
1672 }
1673 \begingroup
1674   \catcode`\|=0 %
1675   \catcode`\|=12 %
1676   \gdef\HyPsd@RemoveCmdPrefix#1{%
1677     \expandafter\HyPsd@@RemoveCmdPrefix
1678     \string#1\@empty\<>-|\@empty|\@empty
1679   }%
1680   \gdef\HyPsd@@RemoveCmdPrefix#1\<>-#2|\@empty#3|\@empty{#1#2}%
1681 \endgroup

```

\HyPsd@RemoveSpaceWarning

```

1682 \def\HyPsd@RemoveSpaceWarning#1{%
1683   \HyPsd@Warning{%
1684     Token not allowed in a PDF string (%
1685     \ifHy@unicode
1686       Unicode%
1687     \else
1688       PDFDocEncoding%
1689     \fi
1690     ):%
1691     \MessageBreak #1\MessageBreak
1692     removed%
1693   }%
1694 }

```

\HyPsd@ReplaceSpaceWarning

```

1695 \def\HyPsd@ReplaceSpaceWarning#1{%
1696   \HyPsd@Warning{%
1697     Token not allowed in a PDF string (%
1698     \ifHy@unicode
1699       Unicode%
1700     \else
1701       PDFDocEncoding%
1702     \fi
1703   ):%
1704   \MessageBreak #1\MessageBreak
1705   replaced by space%
1706 }%
1707 }

```

6.6.5 Check for wrong glyphs

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

```

1708 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1709   \expandafter\def\expandafter\HyPsd@String\expandafter{%
1710     \HyPsd@String#1%
1711   }%
1712   \ifx\#2\%
1713   \else
1714     \Hy@ReturnAfterFi{%
1715       \HyPsd@GlyphProcessWarning#2\@empty
1716     }%
1717   \fi
1718 }
1719 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1720   \HyPsd@@GlyphProcessWarning#1++>%
1721   \HyPsd@GlyphProcess#2\@empty
1722 }
1723 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
1724   \ifx\#2\%
1725     \HyPsd@Warning{%
1726       Glyph not defined in %
1727       P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1728       removing \@backslashchar#1'%
1729     }%
1730   \else
1731     \HyPsd@Warning{%
1732       Composite letter \@backslashchar#1+#2'\MessageBreak
1733       not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1734       \MessageBreak
1735       removing \@backslashchar#1'%
1736     }%
1737   \fi
1738 }

```

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`.

```
1739 \def\HyPsd@spaceopti#1{ % first space
1740   \ifx\HyPsd@spaceopti#1%
1741     \040%
1742   \else
1743     #1%
1744   \fi
1745 }%
```

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.

```
1746 \def\HyPsd@Subst#1#2#3{%
1747   \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1748     \fi
1749     ##1%
1750     \ifx\scrollmode##2\scrollmode
1751     \else
1752       #2%
1753       \HyPsd@@ReplaceFi##2\END
1754     \fi
1755   }%
1756   \xdef#3{%
1757     \iftrue
1758       \expandafter\HyPsd@@ReplaceFi#3#1\END
1759     \fi
1760   }%
1761 }
```

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

```
1762 \def\HyPsd@StringSubst#1{%
1763   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1764 }
```

`\HyPsd@EscapeTeX`

```
1765 \begingroup
1766   \lccode`\!=`\%%
1767   \lccode`\|=`\%%
1768   \lccode`\(=\`\{
1769   \lccode`\)=`\}%
1770   \lccode`0=\z@
1771   \lccode`1=\z@
1772   \lccode`3=\z@
1773   \lccode`4=\z@
1774   \lccode`5=\z@
1775   \lccode`7=\z@
```

```

1776 \lowercase{\endgroup
1777 \def\HyPsd@EscapeTeX#1{%
1778   \HyPsd@Subst!{|045}#1%
1779   \HyPsd@Subst({|173}#1%
1780   \HyPsd@Subst){|175}#1%
1781 }%
1782 }

```

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.

```

1783 \def\HyPsd@doxspace#1{%
1784   \ifx#1\relax\else
1785     \ifx#1.\else
1786       \ifx#1:\else
1787         \ifx#1,\else
1788           \ifx#1;\else
1789             \ifx#1!\else
1790               \ifx#1?\else
1791                 \ifx#1/\else
1792                   \ifx#1-\else
1793                     \ifx#1'\else
1794                       \HyPsd@SPACEOPTI
1795                     \fi
1796                   \fi
1797                 \fi
1798               \fi
1799             \fi
1800           \fi
1801         \fi
1802       \fi
1803     \fi
1804   \fi
1805   #1%
1806 }%

```

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.

```

1807 \begingroup
1808   \catcode`\|=0 %
1809   \catcode`\|=12 %

```

`\HyPsd@ConvertToUnicode`

```

1810 |gdef\HyPsd@ConvertToUnicode#1{%
1811   |xdef#1{%
1812     |expandafter\HyPsd@DoConvert#1|@empty|@empty|@empty
1813   }%

```

```

1814 |ifx#1|@empty
1815 |else
1816 |xdef#1{%
1817     \376\377%
1818     #1%
1819 }%
1820 |fi
1821 }%

```

\HyPsd@DoConvert

```

1822 |gdef|HyPsd@DoConvert#1{%
1823 |ifx#1|@empty
1824 |else
1825 |Hy@ReturnAfterFi{%
1826 |ifx#1\%%
1827     \%%
1828     |expandafter|HyPsd@DoEscape
1829 |else
1830 |HyPsd@Char{#1}%
1831 |expandafter|HyPsd@DoConvert
1832 |fi
1833 }%
1834 |fi
1835 }%

```

\HyPsd@DoEscape

```

1836 |gdef|HyPsd@DoEscape#1{%
1837 |ifx#19%
1838 |expandafter|HyPsd@GetTwoBytes
1839 |else
1840 |Hy@ReturnAfterFi{%
1841 |ifx#18%
1842     00%
1843 |expandafter|HyPsd@GetTwoBytes
1844 |else
1845     #1%
1846 |expandafter|HyPsd@GetOneByte
1847 |fi
1848 }%
1849 |fi
1850 }%

```

\HyPsd@GetTwoBytes

```

1851 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1852     #1\#2#3#4%
1853 |HyPsd@DoConvert
1854 }%

```

\HyPsd@GetOneByte

```

1855 |gdef|HyPsd@GetOneByte#1#2{%
1856     #1#2%
1857 |HyPsd@DoConvert
1858 }%
1859 |endgroup

```

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

```
1860 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1861   \xdef#4{#4#1#2}%
1862   \HyPsd@@ConvertToUnicode#3\END#4%
1863 }
```

`\HyPsd@Char`

```
1864 \begingroup
1865   \catcode0=9 %
1866   \catcode`\^=7 %
1867   \catcode`\^^=12 %
1868   \def\x{~~~~0000}%
1869 \expandafter\endgroup
1870 \ifx\x\@empty
1871   \def\HyPsd@Char#1{%
1872     \ifnum`#1<128 %
1873       \@backslashchar 000#1%
1874     \else
1875       \ifnum`#1<65536 %
1876         \expandafter\HyPsd@CharTwoByte\number`#1!%
1877       \else
1878         \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
1879         \intcalcSub{`#1}{65536}!%
1880       \fi
1881     \fi
1882   }%
1883   \def\HyPsd@CharTwoByte#1!{%
1884     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1885     \IntCalcDiv#1!256!!%
1886     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1887     \IntCalcMod#1!256!!%
1888   }%
1889   \def\HyPsd@CharOctByte#1!{%
1890     \@backslashchar
1891     \IntCalcDiv#1!64!%
1892     \intcalcDiv{\IntCalcMod#1!64!}{8}%
1893     \IntCalcMod#1!8!%
1894   }%
1895   \def\HyPsd@CharSurrogate#1!{%
1896     \@backslashchar 33%
1897     \IntCalcDiv#1!262144!%
1898     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1899     \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
1900     \@backslashchar 33%
1901     \expandafter\expandafter\expandafter\IntCalcAdd
1902     \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
1903     \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1904     \IntCalcMod#1!256!!%
1905   }%
1906 \else
1907   \def\HyPsd@Char#1{%
1908     \@backslashchar 000#1%
1909   }%
```

```

1910 \fi
change 2022-02-21 For the case that utf8 chars are protected we need to expand
them. This works only if \UTFviii@loop is not defined in a group, which will be
the case in the new latex code, so we test for it.
1911 \ifcsname UTFviii@loop\endcsname
1912 \def\HyPsd@expand@utfviii {%
1913   \count@"C2
1914   \@tempcnta"F5
1915   \def\UTFviii@tmp{\expandafter\def\expandafter~\expandafter{~}}%
1916   \UTFviii@loop
1917 }
1918 \else
1919 \def\HyPsd@expand@utfviii {}
1920 \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`

```

1921 \begingroup
1922 \lccode`~=`^^f4\relax
1923 \lowercase{\endgroup
1924 \def\HyPsd@UTFviii{%
1925   \HyPsd@expand@utfviii
1926   \let\UTFviii@two@octets\HyPsd@UTFviii@two
1927   \let\UTFviii@three@octets\HyPsd@UTFviii@three
1928   \let\UTFviii@four@octets\HyPsd@UTFviii@four
1929   \ifx~\HyPsd@UTFviii@ccxliv@undef
1930     \let~\HyPsd@UTFviii@ccxliv@def
1931   \fi
1932   \let\unichar\HyPsd@unichar
1933 }%
1934 }%
1935 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
1936 \edef\HyPsd@UTFviii@ccxliv@def{%
1937   \noexpand\UTFviii@four@octets\string ^^f4%
1938 }%

```

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.

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

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

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

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

$$(5)$$

```

1939 \def\HyPsd@UTFviii@two#1#2{%
1940 \expandafter\HyPsd@UTFviii@@two
1941 \number\dimexpr.25\dimexpr`#1sp\expandafter\relax\expandafter|
1942 \number`#1\expandafter|
1943 \number\dimexpr.125\dimexpr`#2sp\expandafter\relax\expandafter|
1944 \number`#2 \@nil
1945 }%
1946 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
1947 \expandafter\8
1948 \number\numexpr #1-48\expandafter\relax
1949 \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1950 \number\numexpr #3-8*%
1951 \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1952 \number\numexpr #4-8*#3\relax
1953 }%
```

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

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

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

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

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

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

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

$$(12)$$

```

1954 \def\HyPsd@UTFviii@three#1#2#3{%
1955 \expandafter\HyPsd@UTFviii@@three
1956 \number\dimexpr.25\dimexpr`#1sp\expandafter\relax\expandafter|
1957 \number`#1\expandafter|
1958 \number\ifnum\numexpr`#2-128\relax <32 0\else 1\fi\expandafter|
1959 \number\dimexpr.25\dimexpr`#2sp\expandafter\relax\expandafter|
1960 \number`#2\expandafter|
1961 \number\dimexpr.125\dimexpr`#3sp\expandafter\relax\expandafter|
1962 \number`#3 \@nil
1963 }%
1964 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1965 \expandafter\9
1966 \number\numexpr #1-56\expandafter\relax
1967 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
1968 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1969 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
1970 \number\numexpr #6-16\expandafter\relax
1971 \number\numexpr #7-8*#6\relax
1972 }%
```

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

```

```

1973 \def\HyPsd@UTFviii@four#1#2{%
1974 \expandafter\HyPsd@@UTFviii@four\number
1975 \numexpr-1+(\`#1-240)*4+\dimexpr.0625\dimexpr`#2sp-128sp%
1976 \expandafter|\number
1977 \numexpr`#2-16*\dimexpr.0625\dimexpr`#2sp| %
1978 }%
1979 \def\HyPsd@@UTFviii@four#1|#2|#3{%
1980 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
1981 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1982 \ifodd#2 %
1983 \number\dimexpr(#2-1)/2\relax
1984 \else
1985 \number\dimexpr#2/2\relax
1986 \fi
1987 \number\dimexpr\ifodd#2 4+\fi
1988 \dimexpr.0625\dimexpr`#3sp-128sp\relax\relax\relax
1989 \933%
1990 \expandafter\HyPsd@@@UTFviii@four\number
1991 \numexpr`#3-16*\dimexpr.0625\dimexpr`#3sp| %
1992 }%
1993 \def\HyPsd@@@UTFviii@four#1|#2{%
1994 \number\dimexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1995 \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1996 \number\dimexpr.125\dimexpr`#2sp-128sp\relax\relax
1997 \number\dimexpr`#2-8*\dimexpr.125\dimexpr`#2sp\relax\relax\relax
1998 }%

```

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

```

1999 \def\HyPsd@unichar#1{%
2000 \ifHy@unicode
2001 \ifnum#1>"10FFFF %
2002 \HyPsd@UnicodeReplacementCharacter % illegal
2003 \else
2004 \ifnum#1>"FFFF %

```

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

```

2005 \expandafter\HyPsd@unichar\expandafter{%
2006 \number\dimexpr 55296+%
2007 \dimexpr.0009765625\dimexpr\number#1sp-\p@
2008 \relax\relax\relax
2009 }%

```

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

```

2010 \expandafter\HyPsd@unichar\expandafter{%
2011 \number\dimexpr#1-9216%
2012 -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2013 \relax\relax\relax
2014 }%
2015 \else

```

```

2016 \ifnum#1>"7FF %
2017 \9%
2018 \expandafter\HyPsd@unichar@first@byte\expandafter{%
2019 \number
2020 \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2021 }%
2022 \else
2023 \8%
2024 \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2025 \fi
2026 \expandafter\HyPsd@unichar@second@byte\expandafter{%
2027 \number
2028 \numexpr#1-256*\number
2029 \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2030 }%
2031 \fi
2032 \fi
2033 \else
2034 .% unsupported (Unicode -> PDF Doc Encoding)
2035 \fi
2036 }%
2037 \def\HyPsd@UnicodeReplacementCharacter{9377\375}%
2038 \def\HyPsd@unichar@first@byte#1{%
2039 \number\dimexpr.015625\dimexpr#1sp\relax\relax
2040 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2041 \number
2042 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2043 \relax\relax\relax
2044 }%
2045 }%
2046 \def\HyPsd@unichar@second@byte#1{%
2047 \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2048 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2049 \number
2050 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2051 \relax\relax\relax
2052 }%
2053 }%
2054 \def\HyPsd@unichar@octtwo#1{%
2055 \number\dimexpr.125\dimexpr#1sp\relax\relax
2056 \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2057 \relax\relax\relax
2058 }%

```

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

```

2059 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2060 \ifx\@gobble#1%
2061 \else
2062 [Please insert \textbackslash PrerenderUnicode%
2063 \textbraceleft#1\textbraceright\space
2064 into preamble]%
2065 \fi
2066 }%

```

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`.

```

2067 \def\HyPsd@DieFace#1{%
2068   \ifHy@unicode
2069     \ifnum#1<1 %
2070       \HyPsd@UnicodeReplacementCharacter
2071     \else
2072       \ifnum#1>6 %
2073         \9046\205%
2074         \expandafter\expandafter\expandafter
2075         \HyPsd@DieFaceLarge\intcalcSub{#1}{6}!%
2076       \else
2077         \9046\20\intcalcDec{#1}%
2078       \fi
2079     \fi
2080   \else
2081     .% Die faces are not part of PDFDocEncoding
2082   \fi
2083 }
```

`\HyPsd@DieFaceLarge`

```

2084 \def\HyPsd@DieFaceLarge#1!{%
2085   \ifnum#1>6 %
2086     \expandafter\@firstoftwo
2087   \else
2088     \expandafter\@secondoftwo
2089   \fi
2090   {%
2091     \9046\205%
2092     \expandafter\expandafter\expandafter
2093     \HyPsd@DieFaceLarge\IntCalcSub#1!6!!%
2094   }{%
2095     \9046\20\IntCalcDec#1!%
2096   }%
2097 }
```

6.6.11 Support for moon phases of package china2e

```

2098 \def\HyPsd@MoonPha#1{%
2099   \ifcase\intcalcNum{#1} %
2100     \HyPsd@UnicodeReplacementCharacter
2101   \or % 1
2102   % U+1F31A NEW MOON WITH FACE; \MoonPha{1} (china2e)
2103   \9330\074\9337\032%
```

```

2104 \or % 2
2105 \HyPsd@UnicodeReplacementCharacter
2106 \or % 3
2107 % U+1F31D FULL MOON WITH FACE; \MoonPha{3} (china2e)
2108 \9330\074\9337\035%
2109 \or % 4
2110 % U+1F31C LAST QUARTER MOON WITH FACE; \MoonPha{4} (china2e)
2111 \9330\074\9337\034%
2112 \else
2113 \HyPsd@UnicodeReplacementCharacter
2114 \fi
2115 }
2116 %* \HyPsd@MoonPha -> \MoonPha

```

6.6.12 Support for package pifont

\HyPsd@ding

```

2117 \def\HyPsd@ding#1{%
2118 \ifHy@unicode
2119 \ifnum#1<32 %
2120 \HyPsd@UnicodeReplacementCharacter
2121 \else
2122 \ifnum#1>254 %
2123 \HyPsd@UnicodeReplacementCharacter
2124 \else
2125 \ifnum#1<127 %
2126 \expandafter\expandafter\expandafter
2127 \HyPsd@@@ding\intcalcNum{#1}!%
2128 \else
2129 \ifnum#1>160 %
2130 \expandafter\expandafter\expandafter
2131 \HyPsd@@@ding\intcalcNum{#1}!%
2132 \else
2133 \HyPsd@UnicodeReplacementCharacter
2134 \fi
2135 \fi
2136 \fi
2137 \fi
2138 \else
2139 .% Dingbats are not part of PDFDocEncoding
2140 \fi
2141 }

```

\HyPsd@@@ding

```

2142 \def\HyPsd@@@ding#1!{%
2143 \@ifundefined{HyPsd@ding@#1}{%
2144 \ifnum#1<127 %
2145 \9047%
2146 \HyPsd@DecimalToOctalSecond{\IntCalcSub#1!32!}%
2147 \else
2148 \ifnum#1<168 %
2149 \9047\14\IntCalcSub#1!160!%
2150 \else
2151 \ifnum#1>181 %
2152 \9047\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!64!}%

```

```

2153 \else
2154 % 172..181 -> U+2460..U+2469
2155 \9044\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!76!}%
2156 \fi
2157 \fi
2158 \fi
2159 }{%
2160 \csname HyPsd@ding@#1\endcsname
2161 }%
2162 }

2163 \@namedef{HyPsd@ding@32}{\space}
2164 % U+260E BLACK TELEPHONE
2165 \@namedef{HyPsd@ding@37}{\9046\016}% U+260E
2166 % U+261B BLACK RIGHT POINTING INDEX
2167 \@namedef{HyPsd@ding@42}{\9046\033}% U+261B
2168 % U+261E WHITE RIGHT POINTING INDEX
2169 \@namedef{HyPsd@ding@43}{\9046\036}% U+261E
2170 % U+2605 BLACK STAR
2171 \@namedef{HyPsd@ding@72}{\9046\005}% U+2605
2172 % U+25CF BLACK CIRCLE
2173 \@namedef{HyPsd@ding@108}{\9045\317}% U+25CF
2174 % U+25A0 BLACK SQUARE
2175 \@namedef{HyPsd@ding@110}{\9045\240}% U+25A0
2176 % U+25B2 BLACK UP-POINTING TRIANGLE
2177 \@namedef{HyPsd@ding@115}{\9045\262}% U+25B2
2178 % U+25BC BLACK DOWN-POINTING TRIANGLE
2179 \@namedef{HyPsd@ding@116}{\9045\274}% U+25BC
2180 % U+25C6 BLACK DIAMOND
2181 \@namedef{HyPsd@ding@117}{\9045\306}% U+25C6
2182 % U+25D7 RIGHT HALF BLACK CIRCLE
2183 \@namedef{HyPsd@ding@119}{\9045\327}% U+25D7
2184 \@namedef{HyPsd@ding@168}{\textclubsuitblack}%
2185 \@namedef{HyPsd@ding@169}{\textdiamondsuitblack}%
2186 \@namedef{HyPsd@ding@170}{\textheartsuitblack}%
2187 \@namedef{HyPsd@ding@171}{\textspadesuitblack}%
2188 \@namedef{HyPsd@ding@213}{\textrightarrow}%
2189 \@namedef{HyPsd@ding@214}{\textleftarrow}%
2190 \@namedef{HyPsd@ding@215}{\textupdownarrow}%
2191 \@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.

```

2192 \@ifpackageloaded{subfigure}{%
2193 \@ifundefined{sub@label}{%
2194 \Hy@hypertextnamesfalse
2195 }{%
2196 \renewcommand*{\sub@label}[1]{%
2197 \@bsphack
2198 \subfig@oldlabel{#1}%

```

```

2199 \if@filesw
2200 \begingroup
2201 \edef\@currentlabstr{%
2202 \expandafter\strip@prefix\meaning\@currentlabelname
2203 }%
2204 \protected@write\@auxout{}\@auxout{%
2205 \string\newlabel{sub@#1}{%
2206 {\@nameuse{@@thesub\@capttype}}%
2207 {\thepage}%
2208 }%
2209 \expandafter\strip@period\@currentlabstr
2210 \relax.\relax\@@@%
2211 }%
2212 {\@currentHref}%
2213 {}%
2214 }%
2215 }%
2216 \endgroup
2217 \fi
2218 \@esphack
2219 }%
2220 }%
2221 }{}

```

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.

```

2222 \def\Hy@true{true}
2223 \def\Hy@false{false}

    Providing dummy definitions.
2224 \let\literalps@out\@gobble
2225 \newcommand\pdfbookmark[3][]{ }
2226 \def\Acrobatmenu#1#2{\leavevmode#2}
2227 \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

```

2228 \let\HyperRaiseLinkHook\@empty
2229 \def\HyperRaiseLinkDefault{\baselineskip}

\HyperRaiseLinkHook allows the user to reassign \HyperRaiseLinkLength.

2230 \newcount\Hy@SavedSpaceFactor
2231 \def\Hy@SaveSpaceFactor{%
2232   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2233 }
2234 \def\Hy@RestoreSpaceFactor{%
2235   \relax
2236   \ifhmode
2237     \ifnum\Hy@SavedSpaceFactor>\z@
2238       \spacefactor=\Hy@SavedSpaceFactor
2239     \fi
2240   \fi
2241 }
2242 \def\Hy@SaveSavedSpaceFactor{%
2243   \edef\Hy@RestoreSavedSpaceFactor{%
2244     \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2245   }%
2246 }

```

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

```

2247 \@if@t@r\fmtversion{2023-11-01}
2248 {\NewSocket{hyp/raisedlink}{1}}
2249 {\providecommand\UseSocket[2]{#2}}
2250 \def\Hy@raisedlink#1{%
2251   \ifvmode
2252     \UseSocket{hyp/raisedlink}{#1}%
2253   \else
2254     \Hy@SaveSpaceFactor
2255     \penalty\@M
2256     \smash{%
2257       \begingroup
2258         \let\HyperRaiseLinkLength\@tempdima
2259         \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2260         \HyperRaiseLinkHook
2261         \expandafter\endgroup
2262         \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2263           \Hy@RestoreSpaceFactor
2264           #1%
2265           \Hy@SaveSpaceFactor
2266         }%
2267       }%
2268     \Hy@RestoreSpaceFactor
2269   \fi
2270 }

```

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

```

2271 \def\Hy@SaveLastskip{%
2272   \let\Hy@RestoreLastskip\relax
2273   \ifvmode
2274     \ifdim\lastskip=\z@

```

```

2275 \ifnum\lastnodetype=1 %
2276 \let\Hy@RestoreLastskip\relax
2277 \else
2278 \let\Hy@RestoreLastskip\nobreak
2279 \fi
2280 \else
2281 \begingroup
2282 \skip@=-\lastskip
2283 \edef\x{%
2284 \endgroup
2285 \def\noexpand\Hy@RestoreLastskip{%
2286 \noexpand\ifvmode
2287 \noexpand\nobreak
2288 \vskip\the\skip@
2289 \vskip\the\lastskip\relax
2290 \noexpand\fi
2291 }%
2292 }%
2293 \x
2294 \fi
2295 \else
2296 \ifhmode
2297 \ifdim\lastskip=z@
2298 \let\Hy@RestoreLastskip\nobreak
2299 \else
2300 \begingroup
2301 \skip@=-\lastskip
2302 \edef\x{%
2303 \endgroup
2304 \def\noexpand\Hy@RestoreLastskip{%
2305 \noexpand\ifhmode
2306 \noexpand\nobreak
2307 \hskip\the\skip@
2308 \hskip\the\lastskip\relax
2309 \noexpand\fi
2310 }%
2311 }%
2312 \x
2313 \fi
2314 \fi
2315 \fi
2316 }%

```

9 Options

```

2317 \SetupKeyvalOptions{%
2318 family=Hyp,%
2319 prefix=HyOpt%
2320 }

```

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 `pdfmanage-`

ment/ltdocinit if it doesn't exist.

```

\AddToDocumentProperties
\GetDocumentProperties 2321 \ExplSyntaxOn
2322 \@ifundefined{AddToDocumentProperties}
2323 {
2324   \prop_new:N \g__hyp_documentproperties_prop
2325   \NewDocumentCommand\AddToDocumentProperties{O{\@currname}mm}
2326   {
2327     \exp_args:NNx
2328     \prop_gput:Nnn \g__hyp_documentproperties_prop
2329     {
2330       \tl_if_blank:eTF {#1}{top-level/}{#1/} #2
2331     }
2332     { #3}
2333   }
2334   \NewExpandableDocumentCommand\GetDocumentProperties{m}
2335   {
2336     \prop_item:Nn \g__hyp_documentproperties_prop {#1}
2337   }
2338 }{}
2339 \ExplSyntaxOff

\IfHyperBooleanExists

2340 \def\IfHyperBooleanExists#1{%
2341   \@ifundefined{Hy@#1false}\@secondoftwo{%
2342     \@ifundefined{KV@Hyp@#1default}\@secondoftwo\@firstoftwo
2343   }%
2344 }

2345 \@namedef{KV@Hyp@stoppeearly@default}{}

\IfHyperBoolean

2346 \def\IfHyperBoolean#1{%
2347   \IfHyperBooleanExists{#1}{%
2348     \csname ifHy@#1\endcsname
2349     \expandafter\@firstoftwo
2350   }else
2351     \expandafter\@secondoftwo
2352   \fi
2353 }\@secondoftwo
2354 }

\Hy@boolkey

2355 \def\Hy@boolkey#1#2{%
2356   \edef\Hy@tempa{#2}%
2357   \lowercase\expandafter{%
2358     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2359   }%
2360   \ifx\Hy@tempa\@empty
2361     \let\Hy@tempa\Hy@true
2362   \fi
2363   \ifx\Hy@tempa\Hy@true
2364   \else

```

```

2365 \ifx\Hy@tempa\Hy@false
2366 \else
2367 \let\Hy@tempa\relax
2368 \fi
2369 \fi
2370 \ifx\Hy@tempa\relax
2371 \Hy@WarnOptionValue{#2}{#1}{`true' or `false'}%
2372 \else
2373 \Hy@Info{Option `#1' set ``\Hy@tempa'}%
2374 \csname Hy@#1\Hy@tempa\endcsname
2375 \fi
2376 }

```

\Hy@WarnOptionValue

```

2377 \def\Hy@WarnOptionValue#1#2#3{%
2378 \Hy@Warning{%
2379 Unexpected value `#1'\MessageBreak
2380 of option `#2' instead of\MessageBreak
2381 #3%
2382 }%
2383 }

```

\Hy@DisableOption

```

2384 \def\Hy@DisableOption#1{%
2385 \@ifundefined{KV@Hyp@#1@default}{%
2386 \define@key{Hyp}{#1}%
2387 }{%
2388 \define@key{Hyp}{#1}[]%
2389 }%
2390 {\Hy@WarnOptionDisabled{#1}}%
2391 }
2392

```

\Hy@WarnOptionDisabled

```

2393 \def\Hy@WarnOptionDisabled#1{%
2394 \Hy@Warning{%
2395 Option `#1' has already been used,\MessageBreak
2396 setting the option has no effect%
2397 }%
2398 }

```

\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.

```

2399 \def\Hy@CheckOptionValue#1#2#3{%
2400 \begingroup
2401 \edef\x{#1}%
2402 \@onelevel@sanitize\x
2403 \let\y=y%
2404 \def\do##1##2{%
2405 \def\z{##1}%
2406 \@onelevel@sanitize\z
2407 \ifx\x\z

```

```

2408     \let\y=n%
2409     \let\do\@gobbletwo
2410     \fi
2411 }%
2412 #3%
2413 \ifx\y y%
2414     \def\do##1##2{%
2415         * `##1'%
2416         \ifx\\##2\\\else\space(##2)\fi
2417         \MessageBreak
2418     }%
2419 \Hy@Warning{%
2420     Values of option `#2':\MessageBreak
2421     #3%
2422     * An empty value disables the option.\MessageBreak
2423     Unknown value `x'%
2424 }%
2425 \fi
2426 \endgroup
2427 }

```

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

```

2428 \def\Hy@DefNameKey#1{%
2429     \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2430 }

```

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

```

2431 \def\Hy@@DefNameKey#1#2#3{%
2432     \define@key{Hyp}{#2}{%
2433         \edef#1{##1}%
2434         \ifx#1\@empty
2435             \else
2436                 \Hy@CheckOptionValue{##1}{#2}{#3}%
2437             \fi
2438         }%
2439     \let#1\@empty
2440 }

```

`\Hy@UseNameKey`

```

2441 \def\Hy@UseNameKey#1#2{%
2442     \ifx#2\@empty
2443         \else
2444             /#1/#2%
2445         \fi
2446 }

```

9.2 Defining the options

```

2447 \define@key{Hyp}{implicit}[true]{%

```

```

2448 \Hy@boolkey{implicit}{#1}%
2449 }
2450 \define@key{Hyp}{draft}[true]{%
2451 \Hy@boolkey{draft}{#1}%
2452 }
2453 \define@key{Hyp}{final}[true]{%
2454 \Hy@boolkey{final}{#1}%
2455 }
2456 \let\KV@Hyp@nolinks\KV@Hyp@draft

2457 \def\Hy@ObsoletePaperOption#1{%
2458 \Hy@WarningNoLine{%
2459   Option `#1' is no longer used%
2460 }%
2461 \define@key{Hyp}{#1}[true]{}%
2462 }
2463 \def\Hy@temp#1{%
2464 \define@key{Hyp}{#1}[true]{%
2465 \Hy@ObsoletePaperOption{#1}%
2466 }%
2467 }
2468 \Hy@temp{a4paper}
2469 \Hy@temp{a5paper}
2470 \Hy@temp{b5paper}
2471 \Hy@temp{letterpaper}
2472 \Hy@temp{legalpaper}
2473 \Hy@temp{executivepaper}

2474 \define@key{Hyp}{setpagesize}[true]{%
2475 \Hy@boolkey{setpagesize}{#1}%
2476 }
2477 \define@key{Hyp}{debug}[true]{%
2478 \Hy@boolkey{debug}{#1}%
2479 }
2480 \define@key{Hyp}{linktocpage}[true]{%
2481 \Hy@boolkey{linktocpage}{#1}%
2482 \ifHy@linktocpage
2483 \let\Hy@linktoc\Hy@linktoc@page
2484 \else
2485 \let\Hy@linktoc\Hy@linktoc@section
2486 \fi
2487 }
2488 \chardef\Hy@linktoc@none=0 %
2489 \chardef\Hy@linktoc@section=1 %
2490 \chardef\Hy@linktoc@page=2 %
2491 \chardef\Hy@linktoc@all=3 %
2492 \ifHy@linktocpage
2493 \let\Hy@linktoc\Hy@linktoc@page
2494 \else
2495 \let\Hy@linktoc\Hy@linktoc@section
2496 \fi
2497 \define@key{Hyp}{linktoc}{%
2498 \@ifundefined{Hy@linktoc@#1}{%
2499 \Hy@Warning{%
2500   Unexpected value `#1' of\MessageBreak

```

```

2501     option `linktoc' instead of `none',\MessageBreak
2502     `section', `page' or `all'%
2503   }%
2504 }{%
2505   \expandafter\let\expandafter\Hy@linktoc
2506   \csname Hy@linktoc@#1\endcsname
2507 }%
2508 }
2509 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2510 \let\XR@ext\relax
2511 \define@key{Hyp}{verbose}[true]{%
2512   \Hy@boolkey{verbose}{#1}%
2513 }

```

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.

```

2514 \define@key{Hyp}{raiselinks}[true]{%
2515   \Hy@boolkey{raiselinks}{#1}%
2516 }

```

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

```

2517 \def\Hy@setbreaklinks#1{%
2518   \csname breaklinks#1\endcsname
2519 }
2520 \def\Hy@breaklinks@unsupported{%
2521   \ifx\Hy@setbreaklinks\@gobble
2522     \ifHy@breaklinks
2523       \Hy@WarningNoLine{%
2524         You have enabled option `breaklinks'.\MessageBreak
2525         But driver ``\Hy@driver.def' does not support this.\MessageBreak
2526         Expect trouble with the link areas of broken links%
2527       }%
2528     \fi
2529   \fi
2530 }
2531 \define@key{Hyp}{breaklinks}[true]{%
2532   \Hy@boolkey{breaklinks}{#1}%
2533   \let\Hy@setbreaklinks\@gobble
2534 }
2535 \define@key{Hyp}{localanchorname}[true]{%
2536   \Hy@WarningNoLine{%
2537     Option `localanchorname' is deprecated%
2538   }%
2539   \Hy@boolkey{localanchorname}{#1}%
2540 }

```

Determines whether an automatic anchor is put on each page

```

2541 \define@key{Hyp}{pageanchor}[true]{%
2542   \Hy@boolkey{pageanchor}{#1}%
2543 }

```

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.

```

2544 \define@key{Hyp}{plainpages}[true]{%
2545   \Hy@boolkey{plainpages}{#1}%
2546 }

```

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

```

2547 \define@key{Hyp}{naturalnames}[true]{%
2548   \Hy@boolkey{naturalnames}{#1}%
2549 }

```

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

```

2550 \define@key{Hyp}{hypertextnames}[true]{%
2551   \Hy@boolkey{hypertextnames}{#1}%
2552 }

```

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

```

2553 \define@key{Hyp}{nesting}[true]{%
2554   \Hy@boolkey{nesting}{#1}%
2555 }

```

```

2556 \define@key{Hyp}{destlabel}[true]{%
2557   \Hy@boolkey{destlabel}{#1}%
2558 }

```

```

2559 \define@key{Hyp}{unicode}[true]{%
2560   \Hy@boolkey{unicode}{#1}%
2561   \ifHy@unicode
2562     \def\HyPsd@pdfencoding{unicode}%
2563     \HyPsd@LoadUnicode
2564   \else
2565     \def\HyPsd@pdfencoding{pdfdoc}%
2566   \fi
2567 }
2568 \Hy@AtBeginDocument{%
2569   \ifx\HyPsd@LoadUnicode\relax
2570   \else
2571     \def\HyPsd@LoadUnicode{%
2572       \Hy@Error{%
2573         Unicode support for bookmarks is not available.\MessageBreak
2574         Activate unicode support by using one of the options\MessageBreak
2575         `unicode', `pdfencoding=unicode', `pdfencoding=auto'\MessageBreak
2576         in the preamble%
2577       } \@ehc
2578       \global\let\HyPsd@LoadUnicode\relax
2579       \global\Hy@unicodetrue
2580       \global\let\Hy@unicodetrue\Hy@unicodetrue\Hy@unicodetrue
2581     }%
2582   \fi
2583 }

```

```

2584 \define@key{Hyp}{pdfencoding}{%
2585   \edef\HyPsd@temp{#1}%
2586   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2587     \let\HyPsd@pdfencoding\HyPsd@temp
2588     \Hy@unicodetrue
2589   \else

```

```

2590 \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2591 \z@
2592 \else
2593 \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2594 \z@
2595 \else
2596 \@ne
2597 \fi
2598 \fi
2599 \let\HyPsd@pdfencoding\HyPsd@temp
2600 \hypersetup{unicode}%
2601 \ifHy@unicode
2602 \def\HyPsd@pdfencoding{#1}%
2603 \else
2604 \Hy@Warning{Cannot switch to unicode bookmarks}%
2605 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2606 \fi
2607 \else
2608 \@onelevel@sanitize\HyPsd@temp
2609 \Hy@Warning{%
2610 Values of option `pdfencoding':\MessageBreak
2611 `pdfdoc', `unicode', `auto'.\MessageBreak
2612 Ignoring unknown value `\HyPsd@temp'%
2613 }%
2614 \fi
2615 \fi
2616 }
2617 \def\HyPsd@pdfencoding@auto{auto}
2618 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2619 \def\HyPsd@pdfencoding@unicode{unicode}

```

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

```

2620 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
2621 \HyPsd@LoadUnicode
2622 \define@key{Hyp}{psdextra}[true]{%
2623 \Hy@boolkey{psdextra}{#1}%
2624 \HyPsd@LoadExtra
2625 }
2626 \def\hypersetup{\kvsetkeys{Hyp}}
2627 \newif\ifHy@setpdfversion
2628 \define@key{Hyp}{pdfversion}{%
2629 \@ifundefined{Hy@pdfversion@#1}{%
2630 \PackageWarning{hyperref}{%
2631 Unsupported PDF version `#1'.\MessageBreak
2632 Valid values: 1.2-1.7, 2.0%
2633 }%
2634 }{%
2635 \Hy@setpdfversiontrue
2636 \@nameuse{Hy@pdfversion@#1}%
2637 }%
2638 }

```

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

```

2639 \@namedef{Hy@pdfversion@1.2}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{2}}%
2640 \@namedef{Hy@pdfversion@1.3}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{3}}%
2641 \@namedef{Hy@pdfversion@1.4}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{4}}%
2642 \@namedef{Hy@pdfversion@1.5}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{5}}%
2643 \@namedef{Hy@pdfversion@1.6}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{6}}%
2644 \@namedef{Hy@pdfversion@1.7}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{7}}%
2645 \@namedef{Hy@pdfversion@2.0}{\def\Hy@pdf@majorversion{2}\def\Hy@pdf@mi-
norversion{0}}%
2646 \def\Hy@pdf@majorversion{1}\def\Hy@pdf@minorversion{7}
Legacy name, earlier releases assumed 1.x
2647 \let\Hy@pdfversion\Hy@pdf@minorversion
2648 \def\Hy@pdf@majorminor@version{\numexpr100*\Hy@pdf@majorversion+\Hy@pdf@mi-
norversion\relax}
2649 \def\Hy@pdfmajorminor@version{\numexpr100*\Hy@pdfmajorversion+\Hy@pdfmi-
norversion\relax}
if pdfminorversion is defined, make sure pdfmajorversion is too.
2650 \@ifundefined{pdfminorversion}{}{%
2651 \@ifundefined{pdfmajorversion}{}{%
2652 \newcount\pdfmajorversion
2653 \pdfmajorversion=1
2654 }{}%
2655 }
2656 \ifx\pdfmajorversion\@undefined\else
2657 \def\Hy@pdfmajorminor@version{\pdfmajorversion}
2658 \fi

```

10 Options for different drivers

```

2659 \newif\ifHy@DviMode
2660 \let\Hy@DviErrMsg\@empty
2661 \ifpdf
2662 \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
2663 \else
2664 \ifxetex
2665 \def\Hy@DviErrMsg{XeTeX is running}%
2666 \else
2667 \ifvtex
2668 \ifnum\OpMode=\z@
2669 \Hy@DviModetrue
2670 \else
2671 \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
2672 \fi
2673 \else
2674 \Hy@DviModetrue
2675 \fi
2676 \fi
2677 \fi
2678 \def\HyOpt@CheckDvi#1{%

```

```

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

2689 \DeclareVoidOption{tex4ht}{%
2690 \Hy@texhttrue
2691 \kvsetkeys{Hyp}{colorlinks=true}%
2692 \def\BeforeTeXIVht{\RequirePackage{color}}%
2693 \def\Hy@driver{htex4ht}%
2694 \def\MaybeStopEarly{%
2695 \Hy@Message{Stopped early}%
2696 \Hy@AtBeginDocument{%
2697   \PDF@FinishDoc
2698   \gdef\PDF@FinishDoc{}%
2699 }%
2700 \endinput
2701 }%
2702 }

2703 \DeclareVoidOption{pdftex}{%
2704 \ifpdf
2705 \def\Hy@driver{hpdftex}%
2706 \PassOptionsToPackage{pdftex}{color}%
2707 \else
2708 \Hy@Error{%
2709   Wrong driver option `pdftex',\MessageBreak
2710   because pdfTeX in PDF mode is not detected%
2711 } \@ehc
2712 \fi
2713 }

2714 \DeclareVoidOption{luatex}{%
2715 \ifpdf
2716 \ifx\pdfextension\@undefined
2717 \def\Hy@driver{hpdftex}%
2718 \PassOptionsToPackage{pdftex}{color}%
2719 \else
2720 \def\Hy@driver{hluatex}%
2721 \PassOptionsToPackage{luatex}{color}%
2722 \fi
2723 \else
2724 \Hy@Error{%
2725   Wrong driver option `luatex',\MessageBreak
2726   because luaTeX in PDF mode is not detected%
2727 } \@ehc
2728 \fi
2729 }

2730 \DeclareVoidOption{nativepdf}{%
2731 \HyOpt@CheckDvi{nativepdf}{%
2732 \def\Hy@driver{hdvips}%

```

```

2733 \PassOptionsToPackage{dvips}{color}%
2734 }%
2735 }
2736 \DeclareVoidOption{dvipdfm}{%
2737 \HyOpt@CheckDvi{dvipdfm}{%
2738 \def\Hy@driver{hdvipdfm}%
2739 }%
2740 }
2741 \DeclareVoidOption{dvipdfmx}{%
2742 \HyOpt@CheckDvi{dvipdfmx}{%
2743 \def\Hy@driver{hdvipdfm}%
2744 \PassOptionsToPackage{dvipdfmx}{color}%
2745 }%
2746 }
2747 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2748 \expandafter\ifx\csname if#1\expandafter\endcsname
2749 \csname iftrue\endcsname
2750 \chardef\SpecialDvipdfmxOutlineOpen\@ne
2751 \else
2752 \chardef\SpecialDvipdfmxOutlineOpen\z@
2753 \fi
2754 }
2755 \DeclareVoidOption{xetex}{%
2756 \ifxetex
2757 \def\Hy@driver{hxetex}%
2758 \else
2759 \Hy@Error{%
2760 Wrong driver option `xetex',\MessageBreak
2761 because XeTeX is not detected%
2762 }\@ehc
2763 \fi
2764 }
2765 \DeclareVoidOption{pdfmark}{%
2766 \HyOpt@CheckDvi{pdfmark}{%
2767 \def\Hy@driver{hdvips}%
2768 }%
2769 }
2770 \DeclareVoidOption{dvips}{%
2771 \HyOpt@CheckDvi{dvips}{%
2772 \def\Hy@driver{hdvips}%
2773 \PassOptionsToPackage{dvips}{color}%
2774 }%
2775 }
2776 \DeclareVoidOption{hypertex}{%
2777 \HyOpt@CheckDvi{hypertex}{%
2778 \def\Hy@driver{hypertex}%
2779 }%
2780 }
2781 \let\Hy@MaybeStopNow\relax
2782 \DeclareVoidOption{vtex}{%
2783 \ifvtex
2784 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2785 \def\Hy@driver{hvtex}%
2786 \else

```

```

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

```

```

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

```

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

```

2866 \DeclareVoidOption{ps2pdf}{%
2867   \HyOpt@CheckDvi{ps2pdf}{%
2868     \def\Hy@driver{hdvips}%
2869     \PassOptionsToPackage{dvips}{color}%
2870   }%
2871 }
2872 \let\HyOpt@DriverFallback\@empty
2873 \define@key{Hyp}{driverfallback}{%
2874   \ifHy@DviMode
2875     \def\HyOpt@DriverFallback{#1}%
2876     \Hy@Match\HyOpt@DriverFallback{}{%
2877       ^(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
2878       latex2html|tex4ht)$%
2879     }{}{%
2880       \Hy@Warning{%
2881         Invalid driver `#1' for option\MessageBreak
2882         `driverfallback'%
2883       }%
2884       \let\HyOpt@DriverFallback\@empty
2885     }%
2886   \fi
2887 }
2888 \IfPDFManagementActiveTF
2889   {\def\HyOpt@CustomDriver{hgeneric-testphase}}
2890   {\let\HyOpt@CustomDriver\@empty}
2891
2892 \define@key{Hyp}{customdriver}{%

```

```

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

```

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.

```

2902 \define@key{Hyp}{hyperfigures}[true]{%
2903   \Hy@boolkey{hyperfigures}{#1}%
2904 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

2905 \define@key{Hyp}{hyperfootnotes}[true]{%
2906   \Hy@boolkey{hyperfootnotes}{#1}%
2907 }

```

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

```

2908 \def\back@none{none}
2909 \def\back@section{section}
2910 \def\back@page{page}
2911 \def\back@slide{slide}
2912 \define@key{Hyp}{backref}[section]{%
2913   \lowercase{\def\Hy@tempa{#1}}%
2914   \ifx\Hy@tempa\@empty
2915     \let\Hy@tempa\back@section
2916   \fi
2917   \ifx\Hy@tempa\Hy@false
2918     \let\Hy@tempa\back@none
2919   \fi
2920   \ifx\Hy@tempa\back@slide
2921     \let\Hy@tempa\back@section
2922   \fi
2923   \ifx\Hy@tempa\back@page
2924     \PassOptionsToPackage{hyperpageref}{backref}%
2925     \Hy@backreftrue
2926   \else
2927     \ifx\Hy@tempa\back@section
2928       \PassOptionsToPackage{hyperref}{backref}%
2929       \Hy@backreftrue
2930     \else
2931       \ifx\Hy@tempa\back@none
2932         \Hy@backreffalse
2933       \else
2934         \Hy@WarnOptionValue{#1}{backref}{%
2935           `section', `slide', `page', `none',\MessageBreak
2936           or `false'}%
2937       \fi
2938     \fi

```

```

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

```

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

```

2960 \define@key{Hyp}{hyperindex}[true]{%
2961   \Hy@boolkey{hyperindex}{#1}%
2962 }

```

Configuration of encap char.

```

2963 \define@key{Hyp}{encap}[|]{%
2964   \def\HyInd@EncapChar{#1}%
2965 }

```

12 Language options

The `\autoref` feature depends on the language.

```

2966 \def\HyLang@afrikaans{%
2967   \def\equationautorefname{Vergelyking}%
2968   \def\footnoteautorefname{Voetnota}%
2969   \def\itemautorefname{Item}%
2970   \def\figureautorefname{Figuur}%
2971   \def\tableautorefname{Tabel}%
2972   \def\partautorefname{Deel}%
2973   \def\appendixautorefname{Bylae}%
2974   \def\chapterautorefname{Hoofstuk}%
2975   \def\sectionautorefname{Afdeling}%
2976   \def\subsectionautorefname{Subafdeling}%
2977   \def\subsubsectionautorefname{Subsubafdeling}%
2978   \def\paragraphautorefname{Paragraaf}%
2979   \def\subparagraphautorefname{Subparagraaf}%
2980   \def\FancyVerbLineautorefname{Lyn}%
2981   \def\theoremautorefname{Teorema}%
2982   \def\pageautorefname{Bladsy}%
2983 }

```

```

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

```

```

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

```

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`.

```
3092 \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`?

```
3093 \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`.

```
3094 % \def\equationautorefname{%
```

```
3095 % \cyr\cyrv\cyrry\cyrr\cyra\cyrrh\cyre\cyrn\cyri\cyre
```

```
3096 % }%
```

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

```
3097 \def\footnoteautorefname{%
```

```
3098 \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
```

```
3099 }%
```

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}`”

```
3100 % \def\footnoteautorefname{%
```

```
3101 % \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %
```

```
3102 % \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre
```

```
3103 % }%
```

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

```
3104 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
```

```
3105 % \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.

```
3106 \def\itemautorefname{\cyr\cyrp.}%
```

```
3107 % \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.

```
3108 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
```

```
3109 \def\tableautorefname{\cyr\cyrt\cyra\cyrb\cyrl.}%
```

Names of the part, chapter, section(s) have stable (standard) abbreviation forms. No problem in the middle of sentence.

```
3110 \def\partautorefname{\cyr\cyrch.}%
```

```

3111 \def\chapterautorefname{\cyr\cyrg\cyr1.}%
3112 \def\sectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%

```

Name of the appendix can use this abbreviation, but it is not standard for books, i.e, not for “the good face of the book”. Commented variant has common form for both nominative and accusative but changes in other forms, like “of \autoref{auto}” etc.

```

3113 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyr1.}%
3114 % \def\appendixautorefname{%
3115 %   \cyr\cyrp\cyrr\cyri\cyr1\cyro\cyrrzh\cyre\cyrn\cyri\cyre
3116 % }%

```

The sectioning command have stable (almost standard) and common abbreviation form for all levels (the meaning of these references visible from the section number). No problem.

```

3117 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
3118 \def\subsubsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%

```

The names of references to paragraphs also have stable (almost standard) and common abbreviation form for all levels (the meaning of these references is visible from the section number). No problem in the middle of sentence.

```

3119 \def\paragraphautorefname{\cyr\cyrp.}%
3120 \def\subparagraphautorefname{\cyr\cyrp.}%

```

Commented variant can be used in books but since it has common form for both nominative and accusative but it changes in other forms, like “of \autoref{auto}” etc.

```

3121 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
3122 % \def\subparagraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%

```

The name of verbatim line. Here could be a standard of the abbreviation (used very rare). But the author preprint publications (which have not any editor or corrector) can use this abbreviation for the page reference. So the meaning of the line reference can be read as reference to the page.

```

3123 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%

```

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

```

3124 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
3125 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%

```

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

```

3126 % \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyrk.}%

```

The names of theorem: if we want have “the good face of the book”, so the theorem reference must have the full name (like equation reference). But ...

```

3127 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%

```

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

```

3128 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
3129 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%

```

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

```

3130 \def\pageautorefname{\cyr\cyrs.}%
3131 }

```

```

3132 \def\HyLang@spanish{%
3133   \def\equationautorefname{Ecuaci\`on}%
3134   \def\footnoteautorefname{Nota a pie de p\`agina}%
3135   \def\itemautorefname{Elemento}%
3136   \def\figureautorefname{Figura}%
3137   \def\tableautorefname{Tabla}%
3138   \def\partautorefname{Parte}%
3139   \def\appendixautorefname{Ap\`endice}%
3140   \def\chapterautorefname{Cap\`itulo}%
3141   \def\sectionautorefname{Secci\`on}%
3142   \def\subsectionautorefname{Subsecci\`on}%
3143   \def\subsubsectionautorefname{Subsubsecci\`on}%
3144   \def\paragraphautorefname{P\`arrafo}%
3145   \def\subparagraphautorefname{Subp\`arrafo}%
3146   \def\FancyVerbLineautorefname{L\`inea}%
3147   \def\theoremautorefname{Teorema}%
3148   \def\pageautorefname{P\`agina}%
3149 }

3150 \def\HyLang@catalan{%
3151   \def\equationautorefname{Equaci\`o}%
3152   \def\footnoteautorefname{Nota al peu de p\`agina}%
3153   \def\itemautorefname{Element}%
3154   \def\figureautorefname{Figura}%
3155   \def\tableautorefname{Taula}%
3156   \def\partautorefname{Part}%
3157   \def\appendixautorefname{Ap\`endix}%
3158   \def\chapterautorefname{Cap\`itol}%
3159   \def\sectionautorefname{Secci\`o}%
3160   \def\subsectionautorefname{Subsecci\`o}%
3161   \def\subsubsectionautorefname{Subsubsecci\`o}%
3162   \def\paragraphautorefname{Par\`agraf}%
3163   \def\subparagraphautorefname{Subpar\`agraf}%
3164   \def\FancyVerbLineautorefname{L\`inia}%
3165   \def\theoremautorefname{Teorema}%
3166   \def\pageautorefname{P\`agina}%
3167 }

3168 \def\HyLang@vietnamese{%
3169   \def\equationautorefname{Ph\`uhorn\`{ohorn\`{ng tr\`inh}}}%
3170   \def\footnoteautorefname{Ch\`u th\`ich}%
3171   \def\itemautorefname{m\`d\`u\`c}%
3172   \def\figureautorefname{H\`inh}%
3173   \def\tableautorefname{B\`h\`a\`ng}%
3174   \def\partautorefname{Ph\`{acircumflex\`{n}}}%
3175   \def\appendixautorefname{Ph\`d\`u\`l\`d\`u\`c}%
3176   \def\chapterautorefname{ch\`uhorn\`{ohorn\`{ng}}}%
3177   \def\sectionautorefname{m\`d\`u\`c}%
3178   \def\subsectionautorefname{m\`d\`u\`c}%
3179   \def\subsubsectionautorefname{m\`d\`u\`c}%
3180   \def\paragraphautorefname{\`dj\`o\`d\`a\`n}%
3181   \def\subparagraphautorefname{\`dj\`o\`d\`a\`n}%
3182   \def\FancyVerbLineautorefname{d\`ong}%
3183   \def\theoremautorefname{DJ\`d\`i\`nh l\`y}%
3184   \def\pageautorefname{Trang}%

```

3185 }

Greek, see github issue 52

```
3186 \def\HyLang@greek{%
3187   \def\equationautorefname{\textEpsilon\textxi\acconos\textiota\textsigma\textomega\textsigma\texteta}%
3188   \def\footnoteautorefname{\textupsilon\textpi\textomicron\textsigma\texteta\textmu\textepsilon\acconos\textiota\textomega\textsigma\texteta}%
3189   \def\itemautorefname{\textalpha\textnu\texttau\textiota\textkappa\textepsilon\acconos\textiota\textmu\textepsilon\textnu\textomicron}%
3190   \def\figureautorefname{\textSigma\textchi\acconos\texteta\textmu\textalpha}%
3191   \def\tableautorefname{\textPi\acconos\textiota\textnu\textalpha\textkappa\textalpha}%
3192   \def\partautorefname{\textMu\acconos\textepsilon\textrho\textomicron\textvarsigma}%
3193   \def\appendixautorefname{\textPi\textalpha\textrho\acconos\textalpha\textrho\texttau\texteta\textmu\textalpha}%
3194   \def\chapterautorefname{\textkappa\textepsilon\textphi\acconos\textalpha\textlambda\textalpha\textiota\textomicron}%
3195   \def\sectionautorefname{\textepsilon\textnu\acconos\textomicron\texttau\texteta\texttau\textalpha}%
3196   \def\subsectionautorefname{\textupsilon\textpi\textomicron\textepsilon\textnu\acconos\textomicron\texttau\texteta\texttau\textalpha}%
3197   \def\subsubsectionautorefname{\textupsilon\textpi\textomicron\textupsilon\textpi\textomicron\textupsilon\textpi\textomicron\texttau\texteta\texttau\textalpha}%
3198   \def\paragraphautorefname{\textpi\textalpha\textrho\acconos\textalpha\textgamma\textrho\textalpha\textphi\textomicron\textvarsigma}%
3199   \def\subparagraphautorefname{\textupsilon\textpi\textomicron\textpi\textalpha\textrho\acconos\textalpha\textgamma\textrho\textalpha\textphi\textomicron\textvarsigma}%
3200   \def\FancyVerbLineautorefname{\textgamma\textrho\textalpha\textmu\textmu\acconos\texteta}%
3201   \def\theoremautorefname{\textTheta\textepsilon\acconos\textomega\textrho\texteta\textmu\textalpha}%
3202   \def\pageautorefname{\textsigma\textepsilon\textlambda\acconos\textiota\textdelta\textalpha}%
3203 }

3204 \def\HyLang@dutch{%
3205   \def\equationautorefname{Vergelijking}%
3206   \def\footnoteautorefname{voetnoot}%
3207   \def\itemautorefname{punt}%
3208   \def\figureautorefname{Figuur}%
3209   \def\tableautorefname{Tabel}%
3210   \def\partautorefname{Deel}%
3211   \def\appendixautorefname{Bijlage}%
3212   \def\chapterautorefname{hoofdstuk}%
3213   \def\sectionautorefname{paragraaf}%
3214   \def\subsectionautorefname{deelparagraaf}%
3215   \def\subsubsectionautorefname{deel-deelparagraaf}%
3216   \def\paragraphautorefname{alinea}%
3217   \def\subparagraphautorefname{deelalinea}%
3218   \def\FancyVerbLineautorefname{regel}%
3219   \def\theoremautorefname{Stelling}%
3220   \def\pageautorefname{pagina}%

```

```

3221 }
3222 \def\HyLang@norsk{%
3223   \def\equationautorefname{Ligning}%
3224   \def\footnoteautorefname{fotnote}%
3225   \def\itemautorefname{element}%
3226   \def\figureautorefname{Figur}%
3227   \def\tableautorefname{Tabell}%
3228   \def\partautorefname{Del}%
3229   \def\appendixautorefname{Tillegg}%
3230   \def\chapterautorefname{kapittel}%
3231   \def\sectionautorefname{seksjon}%
3232   \def\subsectionautorefname{underseksjon}%
3233   \def\subsubsectionautorefname{under-underseksjon}%
3234   \def\paragraphautorefname{avsnitt}%
3235   \def\subparagraphautorefname{underavsnitt}%
3236   \def\FancyVerbLineautorefname{Linje}%
3237   \def\theoremautorefname{Teorem}%
3238   \def\pageautorefname{side}%
3239 }
3240 \def\HyLang@danish{%
3241   \def\equationautorefname{Ligning}%
3242   \def\footnoteautorefname{fodnote}%
3243   \def\itemautorefname{element}%
3244   \def\figureautorefname{Figur}%
3245   \def\tableautorefname{Tabel}%
3246   \def\partautorefname{Del}%
3247   \def\appendixautorefname{Bilag}%
3248   \def\chapterautorefname{kapitel}%
3249   \def\sectionautorefname{sektion}%
3250   \def\subsectionautorefname{under-sektion}%
3251   \def\subsubsectionautorefname{under-under-sektion}%
3252   \def\paragraphautorefname{afsnit}%
3253   \def\subparagraphautorefname{underafsnit}%
3254   \def\FancyVerbLineautorefname{linje}%
3255   \def\theoremautorefname{Teorem}%
3256   \def\pageautorefname{side}%
3257 }
3258 \def\HyLang@swedish{%
3259   \def\equationautorefname{Ekvation}%
3260   \def\footnoteautorefname{fotnot}%
3261   \def\itemautorefname{punkt}%
3262   \def\figureautorefname{Figur}%
3263   \def\tableautorefname{Tabell}%
3264   \def\partautorefname{Del}%
3265   \def\appendixautorefname{Bilaga}%
3266   \def\chapterautorefname{kapitel}%
3267   \def\sectionautorefname{avsnitt}%
3268   \def\subsectionautorefname{underavsnitt}%
3269   \def\subsubsectionautorefname{under-underavsnitt}%
3270   \def\paragraphautorefname{paragraf}%
3271   \def\subparagraphautorefname{underparagraf}%
3272   \def\FancyVerbLineautorefname{linje}%
3273   \def\theoremautorefname{Teorem}%
3274   \def\pageautorefname{sida}%

```

3275 }

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

```

3276 \def\HyLang@addto#1#2{%
3277   #2%
3278   \@temptokena{#2}%
3279   \ifx#1\relax
3280     \let#1\@empty
3281   \fi
3282   \ifx#1\@undefined
3283     \edef#1{\the\@temptokena}%
3284   \else
3285     \toks@\expandafter{#1}%
3286     \edef#1{\the\toks@\the\@temptokena}%
3287   \fi
3288   \@temptokena{}\toks@\@temptokena
3289 }

3290 \def\HyLang@DeclareLang#1#2#3{%
3291   \ifcsname extras#1\endcsname
3292     \expandafter\HyLang@addto
3293       \csname extras#1\expandafter\endcsname
3294       \csname HyLang@#2\endcsname
3295   \begingroup
3296     \edef\x{\endgroup
3297       #3%
3298     }%
3299     \x
3300     \@namedef{HyLang@#1@done}{}%
3301   \fi
3302   \begingroup
3303     \edef\x##1##2{%
3304       \noexpand\ifx##2\relax
3305         \errmessage{No definitions for language #2' found!}%
3306       \noexpand\fi
3307     \endgroup
3308     \noexpand\define@key{Hyp}{#1}[]{%
3309       \noexpand\ifundefined{HyLang@#1@done}{}%
3310       \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3311       #3%
3312       \noexpand\@namedef{HyLang@#1@done}{}%
3313     }{}%
3314   }%
3315 }%
3316 \expandafter\x\csname extras#1\expandafter\endcsname
3317   \csname HyLang@#2\endcsname
3318 }

3319 \HyLang@DeclareLang{english}{english}{}
3320 \HyLang@DeclareLang{UKenglish}{english}{}
3321 \HyLang@DeclareLang{british}{english}{}
3322 \HyLang@DeclareLang{USenglish}{english}{}
3323 \HyLang@DeclareLang{american}{english}{}
3324 \HyLang@DeclareLang{german}{german}{}
3325 \HyLang@DeclareLang{austrian}{german}{}

```

```

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

```

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

```

3351 \DeclareVoidOption{vietnamese}{%
3352   \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3353   \Hy@AtEndOfPackage{%
3354     \@ifundefined{T@PU}{}{}%
3355     \input{puvnenc.def}%
3356   }%
3357 }%
3358 }
3359 \DeclareVoidOption{vietnam}{%
3360   \HyLang@addto\extrasvietnam\HyLang@vietnamese
3361   \Hy@AtEndOfPackage{%
3362     \@ifundefined{T@PU}{}{}%
3363     \input{puvnenc.def}%
3364   }%
3365 }%
3366 }

```

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

```

3367 \DeclareVoidOption{arabic}{%
3368   \Hy@AtEndOfPackage{%
3369     \@ifundefined{T@PU}{}{}%
3370     \input{puarenc.def}%
3371   }%
3372 }%
3373 }

```

13 Options to change appearance of links

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

```
3374 \define@key{Hyp}{colorlinks}[true]{%
3375   \Hy@boolkey{colorlinks}{#1}%
3376 }
3377 \DeclareVoidOption{hidelinks}{%
3378   \Hy@colorlinksfalse
3379   \Hy@ocgcolorlinksfalse
3380   \Hy@frenchlinksfalse
3381   \def\Hy@colorlink##1{\begingroup}%
3382   \def\Hy@endcolorlink{\endgroup}%
3383   \def\@pdfborder{0 0 0}%
3384   \let\@pdfborderstyle\@empty
3385 }
3386 \define@key{Hyp}{ocgcolorlinks}[true]{%
3387   \Hy@boolkey{ocgcolorlinks}{#1}%
3388 }
3389 \Hy@AtBeginDocument{%
3390   \begingroup
3391   \@ifundefined{OBJ@OCG@view}{%
3392     \ifHy@ocgcolorlinks
3393       \Hy@Warning{%
3394         Driver does not support `ocgcolorlinks',\MessageBreak
3395         using `colorlinks' instead%
3396       }%
3397     \fi
3398   }{%
3399   \endgroup
3400 }
3401 \define@key{Hyp}{frenchlinks}[true]{%
3402   \Hy@boolkey{frenchlinks}{#1}%
3403 }
```

14 Bookmarking

```
3404 \begingroup\expandafter\expandafter\expandafter\endgroup
3405 \expandafter\ifx\csname chapter\endcsname\relax
3406   \def\toclevel@part{0}%
3407 \else
3408   \def\toclevel@part{-1}%
3409 \fi
3410 \def\toclevel@chapter{0}
3411 \def\toclevel@section{1}
3412 \def\toclevel@subsection{2}
3413 \def\toclevel@subsubsection{3}
3414 \def\toclevel@paragraph{4}
3415 \def\toclevel@subparagraph{5}
3416 \def\toclevel@figure{0}
3417 \def\toclevel@table{0}
3418 \define@key{Hyp}{bookmarks}[true]{%
3419   \Hy@boolkey{bookmarks}{#1}%
3420 }
```

```

3421 \define@key{Hyp}{bookmarksopen}[true]{%
3422   \Hy@boolkey{bookmarksopen}{#1}%
3423 }

```

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.

```

3424 \let\Hy@bookmarksdepth\c@tocdepth
3425 \define@key{Hyp}{bookmarksdepth}[]{%
3426   \begingroup
3427     \edef\x{#1}%
3428     \ifx\x\empty
3429       \global\let\Hy@bookmarksdepth\c@tocdepth
3430     \else
3431       \ifundefined{toclevel@\x}{%
3432         \@onelevel@sanitize\x
3433         \edef\y{\expandafter\@car\x\@nil}%
3434         \ifcase 0\expandafter\ifx\y-1\fi
3435           \expandafter\ifnum\expandafter`\y>47 %
3436             \expandafter\ifnum\expandafter`\y<58 1\fi\fi\relax
3437           \Hy@Warning{Unknown document division name (\x)}%
3438         \else
3439           \setbox\z@=\hbox{%
3440             \count@=\x
3441             \xdef\Hy@bookmarksdepth{\the\count@}%
3442           }%
3443         \fi
3444       }{%
3445         \setbox\z@=\hbox{%
3446           \count@=\csname toclevel@\x\endcsname
3447           \xdef\Hy@bookmarksdepth{\the\count@}%
3448         }%
3449       }%
3450     \fi
3451   \endgroup
3452 }

```

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

```

3453 \define@key{Hyp}{bookmarksopenlevel}{%
3454   \def\@bookmarksopenlevel{#1}%
3455 }
3456 \def\@bookmarksopenlevel{\maxdimen}
3457 % `bookmarkstype' to specify which `toc' file to mimic
3458 \define@key{Hyp}{bookmarkstype}{%
3459   \def\Hy@bookmarkstype{#1}%
3460 }
3461 \def\Hy@bookmarkstype{toc}

```

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

```

3462 \define@key{Hyp}{bookmarksnumbered}[true]{%
3463   \Hy@boolkey{bookmarksnumbered}{#1}%
3464 }

Option CJKbookmarks enables the patch for CJK bookmarks.
3465 \define@key{Hyp}{CJKbookmarks}[true]{%
3466   \Hy@boolkey{CJKbookmarks}{#1}%
3467 }

3468 \def\Hy@temp#1{%
3469   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3470 }
3471 \def\Hy@@temp#1#2#3{%
3472   \define@key{Hyp}{#2color}{%
3473     \HyColor@HyperrefColor{##1}#1%
3474   }%
3475   \def#1{#3}%
3476 }
3477 \Hy@temp{link}{red}
3478 \Hy@temp{anchor}{black}
3479 \Hy@temp{cite}{green}
3480 \Hy@temp{file}{cyan}
3481 \Hy@temp{url}{magenta}
3482 \Hy@temp{menu}{red}
3483 \Hy@temp{run}{\@filecolor}
3484 \define@key{Hyp}{pagecolor}{%
3485   \Hy@WarningPageColor
3486 }
3487 \def\Hy@WarningPageColor{%
3488   \Hy@WarningNoLine{Option `pagecolor' is not available anymore}%
3489   \global\let\Hy@WarningPageColor\relax
3490 }
3491 \define@key{Hyp}{allcolors}{%
3492   \HyColor@HyperrefColor{#1}\@linkcolor
3493   \HyColor@HyperrefColor{#1}\@anchorcolor
3494   \HyColor@HyperrefColor{#1}\@citecolor
3495   \HyColor@HyperrefColor{#1}\@filecolor
3496   \HyColor@HyperrefColor{#1}\@urlcolor
3497   \HyColor@HyperrefColor{#1}\@menucolor
3498   \HyColor@HyperrefColor{#1}\@runcolor
3499 }

3500 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3501 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3502 \let\@baseurl\@empty
3503 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3504 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3505 \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.

```

3506 \let\@pdfpagetransition\relax
3507 \define@key{Hyp}{pdfpagetransition}{%
3508   \def\@pdfpagetransition{#1}%
3509 }

```

`\@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.

```

3510 \let\@pdfpageduration\relax
3511 \define@key{Hyp}{pdfpageduration}{%
3512   \def\@pdfpageduration{#1}%
3513   \Hy@Match\@pdfpageduration}{%
3514     ^(|[0-9]+\.[0-9]*|[0-9]*\.[0-9]+)$%
3515   }{%
3516     \Hy@Warning{%
3517       Invalid value '\@pdfpageduration'\MessageBreak
3518       of option 'pdfpageduration'\MessageBreak
3519       is replaced by an empty value%
3520     }%
3521     \let\@pdfpageduration\@empty
3522   }%
3523 }

```

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).

```

3524 \def\Hy@ColorList{cite,file,link,menu,run,url}
3525 \@for\Hy@temp:=\Hy@ColorList\do{%
3526   \edef\Hy@temp{%
3527     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3528       \noexpand\HyColor@HyperrefBorderColor
3529       {##1}%
3530       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3531       {hyperref}%
3532       {\Hy@temp bordercolor}%
3533     }%
3534   }%
3535   \Hy@temp
3536 }
3537 \define@key{Hyp}{pagebordercolor}{%
3538   \Hy@WarningPageBorderColor
3539 }
3540 \def\Hy@WarningPageBorderColor{%
3541   \Hy@WarningNoLine{Option 'pagebordercolor' is not available anymore}%
3542   \global\let\Hy@WarningPageBorderColor\relax
3543 }
3544 \define@key{Hyp}{allbordercolors}{%

```

```

3545 \def\Hy@temp##1##2{%
3546   \HyColor@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}%
3547 }%
3548 \Hy@temp\@citebordercolor{cite}%
3549 \Hy@temp\@filebordercolor{file}%
3550 \Hy@temp\@linkbordercolor{link}%
3551 \Hy@temp\@menubordercolor{menu}%
3552 \Hy@temp\@runbordercolor{run}%
3553 \Hy@temp\@urlbordercolor{url}%
3554 }

3555 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3556 \Hy@DefNameKey{pdfhighlight}{%
3557   \do{/I}{Invert}%
3558   \do{/N}{None}%
3559   \do{/O}{Outline}%
3560   \do{/P}{Push}%
3561 }
3562 \def\Hy@setpdfhighlight{%
3563   \ifx\@pdfhighlight\@empty
3564     \else
3565       /H\@pdfhighlight
3566     \fi
3567 }
3568 \define@key{Hyp}{pdfborder}{%
3569   \let\Hy@temp\@pdfborder
3570   \def\@pdfborder{#1}%
3571   \Hy@Match\@pdfborder{}{%
3572     ^\HyPat@NonNegativeReal/ %
3573     \HyPat@NonNegativeReal/ %
3574     \HyPat@NonNegativeReal/%
3575     ( ?\[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*\])?$$%
3576   }{}{%
3577     \Hy@Warning{%
3578       Invalid value `\'@pdfborder'\MessageBreak
3579       for option `pdfborder'.\MessageBreak
3580       Option setting is ignored%
3581     }%
3582     \let\@pdfborder\Hy@temp
3583   }%
3584 }
3585 \define@key{Hyp}{pdfborderstyle}{%
3586   \let\Hy@temp\@pdfborderstyle
3587   \def\@pdfborderstyle{#1}%
3588   \Hy@Match\@pdfborderstyle{}{%
3589     ^%
3590     ( */Type */Border%
3591     | */W +\HyPat@NonNegativeReal/%
3592     | */S */[SDBIU]%
3593     | */D *[ \HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)?]?)%
3594     )* *$%
3595   }{}{%
3596     \Hy@Warning{%
3597       Invalid value `\'@pdfborderstyle'\MessageBreak
3598       for option `pdfborderstyle'.\MessageBreak

```

```

3599     Option setting is ignored%
3600 }%
3601 \let\@pdfborderstyle\Hy@temp
3602 }%
3603 }
3604 \def\Hy@setpdfborder{%
3605 \ifx\@pdfborder\@empty
3606 \else
3607 /Border[\@pdfborder]%
3608 \fi
3609 \ifx\@pdfborderstyle\@empty
3610 \else
3611 /BS<<\@pdfborderstyle>>%
3612 \fi
3613 }
3614 \Hy@DefNameKey{pdfpagemode}{%
3615 \do{UseNone}{}%
3616 \do{UseOutlines}{}%
3617 \do{UseThumbs}{}%
3618 \do{FullScreen}{}%
3619 \do{UseOC}{PDF 1.5}%
3620 \do{UseAttachments}{PDF 1.6}%
3621 }
3622 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3623 \do{UseNone}{}%
3624 \do{UseOutlines}{}%
3625 \do{UseThumbs}{}%
3626 \do{FullScreen}{}%
3627 \do{UseOC}{PDF 1.5}%
3628 \do{UseAttachments}{PDF 1.6}%
3629 }
3630 \Hy@DefNameKey{pdfdirection}{%
3631 \do{L2R}{Left to right}%
3632 \do{R2L}{Right to left}%
3633 }
3634 \Hy@DefNameKey{pdfviewarea}{%
3635 \do{MediaBox}{}%
3636 \do{CropBox}{}%
3637 \do{BleedBox}{}%
3638 \do{TrimBox}{}%
3639 \do{ArtBox}{}%
3640 }
3641 \Hy@DefNameKey{pdfviewclip}{%
3642 \do{MediaBox}{}%
3643 \do{CropBox}{}%
3644 \do{BleedBox}{}%
3645 \do{TrimBox}{}%
3646 \do{ArtBox}{}%
3647 }
3648 \Hy@DefNameKey{pdfprintarea}{%
3649 \do{MediaBox}{}%
3650 \do{CropBox}{}%
3651 \do{BleedBox}{}%
3652 \do{TrimBox}{}%

```

```

3653 \do{ArtBox}{}%
3654 }
3655 \Hy@DefNameKey{pdfprintclip}{%
3656 \do{MediaBox}{}%
3657 \do{CropBox}{}%
3658 \do{BleedBox}{}%
3659 \do{TrimBox}{}%
3660 \do{ArtBox}{}%
3661 }
3662 \Hy@DefNameKey{pdfprintscaling}{%
3663 \do{AppDefault}{}%
3664 \do{None}{}%
3665 }
3666 \Hy@DefNameKey{pdfduplex}{%
3667 \do{Simplex}{}%
3668 \do{DuplexFlipShortEdge}{}%
3669 \do{DuplexFlipLongEdge}{}%
3670 }
3671 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3672 \do{true}{}%
3673 \do{false}{}%
3674 }
3675 \define@key{Hyp}{pdfprintpagerange}{%
3676 \def\@pdfprintpagerange{#1}%
3677 }
3678 \Hy@DefNameKey{pdfnumcopies}{%
3679 \do{2}{two copies}%
3680 \do{3}{three copies}%
3681 \do{4}{four copies}%
3682 \do{5}{five copies}%
3683 }

3684 \define@key{Hyp}{pdfusetitle}[true]{%
3685 \Hy@boolkey{pdfusetitle}{#1}%
3686 }
3687 \def\HyXeTeX@CheckUnicode{%
3688 \ifxetex
3689 \ifHy@unicode
3690 \else
3691 \Hy@WarningNoLine{%
3692 XeTeX driver only supports unicode.\MessageBreak
3693 Enabling option `unicode'%
3694 }%
3695 \kvsetkeys{Hyp}{unicode}%
3696 \fi
3697 \else
3698 \let\HyXeTeX@CheckUnicode\relax
3699 \fi
3700 }
3701 \def\HyPsd@PrerenderUnicode#1{%
3702 \begingroup
3703 \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3704 \else
3705 \sbox0{%
3706 \let\GenericInfo\@gobbletwo

```

```

3707     \let\GenericWarning\@gobbletwo
3708     \let\GenericError\@gobblefour
3709     \PrerenderUnicode{#1}%
3710 }%
3711 \fi
3712 \endgroup
3713 }
3714 \define@key{Hyp}{pdftitle}{%
3715   \AddToDocumentProperties[hyperref]{pdftitle}{#1}%
3716   \HyXeTeX@CheckUnicode
3717   \HyPsd@PrerenderUnicode{#1}%
3718   \pdfstringdef\@pdftitle{#1}%
3719 }
3720 \define@key{Hyp}{pdfauthor}{%
3721   \AddToDocumentProperties[hyperref]{pdfauthor}{#1}%
3722   \HyXeTeX@CheckUnicode
3723   \HyPsd@PrerenderUnicode{#1}%
3724   \pdfstringdef\@pdfauthor{#1}%
3725 }
3726 \define@key{Hyp}{pdfproducer}{%
3727   \AddToDocumentProperties[hyperref]{pdfproducer}{#1}%
3728   \HyXeTeX@CheckUnicode
3729   \HyPsd@PrerenderUnicode{#1}%
3730   \pdfstringdef\@pdfproducer{#1}%
3731 }
3732 \define@key{Hyp}{pdfcreator}{%
3733   \AddToDocumentProperties[hyperref]{pdfcreator}{#1}%
3734   \HyXeTeX@CheckUnicode
3735   \HyPsd@PrerenderUnicode{#1}%
3736   \pdfstringdef\@pdfcreator{#1}%
3737 }
3738 \define@key{Hyp}{addtopdfcreator}{%
3739   \HyXeTeX@CheckUnicode
3740   \HyPsd@PrerenderUnicode{#1}%
3741   \pdfstringdef\@pdfcreator{\@pdfcreator, #1}%
3742 }
3743 \define@key{Hyp}{pdfcreationdate}{%
3744   \begingroup
3745     \Hy@unicodedefalse
3746     \pdfstringdef\@pdfcreationdate{#1}%
3747   \endgroup
3748 }
3749 \define@key{Hyp}{pdfmoddate}{%
3750   \begingroup
3751     \Hy@unicodedefalse
3752     \pdfstringdef\@pdfmoddate{#1}%
3753   \endgroup
3754 }
3755 \define@key{Hyp}{pdfsubject}{%
3756   \AddToDocumentProperties[hyperref]{pdfsubject}{#1}%
3757   \HyXeTeX@CheckUnicode
3758   \HyPsd@PrerenderUnicode{#1}%
3759   \pdfstringdef\@pdfsubject{#1}%
3760 }

```

```

3761 \define@key{Hyp}{pdfkeywords}{%
3762   \AddToDocumentProperties[hyperref]{pdfkeywords}{#1}%
3763   \HyXeTeX@CheckUnicode
3764   \HyPsd@PrerenderUnicode{#1}%
3765   \pdfstringdef\@pdfkeywords{#1}%
3766 }
3767 \define@key{Hyp}{pdftrapped}{%
3768   \lowercase{\edef\Hy@temp{#1}}%
3769   \ifx\Hy@temp\HyInfo@trapped@true
3770     \def\@pdftrapped{True}%
3771   \else
3772     \ifx\Hy@temp\HyInfo@trapped@false
3773       \def\@pdftrapped{False}%
3774     \else
3775       \ifx\Hy@temp\HyInfo@trapped@unknown
3776         \def\@pdftrapped{Unknown}%
3777       \else
3778         \ifx\Hy@temp\@empty
3779           \else
3780             \Hy@Warning{%
3781               Unsupported value `#1'\MessageBreak
3782               for option `pdftrapped'%
3783             }%
3784           \fi
3785         \def\@pdftrapped{}%
3786       \fi
3787     \fi
3788   \fi
3789 }
3790 \def\HyInfo@trapped@true{true}
3791 \def\HyInfo@trapped@false{false}
3792 \def\HyInfo@trapped@unknown{unknown}
3793 \def\HyInfo@TrappedUnsupported{%
3794   \ifx\@pdftrapped\@empty
3795     \else
3796       \Hy@WarningNoLine{`pdftrapped' is not supported by this driver}%
3797     \gdef\HyInfo@TrappedUnsupported{}%
3798   \fi
3799 }
3800 \define@key{Hyp}{pdfinfo}{%
3801   \kvsetkeys{pdfinfo}{#1}%
3802 }
3803 \def\Hy@temp#1{%
3804   \lowercase{\Hy@temp@A{#1}}{#1}%
3805 }
3806 \def\Hy@temp@A#1#2{%
3807   \define@key{pdfinfo}{#2}{%
3808     \hypersetup{pdf#1={##1}}%
3809   }%
3810 }
3811 \Hy@temp{Title}
3812 \Hy@temp{Author}
3813 \Hy@temp{Keywords}
3814 \Hy@temp{Subject}

```

```

3815 \Hy@temp{Creator}
3816 \Hy@temp{Producer}
3817 \Hy@temp{CreationDate}
3818 \Hy@temp{ModDate}
3819 \Hy@temp{Trapped}
3820 \newif\ifHyInfo@AddonUnsupported
3821 \kv@set@family@handler{pdfinfo}{%
3822   \HyInfo@AddonHandler{#1}{#2}%
3823 }
3824 \let\HyInfo@do\relax
3825 \def\HyInfo@AddonHandler#1#2{%
3826   \ifx\kv@value\relax
3827     \Hy@Warning{%
3828       Option `pdfinfo': ignoring key `\'kv@key' without value%
3829     }%
3830   \else
3831     \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3832     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3833     \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3834       \ifHyInfo@AddonUnsupported
3835         \Hy@Warning{%
3836           This driver does not support additional\MessageBreak
3837           information entries, therefore\MessageBreak
3838           `\'kv@key' is ignored%
3839         }%
3840       \else
3841         \def\HyInfo@tmp##1{%
3842           \kv@define@key{pdfinfo}{##1}{%
3843             \HyXeTeX@CheckUnicode
3844             \HyPsd@PrerenderUnicode{####1}%
3845             \pdfstringdef\HyInfo@Value{####1}%
3846             \global\expandafter
3847             \let\csname HyInfo@Value@##1\endcsname
3848               \HyInfo@Value
3849           }%
3850         }%
3851         \expandafter\HyInfo@tmp\expandafter{\HyInfo@Key}%
3852         \global\expandafter
3853         \let\csname KV@pdfinfo@\HyInfo@Key\expandafter\endcsname
3854           \csname KV@pdfinfo@\HyInfo@Key\endcsname
3855         \xdef\HyInfo@AddonList{%
3856           \HyInfo@AddonList
3857           \HyInfo@do{\HyInfo@Key}%
3858         }%
3859         \expandafter\kv@parse@normalized\expandafter{%
3860           \HyInfo@Key={#2}%
3861         }{%
3862           \kv@processor@default{pdfinfo}%
3863         }%
3864       \fi
3865     \else
3866       \expandafter\kv@parse@normalized\expandafter{%
3867         \HyInfo@Key={#2}%
3868       }{%

```

```

3869     \kv@processor@default{pdfinfo}%
3870   }%
3871   \fi
3872 \fi
3873 }
3874 \def\HyInfo@GenerateAddons{%
3875   \ifHyInfo@AddonUnsupported
3876     \def\HyInfo@Addons{}%
3877   \else
3878     \begingroup
3879       \toks@{}%
3880       \def\HyInfo@do##1{%
3881         \edefEscapeName\HyInfo@Key{##1}%
3882         \edef\x{%
3883           \toks@{%
3884             \the\toks@
3885             /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
3886           }%
3887         }%
3888         \x
3889       }%
3890       \HyInfo@AddonList
3891       \edef\x{\endgroup
3892         \def\noexpand\HyInfo@Addons{\the\toks@}%
3893       }%
3894       \x
3895     \fi
3896 }
3897 \global\let\HyInfo@AddonList\@empty
3898 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \}
3899 \define@key{Hyp}{pdflinkmargin}{\setpdflinkmargin{#1}}
3900 \let\setpdflinkmargin\@gobble
3901 \def\calculate@pdfview#1 #2\{%
3902   \def\@pdfview{#1}%
3903   \ifx\#2\%
3904     \def\@pdfviewparams{ -32768}%
3905   \else
3906     \def\@pdfviewparams{ #2}%
3907   \fi
3908 }
3909 \def\Hy@number#1{%
3910   \the\numexpr#1\relax
3911 }%
3912 \define@key{Hyp}{pdfstartpage}{%
3913   \ifx\#1\%
3914     \let\@pdfstartpage\@empty
3915   \else
3916     \edef\@pdfstartpage{\Hy@number{#1}}%
3917   \fi
3918 }%
3919 \define@key{Hyp}{pdfstartview}{%
3920   \ifx\#1\%
3921     \let\@pdfstartview\@empty
3922   \else

```

```

3923 \def\@pdfstartview{/#1}%
3924 \fi
3925 }
3926 \def\HyPat@NonNegativeReal/{%
3927 \ *([0-9]+\.[0-9]*|0-9*\.[0-9]+) *%
3928 }
3929 \define@key{Hyp}{pdfremotestartview}{%
3930 \ifx\#1\%
3931 \def\@pdfremotestartview{/Fit}%
3932 \else
3933 \edef\@pdfremotestartview{#1}%
3934 \Hy@Match\@pdfremotestartview{%
3935 ^XYZ(%
3936 ()| %
3937 (null|-\HyPat@NonNegativeReal/) %
3938 (null|-\HyPat@NonNegativeReal/) %
3939 (null|\HyPat@NonNegativeReal/)%
3940 )| % end of "XYZ"
3941 Fit(%
3942 ()| %
3943 B| %
3944 (H|V|BH|BV)(%
3945 ()| %
3946 (null|\HyPat@NonNegativeReal/)%
3947 )| %
3948 R %
3949 \HyPat@NonNegativeReal/ %
3950 \HyPat@NonNegativeReal/ %
3951 \HyPat@NonNegativeReal/ %
3952 \HyPat@NonNegativeReal/%
3953 ) % end of "Fit"
3954 )$%
3955 }{%
3956 \Hy@Warning{%
3957 Invalid value \@pdfremotestartview'\MessageBreak
3958 of `pdfremotestartview'\MessageBreak
3959 is replaced by `Fit'%
3960 }%
3961 \let\@pdfremotestartview\@empty
3962 }%
3963 \ifx\@pdfremotestartview\@empty
3964 \def\@pdfremotestartview{/Fit}%
3965 \else
3966 \edef\@pdfremotestartview{/ \@pdfremotestartview}%
3967 \fi
3968 \fi
3969 }
3970 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3971 \define@key{Hyp}{pdftoolbar}[true]{%
3972 \Hy@boolkey{pdftoolbar}{#1}%
3973 }
3974 \define@key{Hyp}{pdfmenubar}[true]{%
3975 \Hy@boolkey{pdfmenubar}{#1}%
3976 }

```

```

3977 \define@key{Hyp}{pdfwindowui}[true]{%
3978   \Hy@boolkey{pdfwindowui}{#1}%
3979 }
3980 \define@key{Hyp}{pdffitwindow}[true]{%
3981   \Hy@boolkey{pdffitwindow}{#1}%
3982 }
3983 \define@key{Hyp}{pdfcenterwindow}[true]{%
3984   \Hy@boolkey{pdfcenterwindow}{#1}%
3985 }
3986 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3987   \Hy@boolkey{pdfdisplaydoctitle}{#1}%
3988 }
3989 \define@key{Hyp}{pdfa}[true]{%
3990   \IfDocumentMetadataTF
3991   {
3992     \PackageWarning{hyperref}{%
3993       \string\DocumentMetadata\space detected.\MessageBreak
3994       The 'pdfa' key will be ignored.\MessageBreak
3995       Please set the PDF/A standard in \string\DocumentMetadata\MessageBreak
3996       with the 'pdfstandard' key.}
3997   }
3998   {\Hy@boolkey{pdfa}{#1}}%
3999 }
4000
4001 \define@key{Hyp}{pdfnewwindow}[true]{%
4002   \def\Hy@temp{#1}%
4003   \ifx\Hy@temp\@empty
4004     \Hy@pdfnewwindowsetfalse
4005   \else
4006     \Hy@pdfnewwindowsettrue
4007     \Hy@boolkey{pdfnewwindow}{#1}%
4008   \fi
4009 }
4010 \def\Hy@SetNewWindow{%
4011   \ifHy@pdfnewwindowset
4012     /NewWindow %
4013   \ifHy@pdfnewwindow true\else false\fi
4014   \fi
4015 }
4016 \Hy@DefNameKey{pdfpagelayout}{%
4017   \do{SinglePage}{}%
4018   \do{OneColumn}{}%
4019   \do{TwoColumnLeft}{}%
4020   \do{TwoColumnRight}{}%
4021   \do{TwoPageLeft}{PDF 1.5}%
4022   \do{TwoPageRight}{PDF 1.5}%
4023 }
4024 \define@key{Hyp}{pdflang}{%
4025   \edef\@pdflang{#1}%
4026   \def\Hy@temp{\relax}%
4027   \ifx\@pdflang\Hy@temp
4028     \let\@pdflang\relax
4029   \fi
4030   \ifx\@pdflang\relax

```

```

4031 \else
4032 \ifx\@pdflang\@empty
4033 \else

```

Test according to ABNF of RFC 3066.

```

4034 \Hy@Match\@pdflang{icase}{%
4035 ~%
4036 [a-z]{1,8}%
4037 (-[a-z0-9]{1,8})*%
4038 $%
4039 }{%

```

Test according to ABNF of RFC 5646.

```

4040 \Hy@Match\@pdflang{icase}{%
4041 ~%
4042 (%
4043 % langtag
4044 (% language
4045 [a-z]{2,3}%
4046 ([a-z]{3}(-[a-z]{3}){0,2})?% extlang
4047 |[a-z]{4}% reserved for future use
4048 |[a-z]{5,8}% registered language subtag
4049 )%
4050 (-[a-z]{4})?% script
4051 (-([a-z]{2}|[0-9]{3}))?% region
4052 (-([a-z]{5,8}|[0-9][a-z0-9]{3}))?% variant
4053 (-[0-9a-wyz](-[a-z0-9]{2,8})+)*% extension
4054 (-x(-[a-z0-9]{1,8})+)?% privateuse
4055 % privateuse
4056 |x-([a-z0-9]{1,8})+%
4057 % grandfathered/irregular
4058 |en-GB-oed%
4059 |i-(ami|bnn|default|enochian|hak|klinton|lux|%
4060 mingo|navajo|pwn|tao|tay|tsu)%
4061 |sgn-(BE-FR|BE-NL|CH-DE)%
4062 % grandfathered/regular
4063 |art-lojban%
4064 |cel-gaulish%
4065 |no-(bok|nyn)%
4066 |zh-(guoyu|hakka|min|min-nan|xiang)%
4067 )%
4068 $%
4069 }{%

```

Test for unique extensions.

```

4070 \Hy@Match{-\@pdflang}{icase}{-[a-wyz0-9]-}{%
4071 \Hy@Match\@pdflang{icase}{~x-}{%
4072 % remove privateuse
4073 \edef\Hy@temp{-\@pdflang}%
4074 \Hy@Match\Hy@temp{icase}{%
4075 ~%
4076 (%
4077 (-[a-wyz0-9]|-[a-z0-9]{2,8})*%
4078 )%
4079 -x-%

```

```

4080     }{%
4081     \edef\Hy@temp{%
4082     \expandafter\strip@prefix\pdfastmatch1%
4083     }%
4084     }{%}%
4085     \Hy@Match\Hy@temp{icase}{%
4086     (-[a-wyz0-9]-).*\@backslashchar1%
4087     }{%%
4088     \Hy@Warning{%
4089     Invalid language identifier `#1'\MessageBreak
4090     for option `pdflang', because it violates\MessageBreak
4091     well-formedness defined in RFC 4646\MessageBreak
4092     by duplicate singleton subtags%
4093     }%
4094     \let\@pdfang\relax
4095     }{%}%
4096     }%
4097     }{%}%

```

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

```

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

```

```

4133     \let\@pdflang\relax
4134 }%
4135 \fi
4136 \fi
4137 }
4138 \define@key{Hyp}{pdfpagelabels}[true]{%
4139   \Hy@boolkey{pdfpagelabels}{#1}%
4140 }
4141 \define@key{Hyp}{pdfescapeform}[true]{%
4142   \Hy@boolkey{pdfescapeform}{#1}%
4143 }
Default values:
4144 \def\@linkbordercolor{1 0 0}
4145 \def\@urlbordercolor{0 1 1}
4146 \def\@menubordercolor{1 0 0}
4147 \def\@filebordercolor{0 .5 .5}
4148 \def\@runbordercolor{0 .7 .7}
4149 \def\@citebordercolor{0 1 0}
4150 \def\@pdfhighlight{/I}
4151 \let\@pdftitle\@empty
4152 \let\@pdfauthor\@empty
4153 \let\@pdfproducer\relax
4154 \def\@pdfcreator{LaTeX with hyperref}
4155 \let\@pdfcreationdate\@empty
4156 \let\@pdfmoddate\@empty
4157 \let\@pdfsubject\@empty
4158 \let\@pdfkeywords\@empty
4159 \let\@pdftrapped\@empty
4160 \let\@pdfpagescrop\@empty
4161 \def\@pdfstartview{/Fit}
4162 \def\@pdfremotestartview{/Fit}
4163 \def\@pdfstartpage{1}
4164 \let\@pdfprintpagerange\@empty
4165 \let\@pdflang\relax
4166 \let\PDF@SetupDoc\@empty
4167 \let\PDF@FinishDoc\@empty
4168 \let\phantomsection\@empty
4169 \let\special@paper\@empty
4170 \def\HyperDestNameFilter#1{#1}
4171 \Hy@AtBeginDocument{%
4172   \begingroup
4173     \edef\x{\ifdim\stockheight>\z@ \stockheight\else\paperheight\fi}%
4174     \dimen@=\x\relax
4175     \ifdim\dimen@>\z@
4176     \else
4177       \dimen@=11in\relax
4178       \Hy@WarningNoLine{%
4179         Height of page (\expandafter\string\x) %
4180         is invalid (\the\x),\MessageBreak
4181         using 11in%
4182       }%
4183     \fi
4184     \dimen@=0.99626401\dimen@
4185     \xdef\Hy@pageheight{\strip@pt\dimen@}%

```

```

4186 \endgroup
4187 }
4188 \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.

```

4189 \let\hyper@normalise\ExecuteOptions
4190 \let\ExecuteOptions\hypersetup
4191 \Hy@RestoreCatcodes
4192 \InputIfFileExists{hyperref.cfg}{}{}
4193 \Hy@SetCatcodes
4194 \let\ExecuteOptions\hyper@normalise
4195 \ifx\Hy@MaybeStopNow\relax
4196 \else
4197 \Hy@stoppedearlytrue
4198 \expandafter\Hy@MaybeStopNow
4199 \fi
4200 \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.

```

4201 \SetupKeyvalOptions{family=Hyp}
4202 \DeclareLocalOptions{%
4203   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4204 }

```

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

```

4205 \@ifpackagewith{hyperref}{tex4ht}{%
4206 }{%
4207   \@ifpackageloaded{tex4ht}{%
4208     \PassOptionsToPackage{tex4ht}{hyperref}%
4209   }{%
4210     \@ifundefined{HCode}{%
4211     }{%
4212       \begingroup
4213       \def\Hy@pkg{tex4ht}%
4214       \def\Hy@temp@A#1\RequirePackage[#2]#3#4\Hy@NIL{%
4215         \def\Hy@param{#2#3}%
4216         \ifx\Hy@param\@empty
4217           \expandafter\@gobble
4218         \else
4219           \def\Hy@param{#3}%
4220           \ifx\Hy@param\Hy@pkg
4221             \PassOptionsToPackage{#2}{tex4ht}%
4222             \expandafter\expandafter\expandafter\@gobble
4223           \else
4224             \expandafter\expandafter\expandafter\@firstofone
4225           \fi
4226         \fi
4227         {\Hy@temp@A#4\Hy@NIL}%
4228       }%
4229       \expandafter
4230       \Hy@temp@A\@documentclasshook\RequirePackage[]{}\Hy@NIL
4231     \endgroup

```

```

4232 \PassOptionsToPackage{tex4ht}{hyperref}%
4233 }%
4234 }%
4235 }

4236 \let\ReadBookmarks\relax
4237 \ProcessKeyvalOptions{Hyp}

```

After processing options.

15.1 Package xspace support

```

4238 \def\Hy@xspace@end{}
4239 \@ifundefined{xspaceaddexceptions}{%
4240 \Hy@AtBeginDocument{%
4241 \@ifundefined{xspaceaddexceptions}{%
4242 }{%
4243 \def\Hy@xspace@end{%
4244 \@gobble{end for xspace}%
4245 }%
4246 \xspaceaddexceptions{%
4247 \Hy@xspace@end,\hyper@linkend,\hyper@anchorend
4248 }%
4249 }%
4250 }%
4251 }{%
4252 \def\Hy@xspace@end{%
4253 \@gobble{end for xspace}%
4254 }%
4255 \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4256 }

```

15.2 Option draft

```

4257 \Hy@AtBeginDocument{%
4258 \ifHy@draft
4259 \let\hyper@@anchor\@gobble
4260 \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%
4261 \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4262 \def\hyper@anchorend{\Hy@xspace@end}%
4263 \let\hyper@linkstart\@gobbletwo
4264 \def\hyper@linkend{\Hy@xspace@end}%
4265 \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4266 \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4267 \def\hyper@link@[#1]#2#3#4{#4\Hy@xspace@end}%
4268 \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%
4269 \let\PDF@SetupDoc\@empty
4270 \let\PDF@FinishDoc\@empty
4271 \let\ReadBookmarks\relax
4272 \let\WriteBookmarks\relax
4273 \Hy@WarningNoLine{Draft mode on}%
4274 \fi
4275 \Hy@DisableOption{draft}%
4276 \Hy@DisableOption{nolinks}%
4277 \Hy@DisableOption{final}%
4278 }

```

15.3 PDF/A

If an A-standard has been set in `\DocumentMetadata` `hyperref` should set the `pdfa` key too.

```
4279 \ExplSyntaxOn
4280 \IfDocumentMetadataT
4281 {
4282   \tl_if_empty:eTF{\GetDocumentProperties{document/pdfstandard}}
4283   {
4284     \Hy@pdfafalse
4285   }
4286   {
4287     \Hy@pdfatrue
4288   }
4289 }
4290 \ExplSyntaxOff
4291 \Hy@DisableOption{pdfa}
4292 \ifHy@pdfa
4293   \ifnum \Hy@pdf@major@minor@version < 104
4294     \kvsetkeys{Hyp}{pdfversion=1.4}%
4295   \fi
4296   \Hy@DisableOption{pdfversion}%
4297   \def\Hy@Acrobatmenu#1#2{%
4298     \leavevmode
4299     \begingroup
4300     \edef\x{#1}%
4301     \@onelevel@sanitize\x
4302     \ifx\x\Hy@NextPage
4303       \let\y=Y%
4304     \else
4305       \ifx\x\Hy@PrevPage
4306         \let\y=Y%
4307       \else
4308         \ifx\x\Hy@FirstPage
4309           \let\y=Y%
4310         \else
4311           \ifx\x\Hy@LastPage
4312             \let\y=Y%
4313           \else
4314             \let\y=N%
4315           \fi
4316         \fi
4317       \fi
4318     \fi
4319     \expandafter\endgroup
4320     \ifx\y Y%
4321     \else
4322       \Hy@Error{%
4323         PDF/A: Named action `#1' is not permitted%
4324       }\@ehc
4325       {#2}%
4326       \expandafter\@gobble
4327     \fi
4328   }%
```

```

4329 \def\Hy@temp#1{%
4330   \expandafter\def\csname Hy@#1\endcsname{#1}%
4331   \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4332 }%
4333 \Hy@temp{NextPage}%
4334 \Hy@temp{PrevPage}%
4335 \Hy@temp{FirstPage}%
4336 \Hy@temp{LastPage}%
4337 \else
4338   \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4339 \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.

```

4340 \def\Hy@wrapper@babel#1#2{%
4341   \begingroup
4342   \Hy@safe@activestrue
4343   \set@display@protect
4344   \edef\x{#2}%
4345   \@onelevel@sanitize\x
4346   \toks@{#1}%
4347   \edef\x{\endgroup\the\toks@{\x}}%
4348   \x
4349 }
4350 \def\Hy@WrapperDef#1{%
4351   \begingroup
4352   \escapechar=\m@ne
4353   \xdef\Hy@gtemp{%
4354     \expandafter\noexpand\csname HyWrap@string#1\endcsname
4355   }%
4356   \endgroup
4357   \edef#1{%
4358     \noexpand\Hy@wrapper@babel
4359     \expandafter\noexpand\Hy@gtemp
4360   }%
4361   \expandafter\def\Hy@gtemp
4362 }
4363 \ifHy@hyperfigures
4364   \Hy@Info{Hyper figures ON}%
4365 \else
4366   \Hy@Info{Hyper figures OFF}%
4367 \fi
4368 \ifHy@nesting
4369   \Hy@Info{Link nesting ON}%
4370 \else
4371   \Hy@Info{Link nesting OFF}%
4372 \fi
4373 \ifHy@hyperindex

```

```

4374 \Hy@Info{Hyper index ON}%
4375 \else
4376 \Hy@Info{Hyper index OFF}%
4377 \fi
4378 \ifHy@plainpages
4379 \Hy@Info{Plain pages ON}%
4380 \else
4381 \Hy@Info{Plain pages OFF}%
4382 \fi
4383 \ifHy@backref
4384 \Hy@Info{Backreferencing ON}%
4385 \else
4386 \Hy@Info{Backreferencing OFF}%
4387 \fi
4388 \ifHy@implicit
4389 \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4390 \else
4391 \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4392 \def\MaybeStopEarly{%
4393   \Hy@Message{Stopped early}%
4394   \Hy@AtBeginDocument{%
4395     \PDF@FinishDoc
4396     \gdef\PDF@FinishDoc{}}%
4397   }%
4398 \endinput
4399 }%
4400 \Hy@AtBeginDocument{%
4401   \let\autoref\ref
4402   \let\autopageref\pageref
4403   \ifx\@pdfpagemode\@empty
4404     \gdef\@pdfpagemode{UseNone}%
4405   \fi
4406   \global\Hy@backreffalse
4407 }%
4408 \Hy@AtEndOfPackage{%
4409   \global\let\ReadBookmarks\relax
4410   \global\let\WriteBookmarks\relax
4411 }%
4412 \fi
4413 \Hy@DisableOption{implicit}

```

15.4.1 Driver loading

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

```

4414 \@ifundefined{stockwidth}{\newdimen\stockwidth}{}
4415 \@ifundefined{stockheight}{\newdimen\stockheight}{}

4416 \Hy@AtEndOfPackage{%
4417   \@ifpackageloaded{tex4ht}{%
4418     \def\Hy@driver{htex4ht}%
4419     \Hy@texhttrue
4420   }{}%

```

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.

```

4421 \ifx\Hy@driver\@empty
4422 \else
4423   \ifx\pdfextension\@undefined
4424     \def\Hy@temp{hpdfTeX}%
4425   \else
4426     \def\Hy@temp{hluatex}%
4427   \fi
4428 \ifpdf
4429   \ifx\Hy@driver\Hy@temp
4430   \else
4431     \Hy@WarningNoLine{%
4432       Wrong driver ``\Hy@driver.def';\MessageBreak
4433       pdfTeX is running in PDF mode.\MessageBreak
4434       Forcing driver ``\Hy@temp.def'%
4435     }%
4436     \let\Hy@driver\Hy@temp
4437   \fi
4438 \else
4439   \ifx\Hy@driver\Hy@temp
4440     \Hy@WarningNoLine{%
4441       Wrong driver ``\Hy@driver.def';\MessageBreak
4442       pdfTeX is not running in PDF mode.\MessageBreak
4443       Using default driver%
4444     }%
4445     \let\Hy@driver\@empty
4446   \fi
4447 \fi
4448 \fi
4449 \ifHy@texht
4450 \else
4451   \ifx\Hy@driver\@empty
4452   \else
4453     \def\Hy@temp{hxetex}%
4454   \ifxetex
4455     \ifx\Hy@driver\Hy@temp
4456     \else
4457       \Hy@WarningNoLine{%
4458         Wrong driver ``\Hy@driver.def';\MessageBreak
4459         XeTeX is running.\MessageBreak
4460         Forcing driver ``\Hy@temp.def' for XeTeX%
4461       }%
4462       \let\Hy@driver\Hy@temp
4463     \fi
4464   \fi
4465 \fi
4466 \fi
4467 \ifx\Hy@driver\@empty
4468 \else
4469   \def\Hy@temp{hhitex}%
4470 \ifhint
4471   \ifx\Hy@driver\Hy@temp
4472   \else
4473     \Hy@WarningNoLine{%
4474       Wrong driver ``\Hy@driver.def';\MessageBreak

```

```

4475         hitex is running.\MessageBreak
4476         Forcing driver ``\Hy@temp.def'%
4477     }%
4478     \let\Hy@driver\Hy@temp
4479 \fi
4480 \fi
4481 \fi
4482 \ifx\Hy@driver\@empty
4483 \else
4484     \def\Hy@temp{hvtexhtm}%
4485     \ifnum\ifvtex\OpMode\else\m@ne\fi=10 %
4486     \ifx\Hy@driver\Hy@temp
4487     \else
4488         \Hy@WarningNoLine{%
4489             Wrong driver ``\Hy@driver.def';\MessageBreak
4490             VTeX is running in HTML mode.\MessageBreak
4491             Forcing driver ``\Hy@temp.def'%
4492         }%
4493         \let\Hy@driver\Hy@temp
4494     \fi
4495 \else
4496     \ifx\Hy@driver\Hy@temp
4497     \Hy@WarningNoLine{%
4498         Wrong driver ``\Hy@driver.def';\MessageBreak
4499         VTeX is not running in HTML mode.\MessageBreak
4500         Using default driver%
4501     }%
4502     \let\Hy@driver\@empty
4503 \fi
4504 \fi
4505 \fi

```

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

```

4506 \let\HyOpt@DriverType\@empty
4507 \ifx\HyOpt@CustomDriver\@empty
4508 \ifx\Hy@driver\@empty
4509     \def\HyOpt@DriverType{ (autodetected)}%
4510     \providecommand*{\Hy@defaultdriver}{hdvips}%
4511     \ifpdf
4512         \ifx\pdfextension\@undefined
4513         \def\Hy@driver{hpdfTeX}%
4514         \else
4515         \def\Hy@driver{hluatex}%
4516         \fi
4517     \else
4518     \ifxetex
4519         \def\Hy@driver{hxetex}%
4520     \else
4521         \ifnum\ifvtex\OpMode\else\m@ne\fi=10 %
4522         \def\Hy@driver{hvtexhtm}%
4523         \def\MaybeStopEarly{%
4524             \Hy@Message{Stopped early}%
4525             \Hy@AtBeginDocument{%
4526                 \PDF@FinishDoc
4527                 \gdef\PDF@FinishDoc{}%

```

```

4528     }%
4529     \endinput
4530 }%
4531 \else
4532   \ifhint
4533     \def\Hy@driver{hhitex}
4534   \else
4535     \ifnum\ifvtex\OpMode\else\m@ne\fi=\@ne
4536     \def\Hy@driver{hvtex}%
4537   \else
4538     \ifnum\ifvtex\OpMode\else\m@ne\fi=\tw@
4539     \def\Hy@driver{hvtex}%
4540   \else
4541     \ifx\HyOpt@DriverFallback\@empty
4542       \let\Hy@driver\Hy@defaultdriver
4543       \def\HyOpt@DriverType{ (default)}%
4544     \else
4545       \begingroup
4546       \toks@\expandafter{\HyOpt@DriverFallback}%
4547       \edef\x{\endgroup
4548         \noexpand\kvsetkeys{Hyp}{\the\toks@}}%
4549       }%
4550       \x
4551       \ifx\Hy@driver\@empty
4552         \let\Hy@driver\Hy@defaultdriver
4553         \def\HyOpt@DriverType{ (default)}%
4554       \else
4555         \def\HyOpt@DriverType{ (fallback)}%
4556       \fi
4557     \fi
4558   \fi
4559 \fi
4560 \fi
4561 \fi
4562 \fi
4563 \fi
4564 \ifx\Hy@driver\Hy@defaultdriver
4565   \def\Hy@temp{hdwind}%
4566   \ifx\Hy@temp\Hy@driver
4567     \kvsetkeys{Hyp}{colorlinks}%
4568     \PassOptionsToPackage{dviwindo}{color}%
4569   \fi
4570 \fi
4571 \fi
4572 \else
4573   \def\HyOpt@DriverType{ (custom)}%
4574   \let\Hy@driver\HyOpt@CustomDriver
4575 \fi
4576 \Hy@InfoNoLine{Driver\HyOpt@DriverType: \Hy@driver}%
4577 \chardef\Hy@VersionChecked=0 %
4578 \input{\Hy@driver.def}%
4579 \ifcase\Hy@VersionChecked
4580   \Hy@VersionCheck{\Hy@driver.def}%
4581 \fi

```

```

4582 \let\@unprocessedoptions\relax
4583 \Hy@RestoreCatcodes
4584 \Hy@DisableOption{tex4ht}%
4585 \Hy@DisableOption{pdftex}%
4586 \Hy@DisableOption{nativepdf}%
4587 \Hy@DisableOption{dvipdfm}%
4588 \Hy@DisableOption{dvipdfmx}%
4589 \Hy@DisableOption{dvipdfmx-outline-open}%
4590 \Hy@DisableOption{pdfmark}%
4591 \Hy@DisableOption{dvips}%
4592 \Hy@DisableOption{hypertext}%
4593 \Hy@DisableOption{vtex}%
4594 \Hy@DisableOption{vtexpdfmark}%
4595 \Hy@DisableOption{dviwindo}%
4596 \Hy@DisableOption{dvipsone}%
4597 \Hy@DisableOption{textures}%
4598 \Hy@DisableOption{latex2html}%
4599 \Hy@DisableOption{ps2pdf}%
4600 \Hy@DisableOption{xetex}%
4601 \Hy@DisableOption{driverfallback}%
4602 \Hy@DisableOption{customdriver}%
4603 \Hy@DisableOption{pdfversion}%
4604 }

```

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.

```

4605 \newif\ifHy@DvipdfmxOutlineOpen
4606 \ifxetex
4607   \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4608   \else
4609     \chardef\SpecialDvipdfmxOutlineOpen\@ne
4610     \Hy@DvipdfmxOutlineOpenttrue
4611   \fi
4612 \fi
4613 \begingroup\expandafter\expandafter\expandafter\endgroup
4614 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4615 \else
4616   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4617     \Hy@DvipdfmxOutlineOpenttrue
4618   \fi
4619 \fi

```

15.4.2 Bookmarks

```

4620 \def\WriteBookmarks{0}
4621 \def\@bookmarkopenstatus#1{%
4622   \ifHy@bookmarksopen

```

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

```

4623   \ifnum#1<\expandafter\@firstofone\expandafter
4624     {\number\@bookmarkopenlevel} % explicit space
4625   \else
4626     -%

```

```

4627 \fi
4628 \else
4629 -%
4630 \fi
4631 }
4632 \ifHy@bookmarks
4633 \Hy@Info{Bookmarks ON}%
4634 \ifx\@pdfpagemode\@empty
4635 \def\@pdfpagemode{UseOutlines}%
4636 \fi
4637 \else
4638 \let\@bookmarkopenstatus\@gobble
4639 \Hy@Info{Bookmarks OFF}%
4640 \Hy@AtEndOfPackage{%
4641 \global\let\ReadBookmarks\relax
4642 \global\let\WriteBookmarks\relax
4643 }%
4644 \ifx\@pdfpagemode\@empty
4645 \def\@pdfpagemode{UseNone}%
4646 \fi
4647 \fi
4648 \Hy@DisableOption{bookmarks}

```

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

```

4649 \def\Hy@CatcodeWrapper#1{%
4650 \let\Hy@endWrap\@empty
4651 \def\TMP@EnsureCode##1##2{%
4652 \edef\Hy@endWrap{%
4653 \Hy@endWrap
4654 \catcode##1 \the\catcode##1\relax
4655 }%
4656 \catcode##1 ##2\relax
4657 }%
4658 \TMP@EnsureCode{10}{12}% ^^J
4659 \TMP@EnsureCode{33}{12}% !
4660 \TMP@EnsureCode{34}{12}% "
4661 \TMP@EnsureCode{36}{3}% $ (math)
4662 \TMP@EnsureCode{38}{4}% & (alignment)
4663 \TMP@EnsureCode{39}{12}% '
4664 \TMP@EnsureCode{40}{12}% (
4665 \TMP@EnsureCode{41}{12}% )
4666 \TMP@EnsureCode{42}{12}% *
4667 \TMP@EnsureCode{43}{12}% +
4668 \TMP@EnsureCode{44}{12}% ,
4669 \TMP@EnsureCode{45}{12}% -
4670 \TMP@EnsureCode{46}{12}% .
4671 \TMP@EnsureCode{47}{12}% /
4672 \TMP@EnsureCode{58}{12}% :
4673 \TMP@EnsureCode{59}{12}% ;
4674 \TMP@EnsureCode{60}{12}% <
4675 \TMP@EnsureCode{61}{12}% =
4676 \TMP@EnsureCode{62}{12}% >
4677 \TMP@EnsureCode{63}{12}% ?
4678 \TMP@EnsureCode{91}{12}% [
4679 \TMP@EnsureCode{93}{12}% ]

```

```

4680 \TMP@EnsureCode{94}{7}% ^ (superscript)
4681 \TMP@EnsureCode{95}{8}% _ (subscript)
4682 \TMP@EnsureCode{96}{12}% `
4683 \TMP@EnsureCode{124}{12}% |
4684 \TMP@EnsureCode{126}{13}% ~ (active)
4685 #1\relax
4686 \Hy@EndWrap
4687 }

```

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

```

4688 \Hy@AtBeginDocument{%
4689 \ifHy@ocgcolorlinks
4690 \kvsetkeys{Hyp}{colorlinks}%
4691 \ifHy@pdfa
4692 \Hy@Warning{%
4693 PDF/A: Optional Content Groups are prohibited,\MessageBreak
4694 using `colorlinks' instead of `ocgcolorlinks'%
4695 }%
4696 \Hy@ocgcolorlinksfalse
4697 \fi
4698 \fi
4699 \ifHy@ocgcolorlinks
4700 \else
4701 \Hy@DisableOption{ocgcolorlinks}%
4702 \fi
4703 \ifHy@colorlinks
4704 \def\@pdfborder{0 0 0}%
4705 \let\@pdfborderstyle\@empty
4706 \Hy@CatcodeWrapper{%
4707 \RequirePackage{color}%
4708 }%
4709 \def\Hy@colorlink#1{%
4710 \begingroup
4711 \HyColor@UseColor#1%
4712 }%
4713 \def\Hy@endcolorlink{\endgroup}%
4714 \Hy@Info{Link coloring ON}%
4715 \else
4716 \ifHy@frenchlinks
4717 \def\Hy@colorlink#1{\begingroup\fontshape{\scdefault}\selectfont}%
4718 \def\Hy@endcolorlink{\endgroup}%
4719 \Hy@Info{French linking ON}%
4720 \else

```

for grouping consistency:

```

4721 \def\Hy@colorlink#1{\begingroup}%
4722 \def\Hy@endcolorlink{\endgroup}%
4723 \Hy@Info{Link coloring OFF}%
4724 \fi
4725 \fi
4726 \Hy@DisableOption{colorlinks}%
4727 \Hy@DisableOption{frenchlinks}%
4728 \ifHy@texht
4729 \else

```

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

```

4730 \ifHy@implicit
4731 \let \T@Ref\HyRef@Ref
4732 \def \@refstar#1{%
4733 \NR@ref@showkeys{#1}%
4734 \HyRef@StarSetRef{#1}\@firstoffive
4735 }
4736 \def \@pagerefstar#1{%
4737 \NR@ref@showkeys{#1}%
4738 \HyRef@StarSetRef{#1}\@secondoffive
4739 }
4740 \def \@namerefstar#1{%
4741 \NR@ref@showkeys{#1}%
4742 \HyRef@StarSetRef{#1}\@thirdoffive
4743 }
4744 \def \@Refstar#1{%
4745 \NR@ref@showkeys{#1}%
4746 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
4747 }%
4748 \else
4749 \fi
4750 \fi
4751 }
4752 \Hy@AtBeginDocument{%
4753 \ifx\ReadBookmarks\relax
4754 \else
4755 \Hy@CatcodeWrapper\ReadBookmarks
4756 \fi
4757 }
4758 \ifHy@backref
4759 \RequirePackage{backref}%
4760 \else
4761 \let\Hy@backout\@gobble
4762 \fi
4763 \Hy@DisableOption{backref}
4764 \Hy@DisableOption{pagebackref}
4765 \Hy@activeanchorfalse

```

16 User hypertext macros

We need to normalise all user commands taking a URL argument; Within the argument the following special definitions apply: \#, \%, ~ produce #, %, ~ respectively. for consistency \~ produces ~ as well. At the *top level only* ie not within the argument of another command, you can use # and % unescaped, to produce themselves. even if, say, # is entered as # it will be converted to \# so it does not die if written to an aux file etc. \# will write as # locally while making \specials. The catcode : is set to other to avoid problems with expl3 syntax.

```

4766 \begingroup
4767 \endlinechar=-1 %
4768 \catcode`\^^A=14 %
4769 \catcode`\^^M\active
4770 \catcode`\%\active

```

```

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

```

```

4825 \else
4826 \Hy@ReturnAfterFi{^^A
4827 \Hy@RemovePercentCr #2\@nil
4828 }^^A
4829 \fi
4830 }^^A
4831 \endgroup
4832 \providecommand*\hyper@chars{%
4833 \let\#\hyper@hash
4834 \let\%\@percentchar
4835 \Hy@safe@activetrue
4836 }

4837 \def\hyperlink#1#2{%
4838 \hyper@@link\{#\1\}{#2}%
4839 }

4840 \def\Hy@VerboseLinkStart#1#2{%
4841 \ifHy@verbose
4842 \begingroup
4843 \Hy@safe@activetrue
4844 \xdef\Hy@VerboseGlobalTemp{(#1) `#2'}%
4845 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4846 \xdef\Hy@VerboseGlobalTemp{%
4847 \Hy@VerboseGlobalTemp, %
4848 line \the\inputlineno
4849 }%
4850 \endgroup
4851 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4852 \@onelevel@sanitize\Hy@VerboseLinkInfo
4853 \fi
4854 }

4855 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4856 \def\Hy@VerboseLinkStop{%
4857 \ifHy@verbose
4858 \begingroup
4859 \edef\x{\endgroup
4860 \write\m@ne{%
4861 Package `hyperref' Info: %
4862 End of reference \Hy@VerboseLinkInfo.%
4863 }%
4864 }%
4865 \x
4866 \fi
4867 }

4868 \def\Hy@VerboseAnchor#1{%
4869 \ifHy@verbose
4870 \begingroup
4871 \Hy@safe@activetrue
4872 \Hy@Info{Anchor `HyperDestNameFilter{#1}'}%
4873 \endgroup
4874 \fi
4875 }

4876 \def\Hy@AllowHyphens{%

```

```

4877 \relax
4878 \ifhmode
4879 \penalty\@M
4880 \hskip\z@skip
4881 \fi
4882 }

4883 \DeclareRobustCommand*\href[1][]{%
4884 \begingroup
4885 \setkeys{href}{#1}%
4886 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4887 }
4888 \def\Hy@href#{%
4889 \hyper@normalise\href@
4890 }
4891 \begingroup
4892 \catcode`\$=6 %
4893 \catcode`\#=12 %
4894 \gdef\href$1{\expandafter\href@split$1##\}%
4895 \gdef\href@split$1#\$2#\$3\\$4{%
4896 \hyper@@link{$1}{$2}{$3}\\$4}%
4897 \endgroup
4898 }%
4899 \endgroup

```

Option ‘page’.

```

4900 \define@key{href}{page}{%
4901 \def\Hy@href@page{#1}%
4902 }
4903 \let\Hy@href@page\@empty
4904 \newcount\c@Hy@tempcnt
4905 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4906 \def\Hy@MakeRemoteAction{%
4907 \ifx\Hy@href@page\@empty
4908 \def\Hy@href@page{0}%
4909 \else
4910 \setcounter{Hy@tempcnt}{\Hy@href@page}%
4911 \ifnum\c@Hy@tempcnt<\@ne
4912 \Hy@Warning{%
4913 Invalid page number (\theHy@tempcnt)\MessageBreak
4914 for remote PDF file.\MessageBreak
4915 Using page 1%
4916 }%
4917 \def\Hy@href@page{0}%
4918 \else
4919 \global\advance\c@Hy@tempcnt\m@ne
4920 \edef\Hy@href@page{\theHy@tempcnt}%
4921 \fi
4922 \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.

```

4923 \ifx\Hy@href@nextactionraw\@empty
4924 \else
4925 \Hy@pdfnewwindowsettrue

```

```

4926 \Hy@pdfnewwindowtrue
4927 \fi
4928 }

```

Option ‘pdfremotestartview’.

```

4929 \define@key{href}{pdfremotestartview}{%
4930 \setkeys{Hyp}{pdfremotestartview={#1}}}%
4931 }

```

Option ‘pdfnewwindow’.

```

4932 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
4933 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default

```

Option ‘ismap’.

```

4934 \newif\ifHy@href@ismap
4935 \define@key{href}{ismap}[true]{%
4936 \@ifundefined{Hy@href@ismap#1}{%
4937 \Hy@Error{%
4938 Invalid value (#1) for key `ismap'.\MessageBreak
4939 Permitted values are `true' or `false'.\MessageBreak
4940 Ignoring `ismap'%
4941 }\@ehc
4942 }{%
4943 \csname Hy@href@ismap#1\endcsname
4944 }%
4945 }

```

Option ‘nextactionraw’.

```

4946 \let\Hy@href@nextactionraw\@empty
4947 \define@key{href}{nextactionraw}{%
4948 \edef\Hy@href@nextactionraw{#1}%
4949 \ifx\Hy@href@nextactionraw\@empty
4950 \else
4951 \Hy@Match\Hy@href@nextactionraw{%
4952 ~(\HyPat@ObjRef/|<<.*[/|/|.++>>|
4953 \[( ?\HyPat@ObjRef/|<<.*[/|/|.++>>)+ ?)]$%
4954 }{%
4955 \Hy@Warning{Invalid value for `nextactionraw':\MessageBreak
4956 \Hy@href@nextactionraw\MessageBreak
4957 The action is discarded%
4958 }%
4959 }%
4960 \ifx\Hy@href@nextactionraw\@empty
4961 \else
4962 \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
4963 \fi
4964 \fi
4965 }
4966 \def\HyPat@ObjRef/{.+.}

```

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

```

4967 \RequirePackage{url}
4968 \let\HyOrg@url\url
4969 \def\Hurl{\begingroup \Url}
4970 \DeclareRobustCommand*{\nolinkurl}{\hyper@normalise\nolinkurl@}
4971 \def\nolinkurl@#1{\Hurl{#1}}

```

```

4972 \DeclareRobustCommand*\url{\hyper@normalise\url@}
4973 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

4974 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
4975 \providecommand\hyper@image[2]{#2}

4976 \def\hypertarget#1#2{%
4977   \ifHy@nesting
4978     \hyper@@anchor{#1}{#2}%
4979   \else
4980     \hyper@@anchor{#1}{\relax}#2%
4981   \fi
4982 }

```

`\hyperref` is more complicated, as it includes the concept of a category of link, used to make the name. This is not really used in this package. `\hyperdef` sets up an anchor in the same way. They each have three parameters of category, linkname, and marked text, and `\hyperref` also has a first parameter of URL. If there is an optional first parameter to `\hyperdef`, it is the name of a \LaTeX label which can be used in a short form of `\hyperref` later, to avoid remembering the name and category.

```

4983 \DeclareRobustCommand*\hyperref{%
4984   \@ifnextchar{\Hy@babelnormalise\label@hyperref}\@hyperref
4985 }
4986 \def\Hy@babelnormalise#1[#2]{%
4987   \begingroup
4988     \Hy@safe@activestrue
4989     \let\protect\@unexpandable@protect
4990     \edef\Hy@tempa{%
4991       \endgroup
4992       \noexpand#1[#2]}%
4993   }%
4994   \Hy@tempa
4995 }
4996 \def\@hyperref{\hyper@normalise\@hyperref}
4997 \def\@hyperref#1#2#3{%
4998   \edef\ref@one{\ifx\\#2\\ \else#2.\fi#3}%
4999   \expandafter\tryhyper@link\ref@one\{#1}%
5000 }
5001 \def\tryhyper@link#1\\#2{%
5002   \hyper@@link{#2}{#1}%
5003 }

5004 \def\hyperdef{\@ifnextchar{\label@hyperdef}\@hyperdef}
5005 \def\@hyperdef#1#2#3{%, category, name, text
5006   \ifx\\#1\\%
5007     \def\Hy@AnchorName{#2}%
5008   \else
5009     \def\Hy@AnchorName{#1.#2}%
5010   \fi
5011   \ifHy@nesting
5012     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
5013   \else
5014     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
5015   \fi
5016 }

```

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.

```

5017 \let\hyperrefundefinedlink\@firstofone
5018 \def\label@hyperref[#1]{%
5019   \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
5020 }%
5021 \def\label@@hyperref#1#2#3{%
5022   \ifx#1\relax
5023     \protect\G@refundefinedtrue
5024     \@latex@warning{%
5025       Hyper reference `#2' on page \thepage \space undefined%
5026     }%
5027     \begingroup
5028       \hyperrefundefinedlink{#3}%
5029     \endgroup
5030   \else
5031     \hyper@@link{\expandafter\@fifthoffive#1}%
5032     {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
5033   \fi
5034 }
5035 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
5036                               % anchor text
5037   \@bsphack
5038   \ifx\#2\%
5039     \def\Hy@AnchorName{#3}%
5040   \else
5041     \def\Hy@AnchorName{#2.#3}%
5042   \fi
5043   \if@filesw
5044     \protected@write\@auxout{}{%
5045       \string\newlabel{#1}{\{ }\}{\{ }\}{\Hy@AnchorName}\{ }\}%
5046     }%
5047   \fi
5048   \@esphack
5049   \ifHy@nesting
5050     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
5051   \else
5052     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}{#4}%
5053   \fi
5054 }

```

`\hyperget` To create manually bookmarks one need the destination name. 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`

```

5055 \ExplSyntaxOn
5056 \cs_new:Npn \hyperget #1 #2
5057 {
5058   \use:c { __hyp_get_#1:n } { #2}

```

```

5059 }
5060
5061 \cs_new:Npn \__hyp_get_anchor:n #1
5062 {
5063   \HyperDestNameFilter
5064   {
5065     \cs_if_exist:cTF {r@#1}
5066     {
5067       \tl_item:cn {r@#1}{4}
5068     }
5069     {
5070       Doc-Start
5071     }
5072   }
5073 }
5074 \cs_new:Npn \__hyp_get_pageanchor:n #1
5075 {
5076   \HyperDestNameFilter
5077   {
5078     \cs_if_exist:cTF {r@#1}
5079     {
5080       page. \tl_item:cn {r@#1}{2}
5081     }
5082     {
5083       Doc-Start
5084     }
5085   }
5086 }
5087 \cs_new:Npn \__hyp_get_currentanchor:n #1
5088 {
5089   \HyperDestNameFilter { \@currentHref }
5090 }
5091 \ExplSyntaxOff

```

16.1 Link box support for XeTeX

```

5092 \newdimen\XeTeXLinkMargin
5093 \setlength{\XeTeXLinkMargin}{2pt}
5094 \ifxetex
5095   \font\XeTeXLink@font=pzdr at 1sp\relax
5096   \newcommand*{\XeTeXLink@space}{%
5097     \begingroup
5098       \XeTeXLink@font
5099       \@xxxii
5100     \endgroup
5101   }%
5102   \newcommand{\XeTeXLinkBox}[1]{%
5103     \begingroup
5104       \leavevmode
5105       \sbox\z@{#1}%
5106     \begingroup
5107       \dimen@=\dp\z@
5108       \advance\dimen@\XeTeXLinkMargin
5109       \setbox\tw@=\llap{%

```

```

5110      \hb@xt@\XeTeXLinkMargin{%
5111      \lower\dimen@\hbox{\XeTeXLink@space}%
5112      \hss
5113      }%
5114      }%
5115      \dp\tw@=\dp\z@
5116      \ht\tw@=\ht\z@
5117      \copy\tw@
5118      \endgroup
5119      \copy\z@
5120      \dimen@=\ht\z@
5121      \advance\dimen@\XeTeXLinkMargin
5122      \setbox\tw@=\rlap{%
5123      \hb@xt@\XeTeXLinkMargin{%
5124      \hss
5125      \raise\dimen@\hbox{\XeTeXLink@space}%
5126      }%
5127      }%
5128      \dp\tw@=\dp\z@
5129      \ht\tw@=\ht\z@
5130      \copy\tw@
5131      \endgroup
5132      }%
5133      \else
5134      \newcommand*\XeTeXLinkBox[1]{%
5135      \begingroup
5136      \leavevmode
5137      \sbox\z@{#1}%
5138      \copy\z@
5139      \endgroup
5140      }%
5141      \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, it's an internal link, otherwise we need to open another file or a URL. A link start has a type, and a URL.

```

5142 \def\hyper@link{\let\Hy@reserved@a\relax
5143 \ifnextchar{\hyper@link@}{\hyper@link@[link]}%
5144 }
5145 % #1: type
5146 % #2: URL
5147 % #3: destination name
5148 % #4: text
5149 \def\hyper@link@[#1]#2#3#4{%
5150 \Hy@ifempty{#4}{% link text
5151 \Hy@Warning{Suppressing empty link}%
5152 }{%
5153 \begingroup
5154 \protected@edef\Hy@tempa{#2}%
5155 \edef\Hy@tempb{#3}%
5156 \ifx\Hy@tempa\@empty

```

```

5157 \ifx\Hy@tempb\@empty
5158 \Hy@Warning{Suppressing link with empty target}%
5159 \toks@{%
5160 \endgroup
5161 \@secondoftwo
5162 }%
5163 \else
5164 \toks@{%
5165 \endgroup
5166 \hyper@link{#1}%
5167 }%
5168 \fi
5169 \else
5170 \toks@{%
5171 \endgroup
5172 \expandafter\hyper@readexternallink#2\{#1}%
5173 }%
5174 \fi
5175 \Hy@safe@activesfalse
5176 \toks@\expandafter{%
5177 \the\expandafter\toks@
5178 \expandafter{\Hy@tempb}{#4}%
5179 }%
5180 \the\toks@
5181 }%
5182 }

```

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.

```

5183 \def\hyper@readexternallink#1\{#2#3#4{%
5184 \begingroup
5185 \let\\\relax
5186 \expandafter\endgroup
5187 \expandafter\@hyper@@readexternallink#1\{#2}{#3}{#4}%
5188 }
5189 \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.

```

5190 \@hyper@readexternallink{#2}{#3}{#4}#1::\{#1}%
5191 }

```

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

```
5192 \def\@pdftempwordfile{file}%
5193 \def\@pdftempwordrun{run}%
5194 \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:

```
5195 \ifx\\#6\\%
5196 \@hyper@linkfile file:#7\\{#3}{#2}{#7}%
5197 \else
5198 \ifx\\#4\\%
5199 \@hyper@linkfile file:#7\\{#3}{#2}{#7}%
5200 \else
```

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

```
5201 \def\@pdftempa{#4}%
5202 \ifx\@pdftempa\@pdftempwordfile
5203 \@hyper@linkfile#7\\{#3}{#2}{#7}%
5204 \else
```

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

```
5205 \ifx\@pdftempa\@pdftempwordrun
5206 \ifHy@pdfa
5207 \Hy@Error{%
5208 PDF/A: Launch action is prohibited%
5209 }\@ehc
5210 \begingroup
5211 \leavevmode
5212 #2%
5213 \endgroup
5214 \else
5215 \@hyper@launch#7\\{#3}{#2}%
5216 \fi
5217 \else
```

otherwise its a URL

```
5218 \hyper@linkurl{#3}{#7\ifx\\#2\\%else\hyper@hash#2\fi}%
5219 \fi
5220 \fi
5221 \fi
5222 \fi
5223 }
```

By default, turn run: into file:

```
5224 \def\@hyper@launch run:#1\\#2#3{% filename, anchor text, linkname
5225 \hyper@linkurl{#2}{%
5226 \Hy@linkfileprefix
5227 #1%
5228 \ifx\\#3\\%
5229 \else
5230 \hyper@hash
```

```

5231     #3%
5232     \fi
5233 }%
5234 }

```

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

```

5235 \def\@hyper@linkfile file:#1\|#2#3#4{%
5236     %file url,link string, name, original uri
5237     \filename@parse{#1}%
5238     \ifx\filename@ext\relax
5239         \edef\filename@ext{\XR@ext}%
5240     \fi
5241     \def\use@file{\filename@area\filename@base.\filename@ext}%
5242     \Hy@IfStringEndsWith\filename@ext\XR@ext{%
5243         \hyper@linkfile{#2}{\use@file}{#3}%
5244     }{%
5245         \ifx\@baseurl\@empty
5246             \hyper@linkurl{#2}{%
5247                 #4\ifx\|#3\\\else\hyper@hash#3\fi
5248             }%
5249         \else
5250             \hyper@linkurl{#2}{\use@file\ifx\|#3\\\else\hyper@hash#3\fi}%
5251         \fi
5252     }%
5253 }

5254 \def\Hy@IfStringEndsWith#1#2{%
5255     \begingroup
5256     \edef\x{#1}%
5257     \@onelevel@sanitize\x
5258     \edef\x{.\x}%
5259     \edef\y{#2}%
5260     \@onelevel@sanitize\y
5261     \edef\y{.\y}%
5262     \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
5263         \endgroup
5264         \ifx\relax##2\relax
5265             \expandafter\@secondoftwo
5266         \else
5267             \expandafter\@firstoftwo
5268         \fi
5269     }%
5270     \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
5271 }

5272 \def\Hy@StringLocalhost{localhost}
5273 \@onelevel@sanitize\Hy@StringLocalhost
5274 \def\Hy@CleanupFile#1{%
5275     \edef#1{#1}%
5276     \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
5277 }
5278 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5279     \begingroup
5280     \toks@{\endgroup}%
5281     \def\x{#1}%

```

```

5282 \ifx\x\@empty
5283 \def\x{#2}%
5284 \ifx\x\@empty
5285 \toks@{\endgroup\def#5{/#3}}%
5286 \else
5287 \@onelevel@sanitize\x
5288 \ifx\x\Hy@StringLocalhost
5289 \toks@{\endgroup\def#5{/#3}}%
5290 \fi
5291 \fi
5292 \fi
5293 \the\toks@
5294 }

```

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.

```

5295 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5296 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5297 \ifx\|#1\|
5298 #2\Hy@Warning{Ignoring empty anchor}%
5299 \else
5300 \def\anchor@spot{#2#3}%
5301 \let\put@me@back\@empty
5302 \ifx\relax#2\relax
5303 \else
5304 \ifHy@nesting
5305 \else
5306 \ifcat a\noexpand#2\relax
5307 \else
5308 \ifcat 0\noexpand#2 \relax
5309 \else
5310 % \typeout{Anchor start is not alphanumeric %
5311 % on input line\the\inputlineno%
5312 % }%
5313 \let\anchor@spot\@empty
5314 \def\put@me@back{#2#3}%
5315 \fi
5316 \fi
5317 \fi
5318 \fi
5319 \ifHy@activeanchor
5320 \anchor@spot
5321 \else
5322 \hyper@anchor{#1}%
5323 \fi
5324 \expandafter\put@me@back
5325 \fi
5326 \let\anchor@spot\@empty
5327 }

```

```
5328 \let\anchor@spot\@empty
```

18 Option ‘destlabel’

```
5329 \ifHy@destlabel
```

```
\hyper@newdestlabel
```

```
5330 \def\hyper@newdestlabel#1#2{%
5331   \begingroup
5332   \Hy@safe@activetrue
5333   \edef\x{\endgroup
5334     \noexpand\@newl@bel{HyDL}{#1}{#2}%
5335   }%
5336   \x
5337 }%
```

```
\hyper@destlabel@hook
```

```
5338 \providecommand*\hyper@destlabel@hook{}%
```

```
\Hy@DestRename
```

```
5339 \newcommand*\Hy@DestRename[2]{%
5340   \@ifundefined{HyDL!#1}{%
5341     \begingroup
5342     \Hy@safe@activetrue
5343     \edef\dest@name{#1}%
5344     \edef\label@name{#2}%
5345     \hyper@destlabel@hook
5346     \Hy@IsNotEmpty{dest@name}{%
5347       \Hy@IsNotEmpty{label@name}{%
5348         \global\expandafter
5349         \let\csname HyDL!#1\endcsname\@empty
5350         \if@files
5351           \protected@write\@auxout{}{%
5352             \string\hyper@newdestlabel
5353             {#1}%
5354             {\label@name}%
5355           }%
5356         \fi
5357       }%
5358     }%
5359   \endgroup
5360 }{}%
5361 }%
```

```
\HyperDestRename
```

```
5362 \newcommand*\HyperDestRename[2]{%
5363   \AtBeginDocument{%
5364     \Hy@DestRename{#1}{#2}%
5365   }%
5366 }%
5367 \AtBeginDocument{%
5368   \let\HyperDestRename\Hy@DestRename
5369 }%
```

\Hy@IsNotEmpty

```
5370 \def\Hy@IsNotEmpty#1{%
5371   \@ifundefined{#1}\@gobble{%
5372     \expandafter\ifx\csname#1\endcsname\@empty
5373     \expandafter\@gobble
5374   \else
5375     \expandafter\@firstofone
5376   \fi
5377 }%
5378 }%

5379 \Hy@GlobalAppendToMacro\label@hook{%
5380   \HyperDestRename\@currentHref\label@name
5381 }%
```

\HyperDestLabelReplace

```
5382 \def\HyperDestLabelReplace#1{%
5383   \@ifundefined{HyDL@#1}{%
5384     #1%
5385   }{%
5386     \csname HyDL@#1\endcsname
5387   }%
5388 }%
```

\HyperDestNameFilter

```
5389 \let\HyperDestNameFilter\HyperDestLabelReplace

5390 \else
```

\hyper@newdestlabel

```
5391 \let\hyper@newdestlabel\@gobbletwo
```

\HyperDestLabelReplace

```
5392 \let\HyperDestLabelReplace\@firstofone
```

\HyperDestRename

```
5393 \let\HyperDestRename\@gobbletwo

5394 \fi

5395 \Hy@DisableOption{destlabel}
```

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

```
5396 \AddToHook{include/before}
5397 {\immediate\write\@partaux{\string\providecommand\string\hyper@newdest-
5398   label[2]{}}}
5398 \AddToHook{begindocument}
5399 {\immediate\write\@mainaux{\string\providecommand\string\hyper@newdest-
5400   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.

```
5400 \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

```
5401 \def\HyField@NewFlag#1#2{%
5402   \lowercase{\HyField@NewOption{#2}}%
5403   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5404 }
```

\HyField@NewFlagOnly

```
5405 \def\HyField@NewFlagOnly#1#2{%
5406   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5407 }
```

\HyField@NewOption #1: option name

```
5408 \def\HyField@NewOption#1{%
5409   \expandafter\newif\csname ifFld@#1\endcsname
5410   \define@key{Field}{#1}[true]{%
5411     \lowercase{\Field@boolkey{##1}}{#1}%
5412   }%
5413 }
```

\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

```
5414 \def\HyField@NewBitsetFlag#1#2#3#4{%
5415   \begingroup
5416     \count@=#4\relax
5417     \advance\count@\m@ne
5418     \def\x##1{%
5419       \endgroup
5420       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5421       \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
```

```

5422 \expandafter\edef\csname HyField@#3@##1\endcsname{%
5423 (\number#4) #2%
5424 }%
5425 \else
5426 \expandafter\edef\csname HyField@#3@##1\endcsname{%
5427 \csname HyField@#3@##1\endcsname
5428 /#2%
5429 }%
5430 \fi
5431 }%
5432 \expandafter\x\expandafter{\the\count@}%
5433 }

```

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

```

5434 \def\HyField@UseFlag#1#2{%
5435 \lowercase{\HyField@@UseFlag{#2}}{#1}%
5436 }

```

\HyField@@UseFlag

```

5437 \def\HyField@@UseFlag#1#2{%
5438 \bitsetSetValue{HyField@#2}{%
5439 \csname HyField@#2@#1\endcsname
5440 }{%
5441 \csname ifFld@#1\endcsname 1\else 0\fi
5442 }%
5443 }

```

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

```

5444 \def\HyField@SetFlag#1#2{%
5445 \lowercase{\HyField@@SetFlag{#2}}{#1}%
5446 }

```

\HyField@@SetFlag

```

5447 \def\HyField@@SetFlag#1#2{%
5448 \bitsetSetValue{HyField@#2}{%
5449 \csname HyField@#2@#1\endcsname
5450 }{1}%
5451 }

```

\HyField@PrintFlags

```

5452 \def\HyField@PrintFlags#1#2{%
5453 \ifHy@verbose
5454 \begingroup
5455 \let\Hy@temp\@empty
5456 \let\MessageBreak\relax
5457 \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5458 \bitsetGetSetBitList{HyField@#1}\do{%
5459 \edef\Hy@temp{%
5460 \Hy@temp
5461 \csname HyField@#1@\x\endcsname\MessageBreak
5462 }%
5463 }%
5464 \edef\x{\endgroup

```

```

5465 \noexpand\Hy@Info{%
5466   Field flags: %
5467   \expandafter\ifx\@car#1\@nil S\else/\fi
5468   #1 %
5469   \bitsetGetDec{HyField@#1} %
5470   (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5471   \Hy@temp
5472   for #2%
5473 }%
5474 }\x
5475 \fi
5476 }

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```

5477 \HyField@NewFlag{Ff}{ReadOnly}{1}
5478 \HyField@NewFlag{Ff}{Required}{2}
5479 \HyField@NewFlag{Ff}{NoExport}{3}

```

“Table 8.75 Field flags specific to button fields”

```

5480 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5481 \HyField@NewFlag{Ff}{Radio}{16}
5482 \HyField@NewFlag{Ff}{Pushbutton}{17}
5483 \HyField@NewFlag{Ff}{RadiosInUnison}{26}

```

“Table 8.77 Field flags specific to text fields”

```

5484 \HyField@NewFlag{Ff}{Multiline}{13}
5485 \HyField@NewFlag{Ff}{Password}{14}
5486 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5487 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5488 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5489 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5490 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5

```

“Table 8.79 field flags specific to choice fields”

```

5491 \HyField@NewFlag{Ff}{Combo}{18}
5492 \HyField@NewFlag{Ff}{Edit}{19}
5493 \HyField@NewFlag{Ff}{Sort}{20}
5494 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5495 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5496 \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.

```

5497 \newif\ifFld@popdown
5498 \define@key{Field}{popdown}[true]{%
5499   \lowercase{\Field@boolkey{#1}}{popdown}%
5500 }

```

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.

```

5501 \HyField@NewFlag{F}{Invisible}{1}
5502 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5503 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5504 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5505 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5506 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5507 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5508 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5509 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7
5510 \ifHy@pdfa
5511   \def\HyField@PDFAFIWarning#1#2{%
5512     \Hy@Warning{%
5513       PDF/A: Annotation flag `#1' must\MessageBreak
5514       be set to `#2'%
5515     }%
5516   }%
5517   \Fld@invisiblefalse
5518   \def\Fld@invisibletrue{%
5519     \HyField@PDFAFIWarning{invisible}{false}%
5520   }%
5521   \Fld@hiddenfalse
5522   \def\Fld@hiddentrue{%
5523     \HyField@PDFAFIWarning{hidden}{false}%
5524   }%
5525   \Fld@printtrue
5526   \def\Fld@printfalse{%
5527     \HyField@PDFAFIWarning{print}{true}%
5528   }%
5529   \Fld@nozoomtrue
5530   \def\Fld@nozoomfalse{%
5531     \HyField@PDFAFIWarning{nozoom}{true}%
5532   }%
5533   \Fld@norotatetrue
5534   \def\Fld@norotatefalse{%
5535     \HyField@PDFAFIWarning{norotate}{true}%
5536   }%
5537   \Fld@noviewfalse
5538   \def\Fld@noviewtrue{%
5539     \HyField@PDFAFIWarning{noview}{false}%
5540   }%
5541 \fi

```

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

```

5542 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5543 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5544 \HyField@NewFlag{Submit}{GetMethod}{4}
5545 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5546 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5547 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5548 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5549 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}

```

```

5550 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5551 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5552 \HyField@NewFlag{Submit}{ExclFKey}{12}
5553 \HyField@NewFlag{Submit}{EmbedForm}{14}

5554 \define@key{Field}{export}{%
5555   \lowercase{\def\Hy@temp{#1}}%
5556   \@ifundefined{Fld@export@\Hy@temp}{%
5557     \@onelevel@sanitize\Hy@temp
5558     \Hy@Error{%
5559       Unknown export format ``\Hy@temp'.\MessageBreak
5560       Known formats are `FDF', `HTML', `XFDF', and `PDF'%
5561     }}\ehc
5562   }{%
5563     \let\Fld@export\Hy@temp
5564   }%
5565 }
5566 \def\Fld@export{fdf}
5567 \@namedef{Fld@export@fdf}{0}%
5568 \@namedef{Fld@export@html}{1}%
5569 \@namedef{Fld@export@xfdf}{2}%
5570 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

5571 \def\HyField@FlagsSubmit{%
5572   \bitsetReset{HyField@Submit}%
5573   \ifcase\@nameuse{Fld@export@\Fld@export} %
5574     % FDF
5575     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5576     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5577     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5578     \HyField@UseFlag{Submit}{IncludeAnnotations}%
5579     \HyField@UseFlag{Submit}{CanonicalFormat}%
5580     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5581     \HyField@UseFlag{Submit}{ExclFKey}%
5582     \HyField@UseFlag{Submit}{EmbedForm}%
5583   \or % HTML
5584     \HyField@SetFlag{Submit}{ExportFormat}%
5585     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5586     \HyField@UseFlag{Submit}{GetMethod}%
5587     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5588     \HyField@UseFlag{Submit}{CanonicalFormat}%
5589   \or % XFDF
5590     \HyField@SetFlag{Submit}{XFDF}%
5591     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5592     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5593     \HyField@UseFlag{Submit}{CanonicalFormat}%
5594   \or % PDF
5595     \HyField@SetFlag{Submit}{SubmitPDF}%
5596     \HyField@UseFlag{Submit}{GetMethod}%
5597   \fi
5598   \HyField@PrintFlags{Submit}{submit button field}%

```

```

5599 \bitsetIsEmpty{HyField@Submit}{%
5600 \let\Fld@submitflags\@empty
5601 }{%
5602 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
5603 }%
5604 }

```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5605 \def\HyField@FlagsAnnot#1{%
5606 \bitsetReset{HyField@F}%
5607 \HyField@UseFlag{F}{Invisible}%
5608 \HyField@UseFlag{F}{Hidden}%
5609 \HyField@UseFlag{F}{Print}%
5610 \HyField@UseFlag{F}{NoZoom}%
5611 \HyField@UseFlag{F}{NoRotate}%
5612 \HyField@UseFlag{F}{NoView}%
5613 \HyField@UseFlag{F}{Locked}%
5614 \HyField@UseFlag{F}{ToggleNoView}%
5615 \HyField@UseFlag{F}{LockedContents}%
5616 \HyField@PrintFlags{F}{#1}%
5617 \bitsetIsEmpty{HyField@F}{%
5618 \let\Fld@annotflags\@empty
5619 }{%
5620 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
5621 }%
5622 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5623 \def\HyField@FlagsPushButton{%
5624 \HyField@FlagsAnnot{push button field}%
5625 \bitsetReset{HyField@Ff}%
5626 \HyField@UseFlag{Ff}{ReadOnly}%
5627 \HyField@UseFlag{Ff}{Required}%
5628 \HyField@UseFlag{Ff}{NoExport}%
5629 \HyField@SetFlag{Ff}{Pushbutton}%
5630 \HyField@PrintFlags{Ff}{push button field}%
5631 \bitsetIsEmpty{HyField@Ff}{%
5632 \let\Fld@flags\@empty
5633 }{%
5634 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5635 }%
5636 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

```

5637 \def\HyField@FlagsCheckBox{%
5638 \HyField@FlagsAnnot{check box field}%
5639 \bitsetReset{HyField@Ff}%

```

```

5640 \HyField@UseFlag{Ff}{ReadOnly}%
5641 \HyField@UseFlag{Ff}{Required}%
5642 \HyField@UseFlag{Ff}{NoExport}%
5643 \HyField@PrintFlags{Ff}{check box field}%
5644 \bitsetIsEmpty{HyField@Ff}{%
5645   \let\Fld@flags\@empty
5646 }{%
5647   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5648 }%
5649 }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```

5650 \def\HyField@FlagsRadioButton{%
5651   \HyField@FlagsAnnot{radio button field}%
5652   \bitsetReset{HyField@Ff}%
5653   \HyField@UseFlag{Ff}{ReadOnly}%
5654   \HyField@UseFlag{Ff}{Required}%
5655   \HyField@UseFlag{Ff}{NoExport}%
5656   \HyField@UseFlag{Ff}{NoToggleToOff}%
5657   \HyField@SetFlag{Ff}{Radio}%
5658   \HyField@UseFlag{Ff}{RadiosInUnison}%
5659   \HyField@PrintFlags{Ff}{radio button field}%
5660   \bitsetIsEmpty{HyField@Ff}{%
5661     \let\Fld@flags\@empty
5662   }{%
5663     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5664   }%
5665 }

```

19.1.7 Text fields

\HyField@FlagsText

```

5666 \def\HyField@FlagsText{%
5667   \HyField@FlagsAnnot{text field}%
5668   \bitsetReset{HyField@Ff}%
5669   \HyField@UseFlag{Ff}{ReadOnly}%
5670   \HyField@UseFlag{Ff}{Required}%
5671   \HyField@UseFlag{Ff}{NoExport}%
5672   \HyField@UseFlag{Ff}{Multiline}%
5673   \HyField@UseFlag{Ff}{Password}%
5674   \HyField@UseFlag{Ff}{FileSelect}%
5675   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5676   \HyField@UseFlag{Ff}{DoNotScroll}%
5677   \ifFld@comb
5678     \ifcase0\ifFld@multiline
5679       \else\ifFld@password
5680       \else\ifFld@fileselect
5681       \else 1\fi\fi\fi\relax
5682     \Hy@Error{%
5683       Field option `comb' cannot used together with\MessageBreak
5684       `multiline', `password', or `fileselect'%

```

```

5685     }\@ehc
5686     \else
5687         \HyField@UseFlag{Ff}{Comb}%
5688     \fi
5689 \fi
5690 \HyField@UseFlag{Ff}{RichText}%
5691 \HyField@PrintFlags{Ff}{text field}%
5692 \bitsetIsEmpty{HyField@Ff}{%
5693     \let\Fld@flags\@empty
5694 }{%
5695     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5696 }%
5697 }

```

19.1.8 Choice fields

\HyField@FlagsChoice

```

5698 \def\HyField@FlagsChoice{%
5699     \HyField@FlagsAnnot{choice field}%
5700     \bitsetReset{HyField@Ff}%
5701     \HyField@UseFlag{Ff}{ReadOnly}%
5702     \HyField@UseFlag{Ff}{Required}%
5703     \HyField@UseFlag{Ff}{NoExport}%
5704     \HyField@UseFlag{Ff}{Combo}%
5705     \ifFld@combo
5706         \HyField@UseFlag{Ff}{Edit}%
5707     \fi
5708     \HyField@UseFlag{Ff}{Sort}%
5709     \HyField@UseFlag{Ff}{MultiSelect}%
5710     \ifFld@combo
5711         \ifFld@edit
5712             \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5713         \fi
5714     \fi
5715     \HyField@UseFlag{Ff}{CommitOnSelChange}%
5716     \HyField@PrintFlags{Ff}{choice field}%
5717     \bitsetIsEmpty{HyField@Ff}{%
5718         \let\Fld@flags\@empty
5719     }{%
5720         \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5721     }%
5722 }

```

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.

```

5723 \def\HyField@PDFChoices#1{%
5724     \begingroup
5725     \global\let\Fld@choices\@empty
5726     \let\HyTmp@optlist\@empty

```

```

5727 \let\HyTmp@optitem\relax
5728 \count@=0 %
5729 \kv@parse{#1}{%
5730   \Hy@pdfstringdef\kv@key\kv@key
5731   \ifx\kv@value\relax
5732   \ifnum\Hy@pdf@majorminor@version<103 % implementation note 122, PDF spec 1.7
5733     \xdef\Fld@choices{\Fld@choices(\kv@key)(\kv@key)}}%
5734   \else
5735     \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5736   \fi
5737 \else
5738   \Hy@pdfstringdef\kv@value\kv@value
5739   \xdef\Fld@choices{\Fld@choices(\kv@value)(\kv@key)}}%
5740 \fi
5741 \edef\HyTmp@optlist{%
5742   \HyTmp@optlist
5743   \HyTmp@optitem{\the\count@}{\kv@key}0%
5744 }%
5745 \advance\count@ by 1 %
5746 \@gobbletwo
5747 }%
5748 \xdef\Fld@choices{/Opt[\Fld@choices]}%
5749 \ifFld@multiselect
5750   \HyField@@PDFChoices{DV}\Fld@default
5751   \HyField@@PDFChoices{V}\Fld@value
5752 \else
5753   \ifx\Fld@default\relax
5754   \else
5755     \xdef\Fld@choices{\Fld@choices/DV(\Fld@default)}%
5756   \fi
5757   \ifx\Fld@value\relax
5758   \else
5759     \xdef\Fld@choices{\Fld@choices/V(\Fld@value)}%
5760   \fi
5761 \fi
5762 \endgroup
5763 }

```

\HyField@@PDFChoices

```

5764 \def\HyField@@PDFChoices#1#2{%
5765   \ifx#2\relax
5766   \else
5767     \count@=0 %
5768     \def\HyTmp@optitem##1##2##3{%
5769       \def\HyTmp@key{##2}%
5770       \ifx\HyTmp@key\Hy@gtemp
5771         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5772           \HyTmp@optlist
5773           \HyTmp@optitem{##1}{##2}1%
5774         }%
5775       \let\HyTmp@found=Y%
5776     \else
5777       \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5778         \HyTmp@optlist

```

```

5779     \HyTmp@optitem{##1}{##2}##3%
5780   }%
5781   \fi
5782 }%
5783 \expandafter\comma@parse\expandafter{#2}{%
5784   \pdfstringdef\Hy@gtemp\comma@entry
5785   \let\HyTmp@found=N %
5786   \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5787   \HyTmp@optlist
5788   \ifx\HyTmp@found Y%
5789     \advance\count@ by 1 %
5790   \else
5791     \@onelevel@sanitize\comma@entry
5792     \PackageWarning{hyperref}{%
5793       \string\ChoiceBox: Ignoring value `\'comma@entry',%
5794       \MessageBreak
5795       it cannot be found in the choices%
5796     }%
5797   \fi
5798   \@gobble
5799 }%
5800 \def\HyTmp@optitem##1##2##3{%
5801   \ifnum##3=1 %
5802     (##2)%
5803   \fi
5804 }%
5805 \ifcase\count@
5806 \or
5807   \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5808 \else
5809   \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5810   \ifx#1V%
5811     \def\HyTmp@optitem##1##2##3{%
5812       \ifnum##3=1 %
5813         \@firstofone{ ##1}%
5814       \fi
5815     }%
5816     \edef\HyTmp@optlist{\HyTmp@optlist}%
5817     \xdef\Fld@choices{%
5818       \Fld@choices
5819       /I[\expandafter\@firstofone\HyTmp@optlist]%
5820     }%
5821   \fi
5822 \fi
5823 \fi
5824 }

```

19.3 Forms

\HyField@SetKeys

```

5825 \def\HyField@SetKeys{%
5826   \kvsetkeys{Field}%
5827 }

```

```

5828 \newif\ifFld@checked
5829 \newif\ifFld@disabled
5830 \Fld@checkedfalse
5831 \Fld@disabledfalse
5832 \newcount\Fld@menulength
5833 \newdimen\Field@Width
5834 \newdimen\Fld@charsize
5835 \Fld@charsize=10\p@
5836 \def\Fld@maxlen{0}
5837 \def\Fld@align{0}
5838 \def\Fld@color{0 0 0 rg}
5839 \def\Fld@bcolor{1 1 1}
5840 \def\Fld@bordercolor{1 0 0}
5841 \def\Fld@bordersep{1\p@}
5842 \def\Fld@borderwidth{1}
5843 \def\Fld@borderstyle{S}
5844 \def\Fld@cbsymbol{4}
5845 \def\Fld@radiosymbol{H}
5846 \def\Fld@rotation{0}
5847 \def\Form{\@ifnextchar{\@Form}{\@Form[]}}
5848 \def\endForm{\@endForm}
5849 \newif\ifForm@html
5850 \Form@htmlfalse
5851 \def\Form@boolkey#1#2{%
5852   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5853 }
5854 \define@key{Form}{action}{%
5855   \hyper@normalise\Hy@DefFormAction{#1}%
5856 }
5857 \def\Hy@DefFormAction{\def\Form@action}
5858 \def\enc@@html{html}
5859 \define@key{Form}{encoding}{%
5860   \def\Hy@tempa{#1}%
5861   \ifx\Hy@tempa\enc@@html
5862     \Form@htmltrue
5863     \def\Fld@export{html}%
5864   \else
5865     \Hy@Warning{%
5866       Form `encoding' key with \MessageBreak
5867       unknown value `#1'%
5868     }%
5869     \Form@htmlfalse
5870   \fi
5871 }
5872 \define@key{Form}{method}{%
5873   \lowercase{\def\Hy@temp{#1}}%
5874   \@ifundefined{Form@method@\Hy@temp}{%
5875     \@onelevel@sanitize\Hy@temp
5876     \Hy@Error{%
5877       Unknown method `~\Hy@temp'.\MessageBreak
5878       Known values are `post' and `get'%
5879     }~\@ehc
5880   }{%
5881     \let\Form@method\Hy@temp

```

```

5882 \ifcase\@nameuse{Form@method@\Hy@temp} %
5883 \Fld@getmethodfalse
5884 \else
5885 \Fld@getmethodtrue
5886 \fi
5887 }%
5888 }
5889 \def\Form@method{}
5890 \@namedef{Form@method@post}{0}
5891 \@namedef{Form@method@get}{1}

5892 \newif\ifHyField@NeedAppearances
5893 \def\HyField@NeedAppearancesfalse{%
5894 \global\let\ifHyField@NeedAppearances\iffalse
5895 }
5896 \def\HyField@NeedAppearancetrue{%
5897 \global\let\ifHyField@NeedAppearances\iftrue
5898 }
5899 \HyField@NeedAppearancetrue
5900 \define@key{Form}{NeedAppearances}[true]{%
5901 \edef\Hy@tempa{#1}%
5902 \ifx\Hy@tempa\Hy@true
5903 \HyField@NeedAppearancetrue
5904 \else
5905 \ifx\Hy@tempa\Hy@false
5906 \HyField@NeedAppearancesfalse
5907 \else
5908 \Hy@Error{%
5909 Unexpected value ``\Hy@tempa'\MessageBreak
5910 of option `NeedAppearances' instead of\MessageBreak
5911 `true' or `false'%
5912 }\@ehc
5913 \fi
5914 \fi
5915 }
5916 \def\Field@boolkey#1#2{%
5917 \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5918 }
5919 \ifHy@texht
5920 \newtoks\Field@toks
5921 \Field@toks={ }%
5922 \def\Field@addtoks#1#2{%
5923 \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
5924 \@processme
5925 }%
5926 \else
5927 \def\Hy@WarnHTMLFieldOption#1{%
5928 \Hy@Warning{%
5929 HTML field option `#1'\MessageBreak
5930 is ignored%
5931 }%
5932 }%
5933 \fi
5934 \def\Fld@checkequals#1=#2=#3\\{%
5935 \def\@currDisplay{#1}%

```

```

5936 \ifx\|#2\|
5937 \def\@currValue{#1}%
5938 \else
5939 \def\@currValue{#2}%
5940 \fi
5941 \expandafter\Hy@pdfstringdef\expandafter\@currValue\expandafter{\@currValue}%
5942 }
5943 \define@key{Field}{loc}{%
5944 \def\Fld@loc{#1}%
5945 }
5946 \define@key{Field}{checked}[true]{%
5947 \lowercase{\Field@boolkey{#1}}{checked}%
5948 }
5949 \define@key{Field}{disabled}[true]{%
5950 \lowercase{\Field@boolkey{#1}}{disabled}%
5951 }
5952 \ifHy@texht
5953 \define@key{Field}{accesskey}{%
5954 \Field@addtoks{accesskey}{#1}%
5955 }%
5956 \define@key{Field}{tabkey}{%
5957 \Field@addtoks{tabkey}{#1}%
5958 }%
5959 \else
5960 \define@key{Field}{accesskey}{%
5961 \Hy@WarnHTMLFieldOption{accesskey}%
5962 }%
5963 \define@key{Field}{tabkey}{%
5964 \Hy@WarnHTMLFieldOption{tabkey}%
5965 }%
5966 \fi
5967 \define@key{Field}{name}{%
5968 \def\Fld@name{#1}%
5969 }
5970 \let\Fld@altname\relax
5971 \define@key{Field}{altname}{%
5972 \def\Fld@altname{#1}%
5973 }
5974 \let\Fld@mappingname\relax
5975 \define@key{Field}{mappingname}{%
5976 \def\Fld@mappingname{#1}%
5977 }
5978 \define@key{Field}{width}{%
5979 \def\Fld@width{#1}%
5980 \Field@Width#1\setbox0=\hbox{m}%
5981 }
5982 \define@key{Field}{maxlen}{%
5983 \def\Fld@maxlen{#1}%
5984 }
5985 \define@key{Field}{menulength}{%
5986 \Fld@menulength=#1\relax
5987 }
5988 \define@key{Field}{height}{%
5989 \def\Fld@height{#1}%

```

```

5990 }
5991 \define@key{Field}{charsize}{%
5992   \setlength{\Fld@charsize}{#1}%
5993 }
5994 \define@key{Field}{borderwidth}{%
5995   \Hy@defaultbp\Fld@borderwidth{#1}%
5996 }
5997 \def\Hy@defaultbp#1#2{%
5998   \begingroup
5999   \afterassignment\Hy@defaultbpAux
6000   \dimen@=#2bp\relax{#1}{#2}%
6001 }
6002 \def\Hy@defaultbpAux#1\relax#2#3{%
6003   \ifx!#1!%
6004     \endgroup
6005     \def#2{#3}%
6006   \else
6007     \edef\x{\endgroup
6008       \def\noexpand#2{%
6009         \strip@pt\dimexpr\dimen@*800/803\relax
6010       }%
6011     }\x
6012   \fi
6013 }%
6014 \define@key{Field}{borderstyle}{%
6015   \let\Hy@temp\Fld@borderstyle
6016   \def\Fld@borderstyle{#1}%
6017   \Hy@Match\Fld@borderstyle{}{%
6018     ^[SDBIU]$%
6019   }{}{%
6020     \Hy@Warning{%
6021       Invalid value `@\pdfborderstyle'\MessageBreak
6022       for option `pdfborderstyle'. Valid values:\MessageBreak
6023       \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
6024       \space\space I (Inset), U (Underline)\MessageBreak
6025       Option setting is ignored%
6026     }%
6027     \let\Fld@borderstyle\Hy@temp
6028   }%
6029 }
6030 \define@key{Field}{bordersep}{%
6031   \def\Fld@bordersep{#1}%
6032 }
6033 \define@key{Field}{default}{%
6034   \Hy@pdfstringdef\Fld@default{#1}%
6035 }
6036 \define@key{Field}{align}{%
6037   \def\Fld@align{#1}%
6038 }
6039 \define@key{Field}{value}{%
6040   \Hy@pdfstringdef\Fld@value{#1}%
6041 }
6042 \define@key{Field}{checkboxsymbol}{%
6043   \Fld@DingDef\Fld@cbsymbol{#1}%

```

```

6044 }
6045 \define@key{Field}{radiosymbol}{%
6046   \Fld@DingDef\Fld@radiosymbol{#1}%
6047 }
6048 \def\Fld@DingDef#1#2{%
6049   \let\Fld@temp\@empty
6050   \Fld@@@DingDef#2\ding{ }\@nil
6051   \let#1\Fld@temp
6052 }
6053 \def\Fld@@@DingDef#1\ding#2#3\@nil{%
6054   \expandafter\def\expandafter\Fld@temp\expandafter{%
6055     \Fld@temp
6056     #1%
6057   }%
6058   \ifx\\#3\\%
6059     \expandafter\@gobble
6060   \else
6061     \begingroup
6062     \lccode`0=#2\relax
6063     \lowercase{\endgroup
6064       \expandafter\def\expandafter\Fld@temp\expandafter{%
6065         \Fld@temp
6066         0%
6067       }%
6068     }%
6069     \expandafter\@firstofone
6070   \fi
6071   {%
6072     \Fld@@@DingDef#3\@nil
6073   }%
6074 }

6075 \define@key{Field}{rotation}{%
6076   \def\Fld@rotation{#1}%
6077 }

6078 \define@key{Field}{backgroundcolor}{%
6079   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
6080 }
6081 \define@key{Field}{bordercolor}{%
6082   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
6083 }
6084 \define@key{Field}{color}{%
6085   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
6086 }

6087 \let\Fld@onclick@code\@empty
6088 \let\Fld@format@code\@empty
6089 \let\Fld@validate@code\@empty
6090 \let\Fld@calculate@code\@empty
6091 \let\Fld@keystroke@code\@empty
6092 \let\Fld@onfocus@code\@empty
6093 \let\Fld@onblur@code\@empty
6094 \let\Fld@onmousedown@code\@empty
6095 \let\Fld@onmouseup@code\@empty
6096 \let\Fld@onenter@code\@empty

```

```

6097 \let\Fld@onexit@code\@empty
6098 \def\Hy@temp#1{%
6099   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
6100 }
6101 \def\Hy@@temp#1#2{%
6102   \ifHy@pdfa
6103     \define@key{Field}{#2}{%
6104       \Hy@Error{%
6105         PDF/A: Additional action `#2' is prohibited%
6106       }\@ehc
6107     }%
6108   \else
6109     \define@key{Field}{#2}{%
6110       \def#1{##1}%
6111     }%
6112   \fi
6113 }
6114 \Hy@temp{keystroke}
6115 \Hy@temp{format}
6116 \Hy@temp{validate}
6117 \Hy@temp{calculate}
6118 \Hy@temp{onfocus}
6119 \Hy@temp{onblur}
6120 \Hy@temp{onmousedown}
6121 \Hy@temp{onmouseup}
6122 \Hy@temp{onenter}
6123 \Hy@temp{onexit}

6124 \let\Fld@calculate@sortkey\@empty
6125 \define@key{Field}{calculatesortkey}[1]{%
6126   \def\Fld@calculate@sortkey{#1}%
6127 }

6128 \ifHy@texht
6129   \def\Hy@temp#1{%
6130     \define@key{Field}{#1}{%
6131       \Field@addtoks{#1}{##1}%
6132     }%
6133   }%
6134 \else
6135   \def\Hy@temp#1{%
6136     \define@key{Field}{#1}{%
6137       \Hy@WarnHTMLFieldOption{#1}%
6138     }%
6139   }%
6140 \fi
6141 \Hy@temp{ondblclick}
6142 \Hy@temp{onmouseover}
6143 \Hy@temp{onmousemove}
6144 \Hy@temp{onmouseout}
6145 \Hy@temp{onkeydown}
6146 \Hy@temp{onkeyup}
6147 \Hy@temp{onselect}
6148 \Hy@temp{onchange}
6149 \Hy@temp{onkeypress}

```

```

6150 \ifHy@texht
6151 \define@key{Field}{onclick}{%
6152 \Field@addtoks{onclick}{#1}%
6153 }%
6154 \else
6155 \ifHy@pdfa
6156 \define@key{Field}{onclick}{%
6157 \Hy@Error{%
6158 PDF/A: Action `onclick' is prohibited%
6159 }\@ehc
6160 }%
6161 \else
6162 \define@key{Field}{onclick}{%
6163 \def\Fld@onclick@code{#1}%
6164 }%
6165 \fi
6166 \fi

6167 \DeclareRobustCommand\TextField{%
6168 \@ifnextchar[{\@TextField}{\@TextField[]}%
6169 }
6170 \DeclareRobustCommand\ChoiceMenu{%
6171 \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
6172 }
6173 \DeclareRobustCommand\CheckBox{%
6174 \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
6175 }
6176 \DeclareRobustCommand\PushButton{%
6177 \@ifnextchar[{\@PushButton}{\@PushButton[]}%
6178 }
6179 \DeclareRobustCommand\Gauge{%
6180 \@ifnextchar[{\@Gauge}{\@Gauge[]}%
6181 }
6182 \DeclareRobustCommand\Submit{%
6183 \@ifnextchar[{\@Submit}{\@Submit[]}%
6184 }
6185 \DeclareRobustCommand\Reset{%
6186 \@ifnextchar[{\@Reset}{\@Reset[]}%
6187 }
6188 \def\LayoutTextField#1#2{% label, field
6189 \def\Hy@temp{#1}%
6190 \ifx\Hy@temp\@empty
6191 #2%
6192 \else
6193 #1 #2%
6194 \fi
6195 }
6196 \def\LayoutChoiceField#1#2{% label, field
6197 \def\Hy@temp{#1}%
6198 \ifx\Hy@temp\@empty
6199 #2%
6200 \else
6201 #1 #2%
6202 \fi
6203 }

```

```

6204 \def\LayoutCheckField#1#2{% label, field
6205   \def\Hy@temp{#1}%
6206   \ifx\Hy@temp\@empty
6207     #2%
6208   \else
6209     #1 #2%
6210   \fi
6211 }
6212 \def\LayoutPushButtonField#1{% button
6213   #1%
6214 }
6215 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6216 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6217 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6218 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6219 \def\MakeButtonField#1{%
6220   \sbox0{%
6221     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
6222   }%
6223   \@tempdima\ht0 %
6224   \advance\@tempdima by \Fld@borderwidth bp %
6225   \advance\@tempdima by \Fld@borderwidth bp %
6226   \ht0\@tempdima
6227   \@tempdima\dp0 %
6228   \advance\@tempdima by \Fld@borderwidth bp %
6229   \advance\@tempdima by \Fld@borderwidth bp %
6230   \dp0\@tempdima
6231   \box0\relax
6232 }
6233 \def\DefaultHeightofSubmit{14pt}
6234 \def\DefaultWidthofSubmit{2cm}
6235 \def\DefaultHeightofReset{14pt}
6236 \def\DefaultWidthofReset{2cm}
6237 \def\DefaultHeightofCheckBox{\normalbaselineskip}
6238 \def\DefaultWidthofCheckBox{\normalbaselineskip}
6239 \def\DefaultHeightofChoiceMenu{\normalbaselineskip}
6240 \def\DefaultWidthofChoiceMenu{\normalbaselineskip}
6241 \def\DefaultHeightofText{\normalbaselineskip}
6242 \def\DefaultHeightofTextMultiline{4\normalbaselineskip}
6243 \def\DefaultWidthofText{3cm}
6244 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
6245 \def\DefaultOptionsofReset{print,name=Reset,noexport}
6246 \def\DefaultOptionsofPushButton{print}
6247 \def\DefaultOptionsofCheckBox{print}
6248 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

6249 \def\DefaultOptionsofListBox{print}
6250 \def\DefaultOptionsofComboBox{print,edit,sort}
6251 \def\DefaultOptionsofPopdownBox{print}
6252 \def\DefaultOptionsofRadio{print,notoggletooff}

```

20 Setup

```
6253 \ifHy@hyperfigures
6254 \Hy@Info{Hyper figures ON}%
6255 \else
6256 \Hy@Info{Hyper figures OFF}%
6257 \fi
6258 \ifHy@nesting
6259 \Hy@Info{Link nesting ON}%
6260 \else
6261 \Hy@Info{Link nesting OFF}%
6262 \fi
6263 \ifHy@hyperindex
6264 \Hy@Info{Hyper index ON}%
6265 \else
6266 \Hy@Info{Hyper index OFF}%
6267 \fi
6268 \ifHy@backref
6269 \Hy@Info{backreferencing ON}%
6270 \else
6271 \Hy@Info{backreferencing OFF}%
6272 \fi
6273 \ifHy@colorlinks
6274 \Hy@Info{Link coloring ON}%
6275 \else
6276 \Hy@Info{Link coloring OFF}%
6277 \fi
6278 \ifHy@ocgcolorlinks
6279 \Hy@Info{Link coloring with OCG ON}%
6280 \else
6281 \Hy@Info{Link coloring with OCG OFF}%
6282 \fi
6283 \ifHy@pdfa
6284 \Hy@Info{PDF/A mode ON}%
6285 \else
6286 \Hy@Info{PDF/A mode OFF}%
6287 \fi
```

21 Low-level utility macros

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

```
6288 \edef\hyper@hash{\string#}
6289 \edef\hyper@tilde{\string~}
6290 \edef\hyper@quote{\string"}
```

Support \label before \begin{document}.

```
6291 \def\@currentHref{Doc-Start}
6292 \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.

```
6293 \Hy@AtBeginDocument{%
6294 \Hy@pdfstringtrue
6295 \PDF@SetupDoc
```

```

6296 \let\PDF@SetupDoc\@empty
6297 \Hy@DisableOption{pdfpagescrop}%
6298 \Hy@DisableOption{pdfpagemode}%
6299 \Hy@DisableOption{pdfnonfullscreenpagemode}%
6300 \Hy@DisableOption{pdfdirection}%
6301 \Hy@DisableOption{pdfviewarea}%
6302 \Hy@DisableOption{pdfviewclip}%
6303 \Hy@DisableOption{pdfprintarea}%
6304 \Hy@DisableOption{pdfprintclip}%
6305 \Hy@DisableOption{pdfprintscaling}%
6306 \Hy@DisableOption{pdfduplex}%
6307 \Hy@DisableOption{pdfpicktraybypdftype}%
6308 \Hy@DisableOption{pdfprintpagerange}%
6309 \Hy@DisableOption{pdfnumcopies}%
6310 \Hy@DisableOption{pdfstartview}%
6311 \Hy@DisableOption{pdfstartpage}%
6312 \Hy@DisableOption{pdftoolbar}%
6313 \Hy@DisableOption{pdfmenubar}%
6314 \Hy@DisableOption{pdfwindowui}%
6315 \Hy@DisableOption{pdfwindow}%
6316 \Hy@DisableOption{pdfcenterwindow}%
6317 \Hy@DisableOption{pdfdisplaydoctitle}%
6318 \Hy@DisableOption{pdfpagelayout}%
6319 \Hy@DisableOption{pdflang}%
6320 \Hy@DisableOption{baseurl}%
6321 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
6322 \Hy@pdfstringfalse
6323 }

```

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.

```

6324 \def\NoHyper{%
6325   \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6326   \def\hyper@@anchor##1##2{##2\Hy@xspace@end}%
6327   \global\let\hyper@livelink\hyper@link
6328   \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
6329   \let\hyper@anchor\@gobble
6330   \let\hyper@anchorstart\@gobble
6331   \def\hyper@anchorend{\Hy@xspace@end}%
6332   \let\hyper@linkstart\@gobbletwo
6333   \def\hyper@linkend{\Hy@xspace@end}%
6334   \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6335   \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6336   \let\Hy@backout\@gobble
6337 }
6338 \def\stop@hyper{%
6339   \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6340   \let\Hy@backout\@gobble
6341   \let\hyper@@anchor\@gobble

```

```

6342 \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
6343 \let\hyper@anchor\@gobble
6344 \let\hyper@anchorstart\@gobble
6345 \def\hyper@anchorend{\Hy@xspace@end}%
6346 \let\hyper@linkstart\@gobbletwo
6347 \def\hyper@linkend{\Hy@xspace@end}%
6348 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6349 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6350 }
6351 \def\endNoHyper{%
6352 \global\let\hyper@link\hyper@livelink
6353 }
6354 \endpackage

```

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:

```

6355 \*nohyperref
6356 \let\hyper@@anchor\@gobble
6357 \def\hyper@link#1#2#3{#3}%
6358 \let\hyper@anchorstart\@gobble
6359 \let\hyper@anchorend\@empty
6360 \let\hyper@linkstart\@gobbletwo
6361 \let\hyper@linkend\@empty
6362 \def\hyper@linkurl#1#2{#1}%
6363 \def\hyper@linkfile#1#2#3{#1}%
6364 \def\hyper@link@{#1}#2#3{#1}%
6365 \let\PDF@SetupDoc\@empty
6366 \let\PDF@FinishDoc\@empty
6367 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

6368 \def\Acrobatmenu#1#2{\leavevmode#2}
6369 \let\pdfstringdefDisableCommands\@gobbletwo
6370 \let\texorpdfstring\@firstoftwo
6371 \let\pdfbookmark\@undefined
6372 \newcommand\pdfbookmark[3]{}
6373 \let\phantomsection\@empty
6374 \let\hypersetup\@gobble
6375 \let\hyperbaseurl\@gobble
6376 \newcommand*\href[3]{}
6377 \let\hyperdef\@gobbletwo
6378 \let\hyperlink\@gobble
6379 \let\hypertarget\@gobble
6380 \protected\def\hyperref{%
6381 \ifnextchar\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6382 }
6383 \long\def\@gobbleopt[#1]{}

```

```

6384 \let\hyperpage\@empty
6385 \</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.

```

6386 (*package)
6387 \@if@t@r\fmtversion{2023-06-01}{-}
6388 {
6389   \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.

```

6390   \if@filesw
6391     \immediate\write\@auxout{%
6392       \string\providecommand\string\HyperFirstAtBeginDocument{%
6393         \string\AtBeginDocument}^^J%
6394       \string\HyperFirstAtBeginDocument{%
6395         \string\ifx\string\hyper@anchor\string\@undefined^^J%
6396         \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6397         \string\gdef\string\newlabel\string#1\string#2{%
6398           \string\newlabelxx{\string#1}\string#2}^^J%
6399         \string\gdef\string\newlabelxx%
6400           \string#1\string#2\string#3\string#4\string#5\string#6{%
6401           \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.

```

6402       \string\AtEndDocument{%
6403         \string\ifx\string\hyper@anchor\string\@undefined^^J%
6404         \string\let\string\newlabel\string\oldnewlabel^^J%
6405         \string\fi%
6406       }^^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.

```

6407       \string\fi%
6408     }^^J%
6409     \string\global\string\let\string\hyper@last\relax^^J%
6410     \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6411   }%
6412 \fi
6413 \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.

```

6414 \ifx\hyper@last\@undefined
6415 \def\newlabel#1#2{\@newlabel r{#1}{#2}{-}{-}}%
6416 \fi
6417 }
6418 }

```

25 Title strings

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

```

6419 \ifHy@pdfusetitle
6420 \let\HyOrg@title\title
6421 \let\HyOrg@author\author
6422 \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
6423 \def\Hy@scanopttitle[#1]{%
6424 \gdef\Hy@title{#1}%
6425 \HyOrg@title{#1}%
6426 }%
6427 \def\Hy@scantitle#1{%
6428 \gdef\Hy@title{#1}%
6429 \HyOrg@title{#1}%
6430 }%
6431 \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6432 \def\Hy@scanoptauthor[#1]{%
6433 \gdef\Hy@author{#1}%
6434 \HyOrg@author{#1}%
6435 }%
6436 \def\Hy@scanauthor#1{%
6437 \gdef\Hy@author{#1}%
6438 \HyOrg@author{#1}%
6439 }%

```

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.

```

6440 \begingroup
6441 \def\process@me#1\@nil#2{%
6442 \expandafter\let\expandafter\x\csname @#2\endcsname
6443 \edef\y{\expandafter\strip@prefix\meaning\x}%
6444 \def\c##1##2\@nil{%
6445 \ifx\\##1\\%
6446 \else
6447 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6448 \expandafter{\x}%
6449 \fi
6450 }%
6451 \expandafter\c\y\relax#1\@nil
6452 }%
6453 \expandafter\process@me\string\@latex@\@nil{title}%
6454 \expandafter\process@me\string\@latex@\@nil{author}%
6455 \endgroup

```

```

6456 \fi
6457 \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.

```

6458 \def\Hy@UseMaketitleString#1{%
6459   \@ifundefined{Hy@#1}{-}{%
6460     \begingroup
6461       \let\Hy@saved@hook\pdfstringdefPreHook
6462       \pdfstringdefDisableCommands{%
6463         \expandafter\let\expandafter\\ \csname Hy@newline@#1\endcsname
6464         \let\newline\\%
6465         \def\and{; }%
6466         \let\thanks\@gobble%
6467       }%
6468       \expandafter\ifx\csname @pdf#1\endcsname\@empty
6469         \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6470           \csname Hy@#1\endcsname\@empty
6471         }%
6472       \fi
6473       \global\let\pdfstringdefPreHook\Hy@saved@hook
6474     \endgroup
6475   }%
6476 }
6477 \def\Hy@newline@title#1{ #1}
6478 \def\Hy@newline@author#1{, #1}
6479 \def\Hy@UseMaketitleInfos{%
6480   \Hy@UseMaketitleString{title}%
6481   \Hy@UseMaketitleString{author}%
6482 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

6483 \let\Hy@EveryPageHook\@empty
6484 \let\Hy@EveryPageBoxHook\@empty
6485 \let\Hy@FirstPageHook\@empty
6486 \AddToHook{shipout/before}{%
6487   \Hy@EveryPageHook
6488   \ifx\Hy@EveryPageBoxHook\@empty
6489     \else

```

```

6490 \setbox\ShipoutBox=\vbox{%
6491 \offinterlineskip
6492 \Hy@EveryPageBoxHook
6493 \box\ShipoutBox
6494 }%
6495 \fi
6496 }
6497 \Hy@iffileloaded{hpdftex.def}{%
6498 \AddToHook{shipout/before}{%
6499 \Hy@FirstPageHook
6500 \global\let\Hy@FirstPageHook\@empty
6501 }%
6502 }{%
6503 \AddToHook{shipout/firstpage}{%
6504 \Hy@FirstPageHook
6505 }%
6506 }
6507 \g@addto@macro\Hy@FirstPageHook{%
6508 \PDF@FinishDoc
6509 \global\let\PDF@FinishDoc\@empty
6510 }

```

27.1 PDF /PageLabels

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

```

6511 \ifHy@pdfpagelabels
6512 \begingroup\expandafter\expandafter\expandafter\endgroup
6513 \expandafter\ifx\csname thepage\endcsname\relax
6514 \Hy@pdfpagelabelsfalse
6515 \Hy@WarningNoLine{%
6516 Option `pdfpagelabels' is turned off\MessageBreak
6517 because \string\thepage\space is undefined%
6518 }%
6519 \csname fi\endcsname
6520 \csname iffalse\expandafter\endcsname
6521 \fi

```

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

```

6522 \def\thispdfpagelabel#1{%
6523 \gdef\HyPL@thisLabel{#1}%
6524 }%
6525 \global\let\HyPL@thisLabel\relax

```

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

```

6526 \let\HyPL@Labels\@empty

```

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

```

6527 \newcount\Hy@abspage
6528 \Hy@abspage=0 %

```

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

```

6529 \def\HyPL@LastType{init}%
6530 \def\HyPL@LastNumber{0}%
6531 \let\HyPL@LastPrefix\@empty

```

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

```

6532 \def\HyPL@arabic{D}%
6533 \def\HyPL@Roman{R}%
6534 \def\HyPL@roman{r}%
6535 \def\HyPL@Alph{A}%
6536 \def\HyPL@alph{a}%

6537 \let\HyPL@SlidesSetPage\@empty
6538 \@ifclassloaded{slides}{%
6539   \def\HyPL@SlidesSetPage{%
6540     \advance\c@page\@ne
6541     \ifnum\value{page}>\@ne
6542       \protected@edef\HyPL@SlidesOptionalPage{%
6543         \Hy@SlidesFormatOptionalPage{\thepage}%
6544       }%
6545     \else
6546       \let\HyPL@SlidesOptionalPage\@empty
6547     \fi
6548     \advance\c@page-\@ne
6549     \def\HyPL@page{%
6550       \csname the\Hy@SlidesPage\endcsname
6551       \HyPL@SlidesOptionalPage
6552     }%
6553   }%
6554 }{}%

```

`\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.

```

6555 \def\HyPL@EveryPage{%
6556   \begingroup
6557   \ifx\HyPL@thisLabel\relax
6558     \let\HyPL@page\thepage
6559     \HyPL@SlidesSetPage
6560   \else
6561     \let\HyPL@page\HyPL@thisLabel
6562     \global\let\HyPL@thisLabel\relax
6563   \fi
6564   \let\HyPL@Type\relax
6565   \ifnum\c@page>0 %
6566     \ifx\HyPL@SlidesSetPage\@empty
6567       \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6568     \fi
6569   \fi
6570   \let\Hy@temp Y%
6571   \ifx\HyPL@Type\HyPL@LastType
6572   \else
6573     \let\Hy@temp N%
6574   \fi
6575   \ifx\HyPL@Type\relax
6576     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6577   \else

```

```

6578     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6579     \fi
6580     \ifx\HyPL@Prefix\HyPL@LastPrefix
6581     \else
6582         \let\Hy@temp N%
6583     \fi
6584     \if Y\Hy@temp
6585         \advance\c@page by -1 %
6586         \ifnum\HyPL@LastNumber=\the\c@page\relax
6587         \else
6588             \let\Hy@temp N%
6589         \fi
6590         \Hy@StepCount\c@page
6591     \fi
6592     \if N\Hy@temp
6593         \ifx\HyPL@Type\relax
6594             \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
6595         \else
6596             \HyPL@StorePageLabel{%
6597                 \ifx\HyPL@Prefix\@empty
6598                 \else
6599                     /P(\HyPL@Prefix)%
6600                 \fi
6601                 /S/\csname HyPL\HyPL@Type\endcsname
6602                 \ifnum\the\c@page=1 %
6603                 \else
6604                     \space/St \the\c@page
6605                 \fi
6606             }%
6607         \fi
6608     \fi
6609     \xdef\HyPL@LastNumber{\the\c@page}%
6610     \global\let\HyPL@LastType\HyPL@Type
6611     \global\let\HyPL@LastPrefix\HyPL@Prefix
6612 \endgroup
6613 \Hy@GlobalStepCount\Hy@abspage
6614 }%

```

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

```

6615 \def\HyPL@CheckThePage#1\@nil{%
6616     \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6617 }%

```

\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 implement ation 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.

```

6618 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6619     \def\Hy@tempa{#4}%
6620     \def\Hy@tempb{\csname\endcsname\c@page}%
6621     \ifx\Hy@tempa\Hy@tempb
6622         \expandafter\ifx\csname HyPL#3\endcsname\relax
6623         \else
6624             \def\HyPL@Type{#3}%

```

```

6625     \def\HyPL@Prefix{#2}%
6626     \fi
6627   \else
6628     \begingroup
6629     \let\Hy@next\endgroup
6630     \let\HyPL@found\@undefined
6631     \def\arabic{\HyPL@Format{arabic}}}%
6632     \def\Roman{\HyPL@Format{Roman}}}%
6633     \def\roman{\HyPL@Format{roman}}}%
6634     \def\Alph{\HyPL@Format{Alph}}}%
6635     \def\alph{\HyPL@Format{alph}}}%
6636     \protected@edef\Hy@temp{#1}%
6637     \ifx\HyPL@found\relax
6638       \toks@{\expandafter{\Hy@temp}}%
6639       \edef\Hy@next{\endgroup
6640         \noexpand\HyPL@@@CheckThePage\the\toks@
6641         \noexpand\HyPL@found\relax\noexpand\@nil
6642       }%
6643     \fi
6644     \Hy@next
6645   \fi
6646 }%

```

\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`.

```

6647 \def\HyPL@Format#1#2{%
6648   \ifx\HyPL@found\@undefined
6649     \expandafter\ifx\csname c@#2\endcsname\c@page
6650       \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6651     \else
6652       \expandafter\noexpand\csname#1\endcsname{#2}%
6653     \fi
6654   \else
6655     \expandafter\noexpand\csname#1\endcsname{#2}%
6656   \fi
6657 }%

```

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

```

6658 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6659   \def\Hy@tempa{#3}%
6660   \def\Hy@tempb{\HyPL@found\relax}%
6661   \ifx\Hy@tempa\Hy@tempb
6662     \def\HyPL@Type{#2}%
6663     \def\HyPL@Prefix{#1}%
6664   \fi
6665 }%

```

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

```

6666 \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`.

```
6667 \def\HyPL@Useless{0<</S/D>>}%
6668 \@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.

```
6669 \def\HyPL@SetPageLabels{%
6670   \@onelevel@sanitize\HyPL@Labels
6671   \ifx\HyPL@Labels\@empty
6672   \else
6673     \ifx\HyPL@Labels\HyPL@Useless
6674     \else
6675       \Hy@PutCatalog{/PageLabels<</Nums\HyPL@Labels>>>}%
6676     \fi
6677   \fi
6678 }%

6679 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6680 \fi
```

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

```
6681 \Hy@DisableOption{pdfpagelabels}
6682 \</package>
```

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`

```
6683 <*\pdfTeX>
6684 \pdf@ifdraftmode{%
6685   \let\Hy@PutCatalog\@gobble
6686 }{%
6687   \let\Hy@PutCatalog\pdfcatalog
6688 }
6689 </\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.

```
6690 <*\vTeX>
6691 \providecommand*\XR@ext{pdf}
6692 \edef\Hy@VTeXversion{%
6693   \ifx\VTeXversion\@undefined
6694     \z@
6695   \else
6696     \ifx\VTeXversion\relax
6697       \z@
6698     \else
```

```

6699 \VTeXversion
6700 \fi
6701 \fi
6702 }
6703 \begingroup
6704 \ifnum\Hy@VTeXversion<660 %
6705 \gdef\Hy@PutCatalog#1{%
6706 \Hy@WarningNoLine{%
6707 VTeX 6.59g or above required for pdfpagelabels%
6708 }%
6709 }%
6710 \else
6711 \gdef\Hy@PutCatalog#1{%
6712 \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6713 }%
6714 \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6715 \ifx\#2\%
6716 \else
6717 \immediate\special{!pdfpagelabels #2}%
6718 \fi
6719 }%
6720 \fi
6721 \endgroup
6722 </vtex>

6723 <*pdfTeX | vtex>

```

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

```

6724 \ifHy@pdfpagelabels
6725 \def\HyPL@StorePageLabel#1{%
6726 \toks@{\expandafter{\HyPL@Labels}}%
6727 \xdef\HyPL@Labels{%
6728 \the\toks@
6729 \the\Hy@absPage<<#1>>%
6730 }%
6731 }%

```

The `enddocument/afteraux` hook is used to get behind the final `\clearpage` and to avoid a `\clearpage` in `\AtEndDocument`. Then the PDF catalog entry for `\PageLabels` is set.

```

6732 \AddToHook{enddocument/afteraux}{%
6733 \HyPL@SetPageLabels
6734 }%

6735 \fi
6736 </pdfTeX | vtex>

```

27.1.2 xetex

```

6737 <*xetex>
6738 \HyPsd@LoadUnicode
6739 \Hy@unicodetrue
6740 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6741 \else
6742 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto

```

```

6743 \fi
6744 \define@key{Hyp}{unicode}[true]{%
6745   \Hy@boolkey{unicode}{#1}%
6746   \ifHy@unicode
6747   \else
6748     \Hy@Warning{%
6749       XeTeX driver only supports `unicode=true'. Ignoring\MessageBreak
6750       option setting `unicode=false'%
6751     }%
6752     \Hy@unicodetrue
6753   \fi
6754 }
6755 \define@key{Hyp}{pdfencoding}{%
6756   \edef\HyPsd@temp{#1}%
6757   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6758     \let\HyPsd@pdfencoding\HyPsd@temp
6759   \else
6760     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6761       \let\HyPsd@pdfencoding\HyPsd@temp
6762     \else
6763       \Hy@Warning{%
6764         XeTeX driver only supports\MessageBreak
6765         `pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6766         setting `pdfencoding=\HyPsd@temp'%
6767       }%
6768     \fi
6769   \fi
6770 }
6771 \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:

```

6772 \def\setpdfinkmargin#1{%
6773   \begingroup
6774     \setlength{\dimen@}{#1}%
6775     \special{dvipdfmx:config g \strip@pt\dimen@}%
6776   \endgroup}
6777 \</xetex>

```

set the pdf version

```

6778 \<*dvipdfm|xetex>
6779 \special{pdf:majorversion \Hy@pdf@majorversion}
6780 \special{pdf:minorversion \Hy@pdf@minorversion}
6781 \</dvipdfm|xetex>

```

27.1.3 pdfmarkbase, dvipdfm, xetex

```

6782 \<*pdfmarkbase>
6783 \begingroup
6784   \@ifundefined{headerps@out}{-}{%
6785     \toks@{\expandafter{\Hy@FirstPageHook}%
6786     \xdef\Hy@FirstPageHook{%
6787       \noexpand\headerps@out{%
6788         systemdict /pdfmark known%
6789         {%
6790           userdict /?pdfmark systemdict /exec get put%

```

```

6791     }{%
6792         userdict /?pdfmark systemdict /pop get put %
6793         userdict /pdfmark systemdict /cleartomark get put%
6794     }%
6795     ifelse%
6796 }%
6797 \the\toks@
6798 }%
6799 }%
6800 \endgroup
6801 \</pdfmarkbase>

```

\Hy@PutCatalog

```

6802 \<dvipdfm | xetex>\def\Hy@PutCatalog#1{\<pdfmark@mark{docview <<#1>>>}}
6803 \<*pdfmarkbase>
6804 \def\Hy@PutCatalog#1{%
6805     \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} <<#1>>>}}%
6806 }
6807 \</pdfmarkbase>

6808 \<*pdfmarkbase | dvipdfm | xetex>
6809 \ifHy@pdfpagelabels

```

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

```

6810 \def\HyPL@StorePageLabel#1{%
6811     \if@filesw
6812     \begingroup
6813         \edef\Hy@tempa{\the\Hy@abspage<<#1>>>}%
6814         \immediate\write\@mainaux{%
6815             \string\HyPL@Entry{\Hy@tempa}%
6816         }%
6817     \endgroup
6818     \fi
6819 }%

```

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.

```

6820 \Hy@AtBeginDocument{%
6821     \if@filesw
6822         \immediate\write\@mainaux{%
6823             \string\providecommand\string*\string\HyPL@Entry[1]{}%
6824         }%
6825     \fi
6826     \ifx\HyPL@Labels\@empty
6827         \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6828     \else
6829         \HyPL@SetPageLabels
6830     \fi
6831     \let\HyPL@Entry\@gobble
6832 }%

```

\HyPL@Entry

```

6833 \def\HyPL@Entry#1{%

```

```

6834 \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6835 \HyPL@Labels
6836 #1%
6837 }%
6838 }%

6839 \fi
6840 </pdfmarkbase | dvipdfm | xetex>
6841 <*packageEnd>

6842 \ifx\MaybeStopEarly\relax
6843 \else
6844 \Hy@stoppedearlytrue
6845 \expandafter\MaybeStopEarly
6846 \fi
6847 \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 ‘natural-names’ option uses whatever L^AT_EX provides, which may be usable. But then it’s up to you to make sure these are legal PDF and HTML names. The ‘hypertext-names=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

```

6848 \def\Hy@CounterExists#1{%
6849 \begingroup\expandafter\expandafter\expandafter\endgroup
6850 \expandafter\ifx\csname c@#1\endcsname\relax
6851 \expandafter\@gobble
6852 \else
6853 \begingroup\expandafter\expandafter\expandafter\endgroup
6854 \expandafter\ifx\csname the#1\endcsname\relax
6855 \expandafter\expandafter\expandafter\@gobble
6856 \else
6857 \expandafter\expandafter\expandafter\@firstofone
6858 \fi
6859 \fi
6860 }

```

change 2024-10-13: do not define if format is new enough.

```

6861 \IfFormatAtLeastTF{2024-11-01}{%
6862 {
6863   \Hy@CounterExists{section}{%
6864     \providecommand\theHequation{\theHsection.\arabic{equation}}}%
6865   }
6866   \providecommand\theHequation{\arabic{equation}}}%
6867   \Hy@CounterExists{part}{%
6868     \providecommand\theHpart{\arabic{part}}}%
6869   }
6870   \@ifundefined{thechapter}{%
6871     \providecommand\theHsection {\arabic{section}}}%
6872     \providecommand\theHfigure {\arabic{figure}}}%
6873     \providecommand\theHtable {\arabic{table}}}%
6874   }{%
6875     \providecommand\theHchapter {\arabic{chapter}}}%
6876     \providecommand\theHfigure {\theHchapter.\arabic{figure}}}%
6877     \providecommand\theHtable {\theHchapter.\arabic{table}}}%
6878     \providecommand\theHsection {\theHchapter.\arabic{section}}}%
6879   }
6880   \providecommand\theHsubsection {\theHsection.\arabic{subsection}}
6881   \providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsec-
tion}}
6882   \providecommand\theHparagraph {\theHsubsubsection.\arabic{paragraph}}
6883   \providecommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
6884   \providecommand\theHtheorem {\theHsection.\arabic{theorem}}
6885   \providecommand\theHthm {\theHsection.\arabic{thm}}
6886 }

```

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.

```

6887 \let\H@item\item
6888 \newcounter{Item}
6889 \IfFormatAtLeastTF{2024-11-01}{%
6890 {\def\theHItem{\arabic{Item}}}%
6891 \def\item{%
6892   \@hyper@itemfalse
6893   \if@nmbrlist\@hyper@itemtrue\fi
6894   \H@item
6895 }
6896 \IfFormatAtLeastTF{2024-11-01}{%
6897 {
6898   \providecommand\theHenumi {\theHItem}
6899   \providecommand\theHenumii {\theHItem}
6900   \providecommand\theHenumiii {\theHItem}
6901   \providecommand\theHenumiv {\theHItem}
6902   \providecommand\theHHfootnote {\arabic{Hfootnote}}
6903   \providecommand\theHmpfootnote{\arabic{mpfootnote}}
6904 }

```

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.

```

6905 \let\H@refstepcounter\@kernel@refstepcounter
6906 \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`

```

6907 \newif\if@hyper@item
6908 \newif\if@skiphyperref
6909 \@hyper@itemfalse
6910 \@skiphyperreffalse
6911 \ExplSyntaxOn
6912 \IfFormatAtLeastTF{2024-11-01}{
6913 {
6914 \NewSocketPlug{refstepcounter}{hyperref}{\ifHy@pdfstring\else#1\fi}
6915 \AssignSocketPlug{refstepcounter}{hyperref}

```

change 2024-11-05: `cleveref` relies on `refstepcounter` to update its data.

```

6916 \AddToHook{package/cleveref/after}{
6917 {
6918 \@ifpackagelater{cleveref}{2018/03/28}{ }
6919 {
6920 \NewSocketPlug{refstepcounter}{hyperref/fixcleveref}{
6921 {\ifHy@pdfstring\else
6922 #1%
6923 {\firstaid@cref@updatelabeldata{\@currentcounter}}}%
6924 \fi}
6925 \AssignSocketPlug{refstepcounter}{hyperref/fixcleveref}
6926 }
6927 }
6928 \NewSocketPlug{refstepcounter/target}{hyperref}{
6929 {
6930 \bool_lazy_and:nnT
6931 { \l__hyp_target_create_bool }
6932 { ! \legacy_if_p:n{@skiphyperref} }
6933 {
6934 \legacy_if:nTF {@hyper@item}{
6935 {
6936 \stepcounter{Item}%
6937 \hyper@refstepcounter{Item}%
6938 \@hyper@itemfalse
6939 }
6940 {
6941 \hyper@refstepcounter{\@currentcounter}%
6942 }
6943 }
6944 }
6945 \AssignSocketPlug{refstepcounter/target}{hyperref}
6946 }
6947 {
6948 \def\refstepcounter#1{%
6949 \legacy_if:nF {Hy@pdfstring}{
6950 {
6951 \H@refstepcounter{#1}%

```

```

6952 \bool_lazy_and:nnT
6953 { \l__hyp_target_create_bool }
6954 { ! \legacy_if_p:n{@skiphyperref} }
6955 {
6956 \legacy_if:nTF {@hyper@item}
6957 {
6958 \stepcounter{Item}%
6959 \hyper@refstepcounter{Item}%
6960 \@hyper@itemfalse
6961 }
6962 {
6963 \hyper@refstepcounter{#1}%
6964 }
6965 }
6966 }
6967 }
6968 }
6969 \ExplSyntaxOff
6970 \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. change 2025-06-20: test if the switch already exist, see tagging-project issue 920.

```

6971 \ifcsname ifmeasuring@\endcsname
6972 \else
6973 \expandafter\newif\csname ifmeasuring@\endcsname\measuring@false
6974 \fi
6975 \newcommand\Hy@ifnotmeasuring[1]{#1}
6976 \AddToHook{package/amsmath/after}
6977 {
6978 \renewcommand\Hy@ifnotmeasuring[1]
6979 {\ifmeasuring@ \else #1\fi}
6980 }

```

`\hyper@refstepcounter`

```

6981 \def\hyper@refstepcounter#1{%
6982 \HyCnt@ProvideTheHCounter{#1}%
6983 \hyper@makecurrent{#1}%
6984 \Hy@ifnotmeasuring
6985 {\Hy@raisedlink{%
6986 \hyper@anchorstart{\@currentHref}\hyper@anchorend
6987 }}%
6988 }

```

`\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.

```

6989 \def\HyCnt@ProvideTheHCounter#1{%
6990 \ifundefined{theH#1}{%

```

```

6991 \expandafter\def\csname theH#1\endcsname{%
6992 \def\Hy@temp{\@elt{#1}}%
6993 \@onelevel@sanitize\Hy@temp
6994 \let\HyOrg@elt\@elt
6995 \edef\@elt{%
6996 \noexpand\HyCnt@LookForParentCounter
6997 \expandafter\noexpand\csname theH#1\endcsname
6998 }%
6999 \cl@@ckpt
7000 \let\@elt\HyOrg@elt
7001 \expandafter
7002 \Hy@LocalAppendToMacro\csname theH#1\expandafter\endcsname
7003 \expandafter{%
7004 \expandafter\@arabic\csname c@#1\endcsname
7005 }%
7006 }{}%
7007 }

```

\Hy@LookForParentCounter

```

7008 \def\HyCnt@LookForParentCounter#1#2{%
7009 \expandafter\let\expandafter\Hy@temp@A\csname cl@#2\endcsname
7010 \@ifundefined{cl@#2}{%
7011 }{%
7012 \@onelevel@sanitize\Hy@temp@A
7013 \edef\Hy@temp@A{%
7014 \noexpand\in@{\Hy@temp}{\Hy@temp@A}%
7015 }\Hy@temp@A
7016 \ifin@
7017 \@ifundefined{theH#2}{%
7018 \expandafter\Hy@LocalAppendToMacro\expandafter#1%
7019 \expandafter{%
7020 \expandafter\@arabic\csname c@#2\endcsname.%
7021 }%
7022 }{%
7023 \expandafter\Hy@LocalAppendToMacro\expandafter#1%
7024 \expandafter{%
7025 \csname theH#2\endcsname.%
7026 }%
7027 }%
7028 \fi
7029 }%
7030 }

```

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`.

```

7031 \begingroup\expandafter\expandafter\expandafter\endgroup
7032 \expandafter\ifx\csname chapter\endcsname\relax
7033 \def\Hy@chapterstring{section}%
7034 \else
7035 \def\Hy@chapterstring{chapter}%

```

```

7036 \fi
7037 \def\Hy@appendixstring{appendix}
7038 \def\Hy@chapapp{\Hy@chapterstring}
7039 \@ifundefined{appendix}{%
7040 }{%
7041   \let\HyOrg@appendix\appendix
7042   \def\Hy@AlphNoErr#1{%
7043     \ifnum\value{#1}>26 %
7044       Alph\number\value{#1}%
7045     \else
7046       \ifnum\value{#1}<1 %
7047         Alph\number\value{#1}%
7048       \else
7049         \Alph{#1}%
7050       \fi
7051     \fi
7052   }%
7053   \def\appendix{%
7054     \@ifundefined{chapter}{%
7055       \gdef\theHsection{\Hy@AlphNoErr{section}}%
7056     }{%
7057       \gdef\theHchapter{\Hy@AlphNoErr{chapter}}%
7058     }%
7059     \xdef\Hy@chapapp{\Hy@appendixstring}%
7060     \HyOrg@appendix
7061   }%
7062 }

```

\Hy@Test@alph

```

7063 \def\Hy@Test@alph#1{%
7064   \ifcase#1\or
7065     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
7066     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
7067     u\or v\or w\or x\or y\or z%
7068   \else
7069     \@ctrerr
7070   \fi
7071 }

```

\Hy@Test@Alph

```

7072 \def\Hy@Test@Alph#1{%
7073   \ifcase#1\or
7074     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
7075     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
7076     U\or V\or W\or X\or Y\or Z%
7077   \else
7078     \@ctrerr
7079   \fi
7080 }

```

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

```

7081 \NewHook{__hyp/target/setname }
7082 \define@key{Hyp}{next-anchor}{%
7083   \AddToHookNext{__hyp/target/setname}%

```

```

7084     {\Hy@MakeCurrentHref{#1}}%
7085  }

```

`\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.

```

7086 \def\hyper@makecurrent#1{%
7087   \begingroup
7088   \Hy@safe@activetrue
7089   \edef\Hy@param{#1}%
7090   \ifx\Hy@param\Hy@chapterstring
7091     \let\Hy@param\Hy@chapapp
7092   \fi
7093   \ifHy@hypertextnames
7094     \let\@number\@firstofone
7095     \def\@fnsymbol##1{fnsymbol\number##1}%
7096     \def\@arabic##1{\number##1}%
7097     \ifx\@alph\Hy@Test@alph
7098       \else
7099         \def\@alph{alph\number}%
7100       \fi
7101     \ifx\@Alph\Hy@Test@Alph
7102       \else
7103         \def\@Alph{Alph\number}%
7104       \fi
7105     \ifHy@naturalnames
7106       \let\textlatin\@firstofone
7107       \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
7108     \else
7109       \xdef\HyperGlobalCurrentHref{%
7110         \csname
7111           the%
7112           \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
7113           #1%
7114         \endcsname
7115       }%
7116     \fi
7117     \xdef\HyperGlobalCurrentHref{%
7118       \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
7119     }%
7120   \else
7121     \Hy@GlobalStepCount\Hy@linkcounter
7122     \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
7123   \fi
7124 \endgroup
7125 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7126 \ifHy@localanchorname
7127   \let\@currentHref\HyperLocalCurrentHref
7128 \else
7129   \global\let\@currentHref\HyperGlobalCurrentHref
7130 \fi
7131 \UseHook{__hyp/target/setname}%
7132 }

```

`\Hy@MakeCurrentHref`

```
7133 \def\Hy@MakeCurrentHref#1{%
7134   \edef\HyperLocalCurrentHref{#1}%
7135   \@onelevel@sanitize\HyperLocalCurrentHref
7136   \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
7137   \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7138   \ifHy@localanchorname
7139     \let\@currentHref\HyperLocalCurrentHref
7140   \else
7141     \global\let\@currentHref\HyperGlobalCurrentHref
7142   \fi
7143 }
```

`\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.

```
7144 \def\Hy@MakeCurrentHrefAuto#1{%
7145   \Hy@GlobalStepCount\Hy@linkcounter
7146   \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
7147   \UseHook{__hyp/target/setname}}
```

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

```
7148 \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.

```
7149 \def\hypergetref#1{\getrefbykeydefault{#1}{}}{??}}
7150 \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.

```
7151 \@if@t@r\fmtversion{2023-11-01}
7152 {
7153   \AddToHook{package/varwidth/after}
7154   {
7155     \NewSocketPlug{hyp/raisedlink}{varwidth}{\@vwid@wrap{#1}}
7156     \appto\@vwid@setup{\AssignSocketPlug{hyp/raisedlink}{varwidth}}
7157   }
7158 }
```

31 Package titlesec and titletoc support

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

Package titlesec support:

```

7159 \ifpackageloaded{titlesec}{%
7160   \def\ttl@Hy@steplink#1{%
7161     \Hy@MakeCurrentHrefAuto{#1*}%
7162     \edef\ttl@Hy@saveanchor{%
7163       \noexpand\Hy@raisedlink{%
7164         \noexpand\hyper@anchorstart{\@currentHref}%
7165         \noexpand\hyper@anchorend
7166         \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
7167         \noexpand\ttl@Hy@PatchSaveWrite
7168       }%
7169     }%
7170   }%
7171   \def\ttl@Hy@PatchSaveWrite{%
7172     \begingroup
7173     \toks@{\expandafter{\ttl@savewrite}}%
7174     \edef\x{\endgroup
7175       \def\noexpand\ttl@savewrite{%
7176         \let\noexpand\@currentHref
7177         \noexpand\ttl@Hy@SavedCurrentHref
7178         \the\toks@
7179       }%
7180     }%
7181     \x
7182   }%
7183   \def\ttl@Hy@refstepcounter#1{%
7184     \let\ttl@b\Hy@raisedlink
7185     \def\Hy@raisedlink##1{%
7186       \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
7187     }%
7188     \refstepcounter{#1}%
7189     \let\Hy@raisedlink\ttl@b
7190   }%
7191 }{}

```

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

```

7192 \ifpackageloaded{longtable}{%
7193   \@ifundefined{hyper@nopatch@longtable}{%
7194     \begingroup
7195     \def\y{\LT@array}%
7196     \@ifundefined{scr@LT@array}{%
7197       \@ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}%
7198     }{\def\y{\scr@LT@array}}%
7199     \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
7200       \expandafter\endgroup
7201       \expandafter\def\y[##1]##2{%
7202         \H@refstepcounter{#1}%

```

```

7203 \hyper@makecurrent{table}%
7204 \let\Hy@LT@currentHref\@currentHref
7205 #2\@sharp#####4%
7206 }%
7207 }%
7208 \expandafter\expandafter\expandafter\x\y[{\#1}]{\#2}\@nil

```

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

```

7209 \begingroup
7210 \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
7211 \endgroup
7212 \def\LT@start{%
7213 #1%
7214 \ifvoid\LT@foot#2\fi
7215 \let\@currentHref\Hy@LT@currentHref
7216 \Hy@raisedlink{%
7217 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7218 }%
7219 #3%
7220 }%
7221 }%
7222 \expandafter\x\LT@start\@nil
7223 }{}
7224 }{}

```

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`

```

7225 \let\new@refstepcounter\refstepcounter
7226 \let\H@equation\equation
7227 \let\H@endequation\endequation
7228 \@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.

```

7229 \ifpackageloaded{amsmath}{}{}%
7230 \def\equation{%
7231 \let\refstepcounter\H@refstepcounter
7232 \H@equation
7233 \hyper@makecurrent{equation}%

```

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

```

7234 \mathopen{%
7235 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}}%
7236 }%

```

```

7237 \let\refstepcounter\new@refstepcounter
7238 }%
7239 \def\endequation{%
7240 \ifx\Hy@raisedlink\@empty
7241 \hyper@anchorend
7242 \else
7243 \mathclose{\Hy@raisedlink{\hyper@anchorend}}%
7244 \fi
7245 \H@endequation
7246 }%
7247 }
7248 }{}

```

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.

```

7249 \newif\if@eqnstar
7250 \@eqnstarfalse
7251 \let\H@eqnarray\eqnarray
7252 \let\H@endeqnarray\endeqnarray
7253 \@ifundefined{hyper@nopatch@mathenv}{%
7254 \def\eqnarray{%
7255 \let\Hy@reserved@a\relax
7256 \def\@currentHref{}%
7257 \H@eqnarray
7258 \if@eqnstar
7259 \else
7260 \ifx\\\@currentHref\\%
7261 \else
7262 \hyper@makecurrent{equation}%
7263 \mathopen{%
7264 \Hy@raisedlink{%
7265 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7266 }%
7267 }%
7268 \fi
7269 \fi
7270 }
7271 \def\endeqnarray{%
7272 \H@endeqnarray
7273 }
7274 }{}

```

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.

```

7275 \@namedef{eqnarray*}{%
7276 \protected\def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
7277 }
7278 \@namedef{endeqnarray*}{%
7279 \nonumber\endeqnarray\@eqnstarfalse
7280 }

```

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

```

7281 \ifundefined{subeqnarray}{%
7282   \let\H@subeqnarray\subeqnarray
7283   \let\H@endsubeqnarray\endsubeqnarray
7284   \def\subeqnarray{%
7285     \let\Hy@reserved@a\relax
7286     \H@subeqnarray
7287     \hyper@makecurrent{equation}%
7288     \hyper@anchorstart{\@currentHref}{\hyper@anchorend
7289   }%
7290   \def\endsubeqnarray{%
7291     \H@endsubeqnarray
7292   }%
7293   \providecommand\theHsubequation{\theHequation\alph{subequation}}%
7294 }
```

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

```

7295 \def\make@stripped@name#1{%
7296   \begingroup
7297   \escapechar\m@ne
7298   \global\let\newname\@empty
7299   \protected@edef\Hy@tempa{#1}%
7300   \edef\@tempb{%
7301     \noexpand\@tfor\noexpand\Hy@tempa:=%
7302     \expandafter\strip@prefix\meaning\Hy@tempa
7303   }%
7304   \@tempb\do{%
7305     \if\Hy@tempa\else
7306       \if\Hy@tempa\else
7307         \xdef\newname{\newname\Hy@tempa}%
7308       \fi
7309     \fi
7310   }%
7311   \endgroup
7312 }
```

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.

```

7313 \AddToHook{cmd/subequations/before}
7314 {%
7315   \stepcounter{equation}%
7316   \protected@edef\theHparentequation{\theHequation}%
7317   \addtocounter{equation}{-1}%
7318 }
7319
7320 \AddToHook{cmd/subequations/after}
7321 {%
7322   \def\theHequation{\theHparentequation\alph{equation}}%
7323   \ignorespaces
7324 }
```

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 a page break. The next item hook doesn't work for the same reason, also not every theorem environment actually uses `\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 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).

```

7325 \newcommand\Hy@theorem@refstepcounter[1]
7326 {%
7327   \H@refstepcounter{#1}%
7328   \hyper@makecurrent{#1}%
7329   \global\let\Hy@dth@currentHref\@currentHref
7330   \Hy@theorem@makelinktarget{\Hy@dth@currentHref}%
7331 }
7332 \newcommand\Hy@theorem@makelinktarget[1]
7333 {
7334   \AddToHookNext{cmd/item/before}
7335   {\AddToHookNext{para/begin}
7336     {\let\Hy@tempa\@currentHref
7337       \MakeLinkTarget*{#1}% \Hy@dth@currentHref

```

```

7338     \global\let\@currentHref\Hy@tempa
7339   }%
7340 }%
7341 }

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

7342 \AddToHook{begindocument}
7343 {%
7344   \@ifundefined{deferred@thm@head}{}
7345   {%
7346     \let\Hy@deferred@thm@head\deferred@thm@head
7347     \def\deferred@thm@head#1{\Hy@deferred@thm@head{#1}}%
7348     \renewcommand\Hy@theorem@makelinktarget[1]
7349     {%
7350       \AddToHookNext{cmd/deferred@thm@head/before}
7351       {\AddToHookNext{para/begin}
7352        {\let\Hy@tempa\@currentHref
7353         \MakeLinkTarget*{#1}%
7354         \global\let\@currentHref\Hy@tempa
7355         }%
7356        }%
7357       }%
7358     }%
7359   }
7360   \@ifundefined{hyper@nopatch@thm}{}%
7361   \AtBeginDocument{%
7362     \@ifpackageloaded{cleveref}
7363     {\AddToHook{cmd/@thm/before}{\ifhmode\unskip\fi}}
7364     {%
7365       \ifpatchable\@thm{\refstepcounter}
7366       {\patchcmd\@thm{\refstepcounter}{\Hy@theorem@refstepcounter}{}{}}
7367       {}%
7368     }{}{}

```

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 additions links to footnotes is handled elsewhere.

```

7369 \@ifundefined{hyper@nopatch@footnote}{}%
7370 \ifHy@hyperfootnotes
7371   \@ifundefined{theHfootnote}
7372   {\newcounter{Hfootnote}}
7373   {\let\H@@theHfootnote\theHfootnote
7374    \let\theHfootnote\undefined
7375    \newcounter{Hfootnote}
7376    \let\theHfootnote\H@@theHfootnote
7377   }%

```

where is this used?

```

7378 \ifundefined{theHHmpfootnote}{%
7379 \let\theHHmpfootnote\theHHfootnote
7380 }{}
7381 \let\H@@footnotetext\@footnotetext
7382 \let\H@@footnotemark\@footnotemark
7383 \def\@xfootnotenext[#1]{%
7384 \begingroup
7385 \csname c@\@mpfn\endcsname #1\relax
7386 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7387 \endgroup
7388 \ifx\@footnotetext\@mpfootnotetext
7389 \expandafter\H@@mpfootnotetext
7390 \else
7391 \expandafter\H@@footnotetext
7392 \fi
7393 }%
7394 \def\@xfootnotemark[#1]{%
7395 \begingroup
7396 \c@footnote #1\relax
7397 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7398 \endgroup
7399 \H@@@footnotemark
7400 }%
7401 \let\H@@mpfootnotetext\@mpfootnotetext
7402 \long\def\@mpfootnotetext#1{%
7403 \H@@@mpfootnotetext{%
7404 \ifHy@nesting
7405 \expandafter\@firstoftwo
7406 \else
7407 \expandafter\@secondoftwo
7408 \fi
7409 {%
7410 \expandafter\hyper@@anchor\expandafter{%
7411 \Hy@footnote@currentHref
7412 }{\ignorespaces #1}%
7413 }{%
7414 \Hy@raisedlink{%
7415 \expandafter\hyper@@anchor\expandafter{%
7416 \Hy@footnote@currentHref
7417 }{\relax}%
7418 }%

```

Change 2025-09-29: set \@currentHref and \@currentlabelname for issue 402.

```

7419 \let\@currentHref\Hy@footnote@currentHref
7420 \let\@currentlabelname\@empty
7421 \ignorespaces #1%
7422 }%
7423 }%
7424 }%
7425 \long\def\@footnotetext#1{%
7426 \H@@@footnotetext{%
7427 \ifHy@nesting
7428 \expandafter\@firstoftwo

```

```

7429 \else
7430 \expandafter\@secondoftwo
7431 \fi
7432 {%
7433 \expandafter\hyper@@anchor\expandafter{%
7434 \Hy@footnote@currentHref
7435 }\ignorespaces #1}%
7436 }{%
7437 \Hy@raisedlink{%
7438 \expandafter\hyper@@anchor\expandafter{%
7439 \Hy@footnote@currentHref
7440 }\relax}%
7441 }%
7442 \let\@currentHref\Hy@footnote@currentHref
7443 \let\@currentlabelname\@empty
7444 \ignorespaces #1%
7445 }%
7446 }%
7447 }%

```

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.

```

7448 \def\@footnotemark{%
7449 \leavevmode
7450 \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7451 \stepcounter{Hfootnote}%
7452 \global\let\Hy@saved@currentHref\@currentHref
7453 \hyper@makecurrent{Hfootnote}%
7454 \global\let\Hy@footnote@currentHref\@currentHref
7455 \global\let\@currentHref\Hy@saved@currentHref
7456 \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7457 \@makefnmark
7458 \hyper@linkend
7459 \ifhmode\spacefactor\@x@sf\fi
7460 \relax
7461 }%

```

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

```

7462 \ifpackageloaded{tabularx}{%
7463 \let\HyOrg@TX@endtabularx\TX@endtabularx
7464 \def\Hy@tabularx@hook{%
7465 \let\@footnotetext\H@@footnotetext
7466 \let\@footnotemark\H@@footnotemark
7467 \let\@mpfootnotetext\H@@mpfootnotetext
7468 }%
7469 \begingroup
7470 \toks@\expandafter{\TX@endtabularx}%
7471 \xdef\Hy@gtemp{%
7472 \noexpand\Hy@tabularx@hook
7473 \the\toks@
7474 }%

```

```

7475 \endgroup
7476 \let\TX@endtabularx\Hy@gtemp
7477 }{}%

```

Support for footnotes in `p` columns of `longtable`. Here `\footnote` commands are split 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

```

7478 \@ifpackageloaded{longtable}{%
7479 \CheckCommand{\LT@p@ftntext}[1]{%
7480 \edef\@tempa{%
7481 \the\LT@p@ftn
7482 \noexpand\footnotetext[\the\c@footnote]%
7483 }%
7484 \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7485 }%
7486 \long\def\LT@p@ftntext#1{%
7487 \edef\@tempa{%
7488 \the\LT@p@ftn
7489 \begingroup
7490 \noexpand\c@footnote=\the\c@footnote\relax
7491 \noexpand\protected@xdef\noexpand\@thefnmark{%
7492 \noexpand\thempfn
7493 }%
7494 \noexpand\Hy@LT@footnotetext{%
7495 \Hy@footnote@currentHref
7496 }%
7497 }%
7498 \global\LT@p@ftn\expandafter{%
7499 \@tempa{#1}%
7500 \endgroup
7501 }%
7502 }%
7503 \long\def\Hy@LT@footnotetext#1#2{%
7504 \H@@@footnotetext{%
7505 \ifHy@nesting
7506 \hyper@@anchor{#1}{#2}%
7507 \else
7508 \Hy@raisedlink{%
7509 \hyper@@anchor{#1}{\relax}%
7510 }%
7511 \def\@currentHref{#1}%
7512 \let\@currentlabelname\@empty
7513 #2%
7514 \fi
7515 }%
7516 }%
7517 }{}%

```

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

```

7518 \@ifpackageloaded{fancyvrb}{%
7519 \def\V@@@footnotetext{%
7520 \insert\footins\bgroup
7521 \csname reset@font\endcsname
7522 \footnotesize

```

```

7523 \interlinepenalty\interfootnotelinepenalty
7524 \splittopskip\footnotesep
7525 \splitmaxdepth\dp\strutbox
7526 \floatingpenalty \@MM
7527 \hsize\columnwidth
7528 \@parboxrestore
7529 \def\@currentcounter{footnote}%
7530 \protected@edef\@currentlabel{\csname p@footnote\endcsname\@thefn-
mark}%
7531 \@makefnmark{}%
7532 \rule{\z@}{\footnotesep}%
7533 \bgroup
7534 \aftergroup\V@@@footnotetext
7535 \Hy@raisedlink{%
7536 \expandafter\hyper@@anchor\expandafter{%
7537 \Hy@footnote@currentHref
7538 }\relax}%
7539 }%
7540 \let\@currentHref\Hy@footnote@currentHref
7541 \let\@currentlabelname\@empty
7542 \ignorespaces
7543 }%
7544 }{}%

```

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

```

7545 \def\Hy@temp#1{%
7546 \begingroup
7547 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7548 \endgroup
7549 \@footnotemark
7550 }%
7551 \ifx\Hy@temp\footref
7552 \def\footref#1{%
7553 \begingroup
7554 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7555 \endgroup
7556 \H@@@footnotemark
7557 }%
7558 \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.

```

7559 \let\HyOrg@maketitle\maketitle
7560 \def\maketitle{%
7561 \let\Hy@saved@footnotemark\@footnotemark
7562 \let\Hy@saved@footnotetext\@footnotetext
7563 \let\@footnotemark\H@@@footnotemark
7564 \let\@footnotetext\H@@@footnotetext
7565 \@ifnextchar[\Hy@maketitle@optarg{% ]
7566 \HyOrg@maketitle
7567 \Hy@maketitle@end
7568 }%
7569 }%

```

```

7570 \def\Hy@maketitle@optarg[#1]{%
7571   \HyOrg@maketitle[{#1}]%
7572   \Hy@maketitle@end
7573 }%
7574 \def\Hy@maketitle@end{%
7575   \ifx\@footnotemark\H@@footnotemark
7576     \let\@footnotemark\Hy@saved@footnotemark
7577   \fi
7578   \ifx\@footnotetext\H@@footnotetext
7579     \let\@footnotetext\Hy@saved@footnotetext
7580   \fi
7581 }%

```

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

```

7582 \def\realfootnote{%
7583   \@ifnextchar[\@xfootnote%]
7584   {\stepcounter{\@mpfn}%
7585     \protected@xdef\@thefnmark{\thempfn}%
7586     \H@@@footnotemark\H@@@footnotetext
7587   }%
7588 }%

7589 \fi
7590 }-{}
7591 \Hy@DisableOption{hyperfootnotes}

7592 \</packageEnd>
7593 \< *check>
7594 \checklatex
7595 \checkcommand\def\@xfootnotenext[#1]{%
7596   \begingroup
7597   \csname c@\@mpfn\endcsname #1\relax
7598   \unrestored@protected@xdef\@thefnmark{\thempfn}%
7599 \endgroup
7600 \@footnotetext
7601 }
7602 \checkcommand\def\@xfootnotemark[#1]{%
7603   \begingroup
7604   \c@footnote #1\relax
7605   \unrestored@protected@xdef\@thefnmark{\thefnmark}%
7606 \endgroup
7607 \@footnotemark
7608 }
7609 \checkcommand\def\@footnotemark{%
7610   \leavevmode
7611   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7612   \@makefnmark
7613   \ifhmode\spacefactor\@x@sf\fi
7614   \relax
7615 }
7616 \</check>
7617 \< *packageEnd>

```

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.

```

7618 \@ifundefined{hyper@nopatch@caption}{%
7619 \def\caption{%
7620   \ifx\@capttype\@undefined
7621     \@latex@error{\noexpand\caption outside float}\@ehd
7622     \expandafter\@gobble
7623   \else
7624     \H@refstepcounter\@capttype
7625     \let\Hy@tempa\@caption
7626     \@ifundefined{float@caption}{%
7627     }{%
7628       \expandafter\ifx\csname @float@c@\@capttype\endcsname
7629         \float@caption
7630       \let\Hy@tempa\Hy@float@caption
7631     \fi
7632   }%
7633   \expandafter\@firstofone
7634 \fi
7635 {\@dblarg{\Hy@tempa\@capttype}}}%
7636 }
7637 \long\def\@caption#1[#2]#3{%
7638   \expandafter\ifx\csname if@capstart\expandafter\endcsname
7639     \csname iftrue\endcsname
7640     \global\let\@currentHref\hc@currentHref
7641   \else
7642     \hyper@makecurrent{\@capttype}%
7643   \fi
7644   \@ifundefined{NR@getttitle}{%
7645     \def\@currentlabelname{#2}%
7646   }{%
7647     \NR@getttitle{#2}%
7648   }%
7649   \par\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     \expandafter\ifx\csname if@capstart\expandafter\endcsname
7659       \csname iftrue\endcsname
7660       \global\@capstartfalse
7661       \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7662     \else
7663       \@makecaption{\csname fnum@#1\endcsname}{%
7664         \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7665     \ifHy@nesting

```

```

7666     \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
7667     \else
7668     \Hy@raisedlink{%
7669     \expandafter\hyper@@anchor\expandafter{%
7670     \@currentHref
7671     }\relax}%
7672     }%
7673     #3%
7674     \fi

```

as the anchor are set manually here, we have to update the tagging info. For now we test for the format but this should go again in 2025.

```

7675     \IfFormatAtLeastTF{2024-11-01}{\UseTaggingSocket{recordtarget}}{}%
7676     }%
7677     \fi
7678     \par
7679     \endgroup
7680 }}{}%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’.

```

7681 \let\Hy@float@caption\@caption
7682 \newcommand{\HyNew@float@makebox}[1]{%
7683   \HyOrg@float@makebox{%
7684     #1\relax
7685     \ifx\Hy@float@currentHref\@undefined
7686     \else
7687     \expandafter\hyper@@anchor\expandafter{%
7688     \Hy@float@currentHref
7689     }\relax}%
7690     \global\let\Hy@float@currentHref\@undefined
7691     \fi
7692   }%
7693 }%
7694 \@ifpackageloaded{float}{%
7695   \def\Hy@float@caption{%
7696     \ifx\Hy@float@currentHref\@undefined
7697     \hyper@makecurrent{\@capttype}%
7698     \global\let\Hy@float@currentHref\@currentHref
7699     \else
7700     \let\@currentHref\Hy@float@currentHref
7701     \fi
7702     \float@caption
7703   }%
7704   \let\HyOrg@float@makebox\float@makebox
7705   \let\float@makebox\HyNew@float@makebox
7706 }{}

7707 \</packageEnd>
7708 \< *check>
7709 \checklatex[1999/06/01 - 2000/06/01]
7710 \checkcommand\def\caption{%

```

```

7711 \ifx\@capttype\@undefined
7712 \latexerror{\noexpand\caption outside float}\@ehd
7713 \expandafter\@gobble
7714 \else
7715 \refstepcounter\@capttype
7716 \expandafter\@firstofone
7717 \fi
7718 {\@dblarg{\@caption\@capttype}}%
7719 }
7720 \checkcommand\long\def\@caption#1[#2]#3{%
7721 \par
7722 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7723 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7724 }%
7725 \begingroup
7726 \@parboxrestore
7727 \if@minipage
7728 \@setminipage
7729 \fi
7730 \normalsize
7731 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7732 \endgroup
7733 }
7734 \</check>
7735 \<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 `\bibcite`; this still breaks some citation packages so we have to work around them. But this remains extremely dangerous. Any or all of *achemso* and *drftcite* may break.

However, lets make an attempt to get *natbib* right, because 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.

```

7736 \def\hyper@natlinkstart#1{%
7737 \Hy@backout{#1}%
7738 \hyper@linkstart{cite}{cite.#1}%
7739 \def\hyper@nat@current{#1}%
7740 }
7741 \def\hyper@natlinkend{%
7742 \hyper@linkend
7743 }
7744 \def\hyper@natlinkbreak#1#2{%
7745 \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7746 }
7747 \def\hyper@natanchorstart#1{%
7748 \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7749 }
7750 \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.

```

7751 \@ifundefined{hyper@nopatch@bib}
7752 {%
7753   \@ifundefined{NAT@parse}{%
7754     \providecommand*\@extra@binfo{}%
7755     \providecommand*\@extra@b@citeb{}%
7756     \def\bibcite#1#2{%
7757       \@newl@bel{b}{#1\@extra@binfo}{%
7758         \hyper@link[cite]{#1\@extra@b@citeb}{#2}%
7759       }%
7760     }%
7761     \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.”.

```

7762   \let\Hy@bibcite\bibcite
7763   \begingroup
7764     \@ifundefined{bbl@cite@choice}{%
7765       \g@addto@macro\bbl@cite@choice{%
7766         \let\bibcite\Hy@bibcite
7767       }%
7768     }%
7769   \endgroup

```

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

```

7770   \providecommand*\@BIBLABEL{\@biblabel}%
7771   \def\@bibitem[#1]#2{%
7772     \@skiphyperrefftrue
7773     \H@item{%
7774       \ifx\Hy@raisedlink\@empty
7775         \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7776         \@BIBLABEL{#1}%
7777         \hyper@anchorend
7778       \else
7779         \Hy@raisedlink{%
7780           \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7781         }%
7782         \@BIBLABEL{#1}%
7783       \fi
7784       \hfill
7785     }%
7786     \@skiphyperrefffalse
7787     \if@filesw
7788       \begingroup
7789         \let\protect\noexpand
7790         \immediate\write\@auxout{%
7791           \string\bibcite{#2}{#1}%
7792         }%
7793       \endgroup
7794     \fi
7795     \ignorespaces
7796   }%

```

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

```

7797 \def\@bibitem#1{%
7798 \@skiphyperreftrue\H@item\@skiphyperreffalse
7799 \Hy@raisedlink{%
7800 \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7801 }%
7802 \if@filesw
7803 \begingroup
7804 \let\protect\noexpand
7805 \immediate\write\@auxout{%
7806 \string\bibcite{#1}{\the\value{\@listctr}}}%
7807 }%
7808 \endgroup
7809 \fi
7810 \ignorespaces
7811 }%
7812 }{}%
7813 }{}

7814 \</packageEnd>
7815 \< *check>
7816 \checklatex
7817 \checkcommand\def\@lbibitem[#1]#2{%
7818 \item[\@biblabel{#1}\hfill]%
7819 \if@filesw
7820 {%
7821 \let\protect\noexpand
7822 \immediate\write\@auxout{%
7823 \string\bibcite{#2}{#1}%
7824 }%
7825 }%
7826 \fi
7827 \ignorespaces
7828 }
7829 \checkcommand\def\@bibitem#1{%
7830 \item
7831 \if@filesw
7832 \immediate\write\@auxout{%
7833 \string\bibcite{#1}{\the\value{\@listctr}}}%
7834 }%
7835 \fi
7836 \ignorespaces
7837 }
7838 \</check>
7839 \< *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.

```

7840 \@ifpackageloaded{harvard}{%
7841   \Hy@AtBeginDocument{%
7842     \Hy@Info{*** compatibility with harvard **** }%
7843     \Hy@raiselinksfalse
7844     \def\harvardcite#1#2#3#4{%
7845       \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{cite.#1}{#2}}%
7846       \global\@namedef{HAR@an@#1}{\hyper@link[cite]{cite.#1}{#3}}%
7847       \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{cite.#1}{#4}}%
7848       \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7849     }%
7850     \def\HAR@citetoaux#1{%
7851       \iffilesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7852       \ifHy@backref
7853         \ifx\@empty\@currentlabel
7854           \else
7855             \@bsphack
7856             \iffilesw
7857               \protected@write\@auxout{}{%
7858                 \string\@writefile{brf}{%
7859                   \string\backcite{#1}{%
7860                     {\thepage}{\@currentlabel}{\@currentHref}%
7861                   }%
7862                 }%
7863               }%
7864             \fi
7865             \@esphack
7866           \fi
7867         \fi
7868       }%
7869       \def\harvarditem{%
7870         \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
7871       }%
7872       \def\@harvarditem[#1]#2#3#4#5\par{%
7873         \item[]%
7874         \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7875         \iffilesw
7876           \begingroup
7877             \def\protect##1{\string ##1\space}%
7878             \ifthenelse{\equal{#1}{\null}}{%
7879               {\def\next{{#4}{#2}{#2}{#3}}}%
7880               {\def\next{{#4}{#2}{#1}{#3}}}%
7881             \immediate\write\@auxout{\string\harvardcite\codeof\next}%
7882           \endgroup
7883         \fi
7884         \protect\hspace*{-\labelwidth}%
7885         \protect\hspace*{-\labelsep}%
7886         \ignorespaces
7887         #5%
7888         \ifHy@backref
7889           \newblock
7890           \backref{\csname br@#4\endcsname}%
7891         \fi

```

```

7892   \par
7893   }%

```

\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:

```

7894   \long\def\HAR@checkcitations#1#2#3#4{%
7895     \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#2}}%
7896     \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7897     \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#3}}%
7898     \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7899     \def\HAR@tempa{\hyper@@link[cite]{\cite.#1}{#4}}%
7900     \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
7901     \else
7902     \@tempswatrue
7903     \fi
7904     \else
7905     \@tempswatrue
7906     \fi
7907     \else
7908     \@tempswatrue
7909     \fi
7910   }%
7911 }%

7912 }{}

```

37.2 Package chicago

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

```

7913 \@ifpackageloaded{chicago}{%

```

\citeN

```

7914 \def\citeN{%
7915   \def\@citesep{-1000}%
7916   \def\@cite##1##2{##1}%
7917   \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
7918   \@citedata@opt
7919 }%

```

\shortciteN

```

7920 \def\shortciteN{%
7921   \def\@citesep{-1000}%
7922   \def\@cite##1##2{##1}%
7923   \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
7924   \@citedata@opt
7925 }%

```

\@citedata@opt

```

7926 \def\@citedata@opt{%
7927   \let\@cite@opt\@empty
7928   \@ifnextchar [{%
7929     \@tempswatrue

```

```

7930 \citedatax@opt
7931 }{%
7932 \@tempwafalse
7933 \citedatax[]%
7934 }%
7935 }%

```

\citedatax@opt

```

7936 \def\citedatax@opt[#1]{%
7937 \def\cite@opt{, #1}%
7938 \citedatax[{#1}]%
7939 }%

7940 }{}

```

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.

```

7941 \def\@currentHpage{Doc-Start}

7942 \ifclassloaded{slides}{%
7943 \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
7944 \def\Hy@PageAnchorSlidesPlain{%
7945 \advance\c@page\@ne
7946 \xdef\@currentHpage{page.\the\c@slide.\the\c@overlay.\the\c@note%
7947 \ifnum\c@page=\@ne
7948 \else
7949 .\the\c@page
7950 \fi}%
7951 \edef\Hy@TempPageAnchor{%
7952 \noexpand\hyper@@@anchor{%
7953 \@currentHpage
7954 }%
7955 }%
7956 \advance\c@page-\@ne
7957 }%
7958 \def\Hy@PageAnchorSlide{%
7959 \advance\c@page\@ne
7960 \ifnum\c@page>\@ne
7961 \ifundefined{theHpage}{%
7962 \protected@edef\Hy@TheSlideOptionalPage{%
7963 \Hy@SlidesFormatOptionalPage{theHpage}%
7964 }%
7965 }{%
7966 \protected@edef\Hy@TheSlideOptionalPage{%

```

```

7967     \Hy@SlidesFormatOptionalPage{\theHpage}%
7968     }%
7969     }%
7970 \else
7971     \def\Hy@TheSlideOptionalPage{}%
7972 \fi
7973 \advance\c@page-\@ne
7974 \pdfstringdef\@the@H@page{%
7975     \csname
7976         the%
7977         \@ifundefined{theH\Hy@SlidesPage}{H}%
7978         \Hy@SlidesPage
7979     \endcsname
7980     \Hy@TheSlideOptionalPage
7981     }%
7982 \@gobblethree
7983 }%
7984 \def\Hy@SlidesPage{slide}%
7985 \g@addto@macro\slide{%
7986     \def\Hy@SlidesPage{slide}%
7987 }%
7988 \g@addto@macro\overlay{%
7989     \def\Hy@SlidesPage{overlay}%
7990 }%
7991 \g@addto@macro\note{%
7992     \def\Hy@SlidesPage{note}%
7993 }%
7994 }{%
7995 \def\Hy@PageAnchorSlidesPlain{}%
7996 \def\Hy@PageAnchorSlide{}%
7997 }
7998 \def\Hy@EveryPageAnchor{%
7999     \Hy@DistillerDestFix
8000     \ifHy@pageanchor
8001         \ifHy@hypertextnames
8002             \ifHy@plainpages
8003                 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
8004                 \xdef\@currentHpage{page.\the\c@page}%
8005                 \Hy@PageAnchorSlidesPlain
8006             \else
8007                 \begingroup
8008                 \let\@number\@firstofone
8009                 \Hy@unicodedefalse
8010                 \Hy@PageAnchorSlide
8011                 \pdfstringdef\@the@H@page{\thepage}%
8012                 \endgroup
8013                 \EdefUnescapeString\@the@H@page{\@the@H@page}%
8014                 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
8015                 \xdef\@currentHpage{page.\@the@H@page}%
8016             \fi
8017         \else
8018             \Hy@GlobalStepCount\Hy@pagecounter
8019             \def\Hy@TempPageAnchor{%
8020                 \hyper@@anchor{page.\the\Hy@pagecounter}%

```

```

8021 }%
8022 \xdef\@currentHpage{page.\the\Hy@pagecounter}%
8023 \fi
8024 \vbox to 0pt{%
8025   \kern\voffset
8026   \kern\topmargin
8027   \kern-1bp\relax
8028   \hbox to 0pt{%
8029     \kern\hoffset
8030     \kern\ifodd\value{page}%
8031       \oddsidemargin
8032     \else
8033       \evensidemargin
8034     \fi
8035     \kern-1bp\relax
8036     \Hy@TempPageAnchor\relax
8037     \hss
8038   }%
8039   \vss
8040 }%
8041 \fi
8042 }
8043 \g@addto@macro\Hy@EveryPageBoxHook{%
8044   \Hy@EveryPageAnchor
8045 }

```

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 tocfile.

```

8046 \providecommand\protected@file@percent{}
8047 \@ifundefined{hyper@nopatch@toc}{%
8048   \def\addcontentsline#1#2#3{% toc extension, type, tag
8049     \begingroup
8050     \let\label\@gobble
8051     \ifx\@currentHref\@empty
8052       \Hy@Warning{%
8053         No destination for bookmark of \string\addcontentsline,%
8054         \MessageBreak destination is added%
8055       }%
8056     \phantomsection
8057   \fi
8058   \expandafter\ifx\csname toplevel@#2\endcsname\relax
8059     \begingroup
8060     \def\Hy@tempa{#1}%
8061     \ifx\Hy@tempa\Hy@bookmarkstype
8062       \Hy@WarningNoLine{%
8063         bookmark level for unknown #2 defaults to 0%
8064       }%

```

```

8065     \else
8066         \Hy@Info{bookmark level for unknown #2 defaults to 0}%
8067     \fi
8068 \endgroup
8069 \expandafter\gdef\csname toclever@#2\endcsname{0}%
8070 \fi
8071 \edef\Hy@toclevel{\csname toclever@#2\endcsname}%
8072 \Hy@writebookmark{\csname the#2\endcsname}%
8073     {#3}%
8074     {\@currentHref}%
8075     {\Hy@toclevel}%
8076     {#1}%
8077 \ifHy@verbose
8078     \begingroup
8079         \def\Hy@tempa{#3}%
8080         \@onelevel@sanitize\Hy@tempa
8081         \let\temp@online\on@line
8082         \let\on@line\@empty
8083         \Hy@Info{%
8084             bookmark\temp@online:\MessageBreak
8085             thecounter {\csname the#2\endcsname}\MessageBreak
8086             text {\Hy@tempa}\MessageBreak
8087             reference {\@currentHref}\MessageBreak
8088             toclever {\Hy@toclevel}\MessageBreak
8089             type {#1}%
8090         }%
8091     \endgroup
8092 \fi
8093 \addtocontents{#1}{%
8094 \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}\protected@file@per-
cent
8095 }%
8096 \endgroup
8097 }
8098 }{}

```

\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:

```

8099 \protected\def\Hy@toclinkstart{\hyper@linkstart{link}{\Hy@tocdestname}}
8100 \protected\def\Hy@toclinkend{\hyper@linkend}
8101
8102 \@ifundefined{hyper@nopatch@toc}{%
8103 \def\contentsline#1#2#3#4{%
8104 \begingroup
8105 \Hy@safe@activertrue
8106 \edef\x{\endgroup
8107 \def\noexpand\Hy@tocdestname{#4}%
8108 }\x
8109 \ifx\Hy@tocdestname\@empty
8110 \csname l@#1\endcsname{#2}{#3}%
8111 \else
8112 \ifcase\Hy@linktoc % none

```

```

8113     \csname l@#1\endcsname{#2}{#3}%
8114 \or % section
8115     \csname l@#1\endcsname{%
8116       \Hy@toclinkstart{#2}\Hy@toclinkend
8117     }{#3}%
8118 \or % page
8119     \def\Hy@temp{#3}%
8120     \ifx\Hy@temp\@empty
8121       \csname l@#1\endcsname{#2}{#3}%
8122     \else
8123       \csname l@#1\endcsname{{#2}}{#3}%
8124       \Hy@toclinkstart{#3}\Hy@toclinkend
8125     }%
8126     \fi
8127 \else % all
8128     \def\Hy@temp{#3}%
8129     \ifx\Hy@temp\@empty
8130       \csname l@#1\endcsname{%
8131         \Hy@toclinkstart{#2}\Hy@toclinkend
8132       }{#3}%
8133     \else
8134       \csname l@#1\endcsname{{#2}}{#3}%
8135       \Hy@toclinkstart{#2}\Hy@toclinkend
8136     }{#3}%
8137     \Hy@toclinkstart{#3}\Hy@toclinkend
8138   }%
8139   \fi
8140 \fi
8141 \fi
8142 }
8143 }{}

8144 \</packageEnd>
8145 \< *check>
8146 \checklatex
8147 \checkcommand\def\addcontentsline#1#2#3{%
8148   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}%
8149 }
8150 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
8151 \</check>
8152 \< *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. change 2024-02-14: use a csname to handle counter names with commands, see issue #330 change 2024-10-13: disable patches in new format 2024-11-01.

```

8153 \IfFormatAtLeastTF{2024-11-01}{\def\hyper@nopatch@counter{}}{}
8154 \ifundefined{hyper@nopatch@counter}
8155 {
8156   \let\H@definecounter\@definecounter
8157   \def\@definecounter#1{%

```

```

8158 \H@definecounter{#1}%
8159 \expandafter
8160 \gdef\csname theH#1\expandafter\endcsname\expandafter
8161 {\expandafter\@arabic\csname c@#1\endcsname}}%
8162 }{}

```

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.

```

8163 \@ifundefined{hyper@nopatch@counter}
8164 {
8165   \let\H@newctr\@newctr
8166   \def\@newctr#1[#2]{%
8167     \H@newctr#1[#2]}%
8168   \expandafter\gdef\csname theH#1\endcsname{%
8169     \csname the\@ifundefined{theH#2}{H}#2\endcsname.\arabic{#1}%
8170   }%
8171 }
8172 }{}

```

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.

```

8173 \@ifundefined{hyper@nopatch@amsmath@tag}
8174 {%
8175   \AddToHook{package/amsmath/after}{%
8176     \def\Hy@make@anchor{%
8177       \Hy@MakeCurrentHrefAuto{AMS}%
8178       \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
8179     }%
8180     \def\Hy@make@df@tag@#1{%
8181       \gdef\df@tag{%
8182         \maketag@@@{\Hy@make@anchor#1}%
8183         \def\@currentlabel{#1}%
8184       }%
8185     }%
8186     \def\Hy@make@df@tag@@@#1{%
8187       \gdef\df@tag{%
8188         \tagform@{\Hy@make@anchor#1}%
8189         \toks@{\xp{p@equation{#1}}}%
8190         \edef\@currentlabel{\the\toks@}%
8191       }%
8192     }%
8193     \let\HyOrg@make@df@tag@@\make@df@tag@@
8194     \let\HyOrg@make@df@tag@@@\make@df@tag@@@

```

```

8195 \let\make@df@tag@@\Hy@make@df@tag@@
8196 \let\make@df@tag@@@\Hy@make@df@tag@@@
8197 }{}
8198 }{}

```

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. change 2024-07-10: define \HyOrg@addtoreset always for cleveref compatibility with tagging code, see <https://github.com/latex3/tagging-project/issues/2>

```

8199 \def\HyOrg@addtoreset#1#2{\expandafter\@cons\csname cl@#2\endcsname {{#1}}}
8200 \@ifundefined{hyper@nopatch@counter}
8201 {
8202   \let\HyOrg@addtoreset\@addtoreset
8203   \def\@addtoreset#1#2{%
8204     \HyOrg@addtoreset{#1}{#2}%
8205     \expandafter\xdef\csname theH#1\endcsname{%
8206       \expandafter\noexpand
8207         \csname the\@ifundefined{theH#2}{H#2\endcsname
8208         .\noexpand\the\noexpand\value{#1}%
8209       }%
8210     }
8211   }{}

```

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

```

8212 </packageEnd>
8213 <*check>
8214 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
8215 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
8216   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8217     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8218       \@addtoreset{#2}{#3}%
8219       \@xp\xdef\csname the#2\endcsname{%
8220         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8221       }%
8222     }%
8223   }%
8224 }%
8225 </check>

```

change 2023-06-14: use hook to make independent of loading order

```

8226 \*packageEnd
8227 \ifundefined{hyper@nopatch@counter}
8228 {
8229   \AddToHook{package/amsmath/after}{%
8230     \renewcommand*{\numberwithin}{3}[\arabic]{%
8231       \ifundefined{c@#2}{\@nocounterr{#2}}{%
8232         \ifundefined{c@#3}{\@nocnterr{#3}}{%
8233           \HyOrg@addtoreset{#2}{#3}%
8234           \@xp\xdef\csname the#2\endcsname{%
8235             \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8236           }%
8237           \@xp\xdef\csname theH#2\endcsname{%
8238             \@xp\@nx
8239             \csname the\@ifundefined{theH#3}{H#3\endcsname
8240             .\@nx#1{#2}%
8241           }%
8242         }%
8243       }%
8244     }%
8245   }{}
8246 }{}

```

42 Included figures

Simply intercept the low level graphics package macro.

```

8247 \ifHy@hyperfigures
8248   \let\Hy@Gin@setfile\Gin@setfile
8249   \def\Gin@setfile#1#2#3{%
8250     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
8251   }%
8252 \fi
8253 \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.

```

8254 \ifHy@hyperindex
8255   \def\HyInd@ParenLeft{({}%
8256   \def\HyInd@ParenRight{)}}%
8257   \def\hyperxindexformat#1#2{%
8258     \let\HyOrg@hyperpage\hyperpage
8259     \let\hyperpage\@firstofone

```

```

8260   #1{\HyOrg@hyperpage{#2}}}%
8261   \let\hyperpage\HyOrg@hyperpage
8262 }%

keep the old name for compability.

8263 \let\hyperindexformat\hyperxindexformat
8264 \Hy@nextfalse
8265 \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
8266 \@ifpackageloaded{index}{\Hy@nexttrue}{}%
8267 \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
8268 \beginingroup
8269 \lccode`\|=\expandafter`\HyInd@EncapChar\relax
8270 \lccode`\/=\|\relax
8271 \lowercase{\endgroup
8272 \ifHy@next
8273   \let\HyInd@org@wrindex\@wrindex
8274   \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2||\}%
8275   \def\HyInd@@wrindex#1#2|#3|#4\{\%
8276     \ifx\|#3\%
8277       \HyInd@org@wrindex{#1}{#2|hyperpage}%
8278     \else
8279       \HyInd@@@wrindex{#1}{#2}#3\%
8280     \fi
8281   }%
8282   \def\HyInd@@@wrindex#1#2#3#4\{\%
8283     \def\Hy@temp@A{#3}%
8284     \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8285       \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8286       \relax
8287     \HyInd@org@wrindex{#1}{%
8288       #2|hyperxindexformat{/#3#4}%
8289     }%
8290   \else
8291     \ifx\|#4\%
8292       \ifx\Hy@temp@A\HyInd@ParenRight
8293         \HyInd@org@wrindex{#1}{#2|#3}%
8294       \else
8295         \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
8296       \fi
8297     \else
8298       \HyInd@org@wrindex{#1}{%
8299         #2|#3hyperxindexformat{/#4}%
8300       }%
8301     \fi
8302   \fi
8303 }%
8304 \else
8305   \def\@wrindex#1{\@wrindex#1||\}%
8306   \def\@@wrindex#1|#2|#3\{\%
8307     \if@filesw
8308       \ifx\|#2\%
8309         \protected@write\@indexfile{}{%
8310           \string\indexentry{#1|hyperpage}{\thepage}%
8311         }%
8312     \else

```

```

8313     \HyInd@@@wrindex{#1}#2\\%
8314     \fi
8315 \fi
8316 \endgroup
8317 \@esphack
8318 }%
8319 \def\HyInd@@@wrindex#1#2#3\\{%
8320 \def\Hy@temp@A{#2}%
8321 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8322     \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8323     \relax
8324 \protected@write\@indexfile{}{%
8325     \string\indexentry{%
8326         #1|hyperxindexformat{/#2#3}%
8327     }\thepage}%
8328 }%
8329 \else
8330 \ifx\\#3\\%
8331     \ifx\Hy@temp@A\HyInd@ParenRight
8332         \HyInd@DefKey{#1}%
8333         \@ifundefined{HyInd@(\HyInd@key)}{%
8334             \let\Hy@temp@empty
8335         }{%
8336             \expandafter\let\expandafter\Hy@temp
8337             \csname HyInd@(\HyInd@key)\endcsname
8338         }%
8339         \protected@write\@indexfile{}{%
8340             \string\indexentry{#1|#2\Hy@temp}\thepage}%
8341         }%
8342 \else
8343     \protected@write\@indexfile{}{%
8344         \string\indexentry{#1|#2hyperpage}\thepage}%
8345     }%
8346     \HyInd@DefKey{#1}%
8347     \expandafter
8348     \gdef\csname HyInd@(\HyInd@key)\endcsname{%
8349         hyperpage%
8350     }%
8351 \fi
8352 \else
8353 \protected@write\@indexfile{}{%
8354     \string\indexentry{%
8355         #1|#2hyperxindexformat{/#3}%
8356     }\thepage}%
8357 }%
8358 \ifx\Hy@temp@A\HyInd@ParenLeft
8359     \HyInd@DefKey{#1}%
8360     \expandafter
8361     \gdef\csname HyInd@(\HyInd@key)\endcsname{%
8362         hyperxindexformat{/#3}%
8363     }%
8364 \fi
8365 \fi
8366 \fi

```

```

8367 }%
8368 \def\HyInd@DefKey#1{%
8369   \begingroup
8370   \let\protect\@unexpandable@protect
8371   \edef\Hy@temp{#1}%
8372   \@onelevel@sanitize\Hy@temp
8373   \global\let\HyInd@key\Hy@temp
8374   \endgroup
8375 }%
8376 \fi
8377 }%
8378 \fi
8379 \Hy@DisableOption{hyperindex}
8380 \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.

```

8381 \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.

```

8382 \def\hyperpage#1{%
8383   \HyInd@hyperpage#1\nohyperpage{}\@nil
8384 }
8385 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8386   \HyInd@@hyperpage{#1}%
8387   #2%
8388   \def\Hy@temp{#3}%
8389   \ifx\Hy@temp\@empty
8390   \else
8391     \Hy@ReturnAfterFi{%
8392       \HyInd@hyperpage#3\@nil
8393     }%
8394   \fi
8395 }
8396 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8397 \def\@hyperpage#1--#2--#3\{\%
8398   \ifx\#2\%
8399     \@commahyperpage{#1}%
8400   \else
8401     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8402   \fi
8403 }
8404 \def\@commahyperpage#1{\@commahyperpage#1, \}
8405 \def\@commahyperpage#1, #2,#3\{\%
8406   \ifx\#2\%
8407     \HyInd@pagelink{#1}%
8408   \else
8409     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8410   \fi
8411 }

```

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

```

8412 \def\HyInd@pagelink#1{%
8413   \begingroup
8414     \toks@={}%
8415     \HyInd@removespaces#1 \@nil
8416   \endgroup
8417 }
8418 \def\HyInd@removespaces#1 #2\@nil{%
8419   \toks@=\expandafter{\the\toks@#1}%
8420   \ifx\#2\%
8421     \edef\x{\the\toks@}%
8422     \ifx\x\@empty
8423     \else
8424       \hyperlink{page.\the\toks@}{\the\toks@}%
8425     \fi
8426   \else
8427     \Hy@ReturnAfterFi{%
8428       \HyInd@removespaces#2\@nil
8429     }%
8430   \fi
8431 }

```

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.

```

8432 \ifHy@texht
8433   \expandafter\endinput
8434 \fi
8435 \let\real@setref\@setref
8436 \def\@setref#1#2#3{% cfname, extract group, refname
8437   \ifx#1\relax
8438     \protect\G@refundefinedtrue
8439     \nfss@text{\reset@font\bfseries ??}%
8440     \@latex@warning{%
8441       Reference `#3' on page \thepage \space undefined%
8442     }%
8443   \else
8444     \expandafter\Hy@setref@link#1\@empty\@empty\@empty\@nil{#2}%
8445   \fi
8446 }

```

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

```

8447 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8448   \begingroup
8449     \toks0={\hyper@@link{#5}{#4}}%
8450     \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8451     \edef\x{\endgroup
8452       \the\toks0 {\the\toks1 }%
8453     }%
8454   \x
8455 }
8456 \def\@pagesetref#1#2#3{% cfname, extract macro, ref
8457   \ifx#1\relax
8458     \protect\G@refundefinedtrue

```

```

8459 \nfss@text{\reset@font\bfseries ??}%
8460 \@latex@warning{%
8461     Reference `#3' on page \thepage \space undefined%
8462 }%
8463 \else
8464 \protect\hyper@@link
8465 {\expandafter\@fifthoffive#1}%
8466 {page.\expandafter\@secondoffive#1}%
8467 {\expandafter\@secondoffive#1}%
8468 \fi
8469 }

8470 \endpackage
8471 \ifcheck
8472 \checklatex
8473 \checkcommand\def\@setref#1#2#3{%
8474 \ifx#1\relax
8475 \protect\G@refundefinedtrue
8476 \nfss@text{\reset@font\bfseries ??}%
8477 \@latex@warning{%
8478     Reference `#3' on page \thepage\space undefined%
8479 }%
8480 \else
8481 \expandafter#2#1\relax
8482 \fi
8483 }
8484 \endcheck
8485 \endpackage

```

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

```

8486 \def\HyRef@StarSetRef#1{%
8487 \begingroup
8488 \Hy@safe@activetrue
8489 \let\protect\@unexpandable@protect
8490 \edef\x{#1}%
8491 \@onelevel@sanitize\x
8492 \edef\x{\endgroup
8493 \noexpand\HyRef@@StarSetRef
8494 \expandafter\noexpand\csname r@\x\endcsname{\x}}%
8495 }%
8496 \x
8497 }

8498 \def\HyRef@@StarSetRef#1#2#3{%
8499 \ifx#1\@undefined
8500 \let#1\relax
8501 \fi
8502 \real@setref#1#3{#2}%
8503 }

8504 \def\@refstar#1{%
8505 \HyRef@StarSetRef{#1}\@firstoffive
8506 }

8507 \def\@pagerefstar#1{%
8508 \HyRef@StarSetRef{#1}\@secondoffive
8509 }

```

```

8510 \def\@namerefstar#1{%
8511 \HyRef@StarSetRef{#1}\@thirdoffive
8512 }
8513 \def\@Refstar#1{%
8514 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8515 }%
8516 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8517 \MakeUppercase#1%
8518 }%
8519 \def\HyRef@Ref#1{%
8520 \hyperref[{#1}]{\Ref*{#1}}%
8521 }%
8522 \Hy@AtBeginDocument{%
8523 \@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.

```

8524 \@ifundefined{hyper@nopatch@varioref}
8525 {
8526 \renewcommand\Vref@star[2][]{%
8527 \begingroup
8528 \let\T@pageref\@pagerefstar
8529 \Ref*{#2}
8530 \vpageref[#1]{#2}%
8531 \endgroup
8532 }%
8533 \renewcommand\Vr@f[2][]{%
8534 \begingroup
8535 \let\T@pageref\@pagerefstar
8536 \hyperref[{#2}]{%
8537 \Ref*{#2}
8538 \vpageref[#1]{#2}%
8539 }%
8540 \endgroup
8541 }%
8542 \renewcommand\vr@f[2][]{%
8543 \begingroup
8544 \let\T@pageref\@pagerefstar
8545 \hyperref[{#2}]{%
8546 \ref*{#2}
8547 \vpageref[#1]{#2}%
8548 }%
8549 \endgroup
8550 }%
8551 \renewcommand\vref@star[2][]{%
8552 \begingroup
8553 \let\T@pageref\@pagerefstar
8554 \ref*{#2}
8555 \vpageref[#1]{#2}%
8556 \endgroup
8557 }%
8558 }{}%
8559 }{}%

```

```

8560 }
8561 \DeclareRobustCommand*\autopageref{%
8562   \@ifstar{%
8563     \HyRef@autopagerefname\pageref*%
8564   }\HyRef@autopageref
8565 }
8566 \def\HyRef@autopageref#1{%
8567   \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
8568 }
8569 \def\HyRef@autopagerefname{%
8570   \@ifundefined{pageautorefname}{%
8571     \@ifundefined{pagename}{%
8572       \Hy@Warning{No autoref name for `page'}%
8573     }{%
8574       \pagename\nobreakspace
8575     }%
8576   }{%
8577     \pageautorefname\nobreakspace
8578   }%
8579 }

```

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

```

8580 \NewDocumentCommand\autoref{s}
8581   {\leavevmode
8582     \IfBooleanTF{#1}{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}}
8583 \def\HyRef@autoref#1#2{%
8584   \begingroup
8585     \Hy@safe@activetrue
8586     \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
8587   \endgroup
8588 }
8589 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8590   \HyRef@ShowKeysRef{#2}%
8591   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
8592     \edef\HyRef@thisref{%
8593       \expandafter\@fourthoffive#1\@empty\@empty\@empty
8594     }%
8595     \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8596     \Hy@safe@activesfalse
8597     #3{%
8598       \expandafter\@fifthoffive#1\@empty\@empty\@empty
8599     }{%
8600       \expandafter\@fourthoffive#1\@empty\@empty\@empty
8601     }{%
8602       \HyRef@currentHtag
8603       \expandafter\@firstoffive#1\@empty\@empty\@empty
8604       \null
8605     }%
8606   \else
8607     \protect\G@refundefinedtrue
8608     \nfss@text{\reset@font\bfseries ??}%
8609     \@latex@warning{%
8610       Reference `#2' on page \thepage\space undefined%

```

```

8611 }%
8612 \fi
8613 }
8614 \def\HyRef@testreftype#1.#2\\{%
8615 \@ifundefined{#1autorefname}{%
8616 \@ifundefined{#1name}{%
8617 \HyRef@StripStar#1\\*\\\@nil{#1}%
8618 \@ifundefined{\HyRef@name autorefname}{%
8619 \@ifundefined{\HyRef@name name}{%
8620 \def\HyRef@currentHtag{%
8621 \Hy@Warning{No autoref name for `#1'}%
8622 }{%
8623 \edef\HyRef@currentHtag{%
8624 \expandafter\noexpand\csname\HyRef@name name\endcsname
8625 \noexpand~%
8626 }%
8627 }%
8628 }{%
8629 \edef\HyRef@currentHtag{%
8630 \expandafter\noexpand
8631 \csname\HyRef@name autorefname\endcsname
8632 \noexpand~%
8633 }%
8634 }%
8635 }{%
8636 \edef\HyRef@currentHtag{%
8637 \expandafter\noexpand\csname#1name\endcsname
8638 \noexpand~%
8639 }%
8640 }%
8641 }{%
8642 \edef\HyRef@currentHtag{%
8643 \expandafter\noexpand\csname#1autorefname\endcsname
8644 \noexpand~%
8645 }%
8646 }%
8647 }
8648 \def\HyRef@StripStar#1*\\#2\@nil#3{%
8649 \def\HyRef@name{#2}%
8650 \ifx\HyRef@name\HyRef@CaseStar
8651 \def\HyRef@name{#1}%
8652 \else
8653 \def\HyRef@name{#3}%
8654 \fi
8655 }
8656 \def\HyRef@CaseStar{*\\}
8657 \def\HyRef@currentHtag{}

```

Support for package showkeys.

\HyRef@ShowKeysRef

```

8658 \let\HyRef@ShowKeysRef\@gobble
8659 \def\HyRef@ShowKeysInit{%
8660 \@ifundefined{SK@@label}{%
8661 {%

```

```

8662 \ifx\SK@ref\@empty
8663 \else
8664 \def\HyRef@ShowKeysRef{%
8665 \SK@\SK@@ref
8666 }%
8667 \fi
8668 }%
8669 }
8670 \AddToHook{package/showkeys/after}{\HyRef@ShowKeysInit}

```

Defaults for the names that `\autoref` uses.

```

8671 \providecommand*\AMSautorefname{\equationautorefname}
8672 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
8673 \providecommand*\Itemautorefname{\itemautorefname}
8674 \providecommand*\itemautorefname{item}
8675 \providecommand*\equationautorefname{Equation}
8676 \providecommand*\footnoteautorefname{footnote}
8677 \providecommand*\itemautorefname{item}
8678 \providecommand*\figureautorefname{Figure}
8679 \providecommand*\tableautorefname{Table}
8680 \providecommand*\partautorefname{Part}
8681 \providecommand*\appendixautorefname{Appendix}
8682 \providecommand*\chapterautorefname{chapter}
8683 \providecommand*\sectionautorefname{section}
8684 \providecommand*\subsectionautorefname{subsection}
8685 \providecommand*\subsubsectionautorefname{subsubsection}
8686 \providecommand*\paragraphautorefname{paragraph}
8687 \providecommand*\subparagraphautorefname{subparagraph}
8688 \providecommand*\FancyVerbLineautorefname{line}
8689 \providecommand*\theoremautorefname{Theorem}
8690 \providecommand*\pageautorefname{page}
8691 \</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 pdfTeX offers `\pdfescapestring`.

```

8692 <*\pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>
8693 \begingroup\expandafter\expandafter\expandafter\endgroup
8694 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
8695 \begingroup
8696 \catcode`\|=0 %
8697 \@makeother\| %
8698 |@firstofone{|endgroup
8699 |def|Hy@pstringdef#1#2{%

```

```

8700 |begingroup
8701 |edef~{|string~}%
8702 |xdef|Hy@gtemp{#2}%
8703 |endgroup
8704 |let#1|Hy@gtemp
8705 |@onelevel@sanitize#1%
8706 |edef#1{|expandafter|Hy@ExchangeBackslash#1|@nil}%
8707 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1|@nil}%
8708 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1|@nil}%
8709 }%
8710 |def|Hy@ExchangeBackslash#1\#2|@nil{%
8711 #1%
8712 |ifx|\#2|\%%
8713 |else
8714 \\\%
8715 |Hy@ReturnAfterFi{%
8716 |Hy@ExchangeBackslash#2|@nil
8717 }%
8718 |fi
8719 }%
8720 }%
8721 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
8722 #1%
8723 \ifx\#2\%%
8724 \else
8725 \@backslashchar(%
8726 \Hy@ReturnAfterFi{%
8727 \Hy@ExchangeLeftParenthesis#2\@nil
8728 }%
8729 \fi
8730 }%
8731 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8732 #1%
8733 \ifx\#2\%%
8734 \else
8735 \@backslashchar)%
8736 \Hy@ReturnAfterFi{%
8737 \Hy@ExchangeRightParenthesis#2\@nil
8738 }%
8739 \fi
8740 }%
8741 \else
8742 \def\Hy@pstringdef#1#2{%
8743 \begingroup
8744 \edef~{\string~}%
8745 \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8746 \endgroup
8747 \let#1\Hy@gtemp
8748 }%
8749 \fi
8750 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

44.2 pdftex

```

8751 (*pdfTeX)
8752 \providecommand*\XR@ext}{pdf}
8753 \Hy@setbreaklinks{true}
8754 \def\HyPat@ObjRef{%
8755   [0-9]*[1-9][0-9]* 0 R%
8756 }

```

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

```

8757 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
8758 \def\Hy@pdfminorversion{\pdfminorversion}%
8759 \ifHy@ocgcolorlinks
8760   \ifnum\Hy@pdfmajorminor@version<105 %
8761     \kvsetkeys{Hyp}{pdfversion=1.5}%
8762   \fi
8763 \fi
8764 \ifHy@setpdfversion
8765   \ifnum\Hy@pdf@majorminor@version<105 %
8766     \@ifundefined{pdfobjcompresslevel}{%
8767       }{%
8768         \ifHy@verbose
8769           \Hy@InfoNoLine{%
8770             PDF object streams are disabled, because they are%
8771             \MessageBreak
8772             not supported in requested PDF version %
8773             \Hy@pdf@majorversion.\Hy@pdf@minorversion
8774           }%
8775         \fi
8776         \pdfobjcompresslevel=\z@
8777       }%
8778     \fi
8779   \ifnum\Hy@pdfmajorminor@version=\Hy@pdf@majorminor@version\relax
8780   \else
8781     \let\Hy@temp@empty
8782     \def\Hy@temp@A#1#2{%
8783       \ifnum#1>\z@
8784         \edef\Hy@temp{%
8785           \Hy@temp
8786           \space\space
8787           \the#1\space #2%
8788           \ifnum#1=\@ne\else s\fi
8789           \MessageBreak
8790         }%
8791       \fi
8792     }%
8793     \Hy@temp@A\pdflastobj{PDF object}%
8794     \Hy@temp@A\pdflastxform{form XObject}%
8795     \Hy@temp@A\pdflastximage{image XObject}%
8796     \Hy@temp@A\pdflastannot{annotation}%

```

```

8797 \ifundefined{pdflastlink}{%
8798 }{%
8799 \Hy@temp@A\pdflastlink{link}%
8800 }%
8801 \ifx\Hy@temp\@empty
8802 \Hy@pdfmajorversion=\Hy@pdf@majorversion\relax
8803 \Hy@pdfminorversion=\Hy@pdf@minorversion\relax
8804 \else
8805 \let\Hy@temp@A\@empty
8806 \ifnum\Hy@pdf@majorminor@version=104 %
8807 \IfFileExists{pdf14.sty}{%
8808 \def\Hy@temp@A{%
8809 \MessageBreak
8810 Or \string\RequirePackage{pdf14} can be used%
8811 \MessageBreak
8812 before \string\documentclass\space as shortcut%
8813 }%
8814 }{}%
8815 \fi
8816 \Hy@WarningNoLine{%
8817 The PDF version number could not be set,\MessageBreak
8818 because some PDF objects are already written:%
8819 \MessageBreak
8820 \Hy@temp
8821 The version should be set as early as possible:%
8822 \MessageBreak
8823 \space\space
8824 \expandafter\string\Hy@pdfmajorversion=\Hy@pdf@majorversion, %
8825 \expandafter\string\Hy@pdfminorversion=\Hy@pdf@minorversion
8826 \string\relax
8827 \ifnum\Hy@pdf@majorminor@version<105 %
8828 \ifundefined{pdfobjcompresslevel}{%
8829 }{%
8830 \MessageBreak
8831 \space\space
8832 \string\pdfobjcompresslevel=0\string\relax
8833 }%
8834 \fi
8835 \Hy@temp@A
8836 }%
8837 \fi
8838 \fi
8839 \PackageInfo{hyperref}{%
8840 \expandafter\string\Hy@pdfmajorversion.%
8841 \expandafter\string\Hy@pdfminorversion
8842 :=\number\Hy@pdf@majorversion.\number\Hy@pdf@minorversion\space
8843 }%
8844 \fi
8845 \edef\Hy@pdf@majorversion{\number\Hy@pdfmajorversion}%
8846 \edef\Hy@pdf@minorversion{\number\Hy@pdfminorversion}%
8847 \Hy@DisableOption{pdfversion}%
8848 \ifHy@ocgcolorlinks
8849 \pdf@ifdraftmode{}{%
8850 \immediate\pdfobj{%

```

```

8851 <<%
8852 /Type/OCG%
8853 /Name(View)%
8854 /Usage<<%
8855 /Print<<%
8856 /PrintState/OFF%
8857 >>%
8858 /View<<%
8859 /ViewState/ON%
8860 >>%
8861 >>%
8862 >>%
8863 }%
8864 \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
8865 \immediate\pdfobj{%
8866 <<%
8867 /Type/OCG%
8868 /Name(Print)%
8869 /Usage<<%
8870 /Print<<%
8871 /PrintState/ON%
8872 >>%
8873 /View<<%
8874 /ViewState/OFF%
8875 >>%
8876 >>%
8877 >>%
8878 }%
8879 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
8880 \immediate\pdfobj{%
8881 [%
8882 \OBJ@OCG@view\space\OBJ@OCG@print
8883 ]%
8884 }%
8885 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
8886 \pdfcatalog{%
8887 /OCProperties<<%
8888 /OCGs \OBJ@OCGs
8889 /D<<%
8890 /OFF[\OBJ@OCG@print]%
8891 /AS[%
8892 <<%
8893 /Event/View%
8894 /OCGs \OBJ@OCGs
8895 /Category[/View]%
8896 >>%
8897 <<%
8898 /Event/Print%
8899 /OCGs \OBJ@OCGs
8900 /Category[/Print]%
8901 >>%
8902 <<%
8903 /Event/Export%
8904 /OCGs \OBJ@OCGs

```

```

8905         /Category[/Print]%
8906     >>%
8907     ]%
8908     >>%
8909     >>%
8910 }%
8911 \begingroup
8912 \edef\x{\endgroup
8913 \pdfpageresources{%
8914 \the\pdfpageresources
8915 /Properties<<%
8916 /OCView \OBJ@OCG@view
8917 /OCPrint \OBJ@OCG@print
8918 >>%
8919 }%
8920 }%
8921 \x
8922 }%
8923 \Hy@AtBeginDocument{%
8924 \def\Hy@colorlink#1{%
8925 \begingroup
8926 \ifHy@ocgcolorlinks
8927 \def\Hy@ocgcolor{#1}%
8928 \setbox0=\hbox\bgroup\color@begingroup
8929 \else
8930 \HyColor@UseColor#1%
8931 \fi
8932 }%
8933 \def\Hy@endcolorlink{%
8934 \ifHy@ocgcolorlinks
8935 \color@endgroup\egroup
8936 \mbox{%
8937 \pdfliteral page{/OC/OCPrint BDC}%
8938 \rlap{\copy0}%
8939 \pdfliteral page{EMC/OC/OCView BDC}%
8940 \begingroup
8941 \expandafter\HyColor@UseColor\Hy@ocgcolor
8942 \box0 %
8943 \endgroup
8944 \pdfliteral page{EMC}%
8945 }%
8946 \fi
8947 \endgroup
8948 }%
8949 }%
8950 \else
8951 \Hy@DisableOption{ocgcolorlinks}%
8952 \fi

```

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

```

8953 \def\setpdfinkmargin#1{%
8954 \begingroup
8955 \setlength{\dimen@}{#1}%
8956 \expandafter\endgroup

```

```

8957 \expandafter\pdfinkmargin\the\dimen@ \relax
8958 }
8959 \pdfinkmargin1pt %

```

First set up the default linking

```

8960 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

8961 \Hy@WrapperDef\new@pdfink#1{%
8962   \ifhmode
8963     \@savsf\spacefactor
8964   \fi
8965   \Hy@SaveLastskip
8966   \Hy@VerboseAnchor{#1}%
8967   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8968   \Hy@DestName\Hy@pstringDest\@pdfview
8969   \Hy@RestoreLastskip
8970   \ifhmode
8971     \spacefactor\@savsf
8972   \fi
8973 }
8974 \let\pdf@endanchor\@empty

```

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

```

8975 \def\Hy@DestName#1#2{%
8976   \pdfdest name{#1}#2\relax
8977 }

```

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.

```

8978 \providecommand*\@pdfborder{0 0 1}
8979 \providecommand*\@pdfborderstyle{}
8980 \def\Hy@undefinedname{UNDEFINED}
8981 \def\find@pdfink#1#2{%
8982   \leavevmode
8983   \protected@edef\Hy@testname{#2}%
8984   \ifx\Hy@testname\@empty
8985     \Hy@Warning{%
8986       Empty destination name,\MessageBreak
8987       using '\Hy@undefinedname'%
8988     }%
8989     \let\Hy@testname\Hy@undefinedname
8990   \else
8991     \Hy@pstringdef\Hy@testname{%
8992       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8993     }%
8994   \fi
8995   \Hy@StartlinkName{%
8996     \ifHy@pdfa /F 4\fi
8997     \Hy@setpdfborder
8998     \Hy@setpdfhighlight

```

```

8999 \ifx\CurrentBorderColor\relax
9000 \else
9001 /C[\CurrentBorderColor]%
9002 \fi
9003 }\Hy@testname
9004 \expandafter\Hy@colorlink\csname @#1color\endcsname
9005 }
9006 \def\Hy@StartlinkName#1#2{%
9007 \pdfstartlink attr{#1}goto name{#2}\relax
9008 }
9009 \def\close@pdfink{%
9010 \Hy@endcolorlink
9011 \Hy@VerboseLinkStop
9012 \pdfendlink
9013 }
9014 \def\hyper@anchor#1{%
9015 \new@pdfink{#1}\anchor@spot\pdf@endanchor
9016 }
9017 \def\hyper@anchorstart#1{%
9018 \new@pdfink{#1}%
9019 \Hy@Activeanchortrue
9020 }
9021 \def\hyper@anchorend{%
9022 \pdf@endanchor
9023 \Hy@Activeanchorfalse
9024 }
9025 \def\hyper@linkstart#1#2{%
9026 \Hy@VerboseLinkStart{#1}{#2}%
9027 \@ifundefined{@#1bordercolor}{%
9028 \let\CurrentBorderColor\relax
9029 }{%
9030 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9031 }%
9032 \find@pdfink{#1}{#2}%
9033 }
9034 \def\hyper@linkend{\close@pdfink}
9035 \def\hyper@link#1#2#3{%
9036 \Hy@VerboseLinkStart{#1}{#2}%
9037 \@ifundefined{@#1bordercolor}{%
9038 \let\CurrentBorderColor\relax
9039 }{%
9040 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9041 }%
9042 \find@pdfink{#1}{#2}#3\Hy@xspace@end
9043 \close@pdfink
9044 }
9045 \let\CurrentBorderColor\@linkbordercolor
9046 \def\hyper@linkurl#1#2{%
9047 \begingroup
9048 \Hy@pstringdef\Hy@pstringURI{#2}%
9049 \hyper@chars
9050 \leavevmode
9051 \pdfstartlink
9052 attr{%

```

```

9053 \Hy@setpdfborder
9054 \Hy@setpdfhighlight
9055 \ifx\@urlbordercolor\relax
9056 \else
9057 /C[\@urlbordercolor]%
9058 \fi
9059 }%
9060 user{%
9061 /Subtype/Link%
9062 \ifHy@pdfa /F 4\fi
9063 /A<<%
9064 /Type/Action%
9065 /S/URI%
9066 /URI(\Hy@pstringURI)%
9067 \ifHy@href@ismap
9068 /IsMap true%
9069 \fi
9070 \Hy@href@nextactionraw
9071 >>%
9072 }%
9073 \relax
9074 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9075 \close@pdflink
9076 \endgroup
9077 }
9078 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
9079 \begingroup
9080 \def\Hy@pstringF{#2}%
9081 \Hy@CleanupFile\Hy@pstringF
9082 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9083 \Hy@pstringdef\Hy@pstringD{#3}%
9084 \Hy@MakeRemoteAction
9085 \leavevmode
9086 \pdfstartlink
9087 attr{%
9088 \Hy@setpdfborder
9089 \Hy@setpdfhighlight
9090 \ifx\@filebordercolor\relax
9091 \else
9092 /C[\@filebordercolor]%
9093 \fi
9094 }%
9095 user {%
9096 /Subtype/Link%
9097 \ifHy@pdfa /F 4\fi
9098 /A<<%
9099 /F(\Hy@pstringF)%
9100 /S/GoToR%
9101 \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}

9102      \ifx\|#3\|%
9103      /D[\Hy@href@page\@pdfremotestartview]%
9104      \else
9105      /D(\Hy@pstringD)%
9106      \fi
9107      \Hy@href@nextactionraw
9108      >>%
9109      }%
9110      \relax
9111      \Hy@colorlink\@filecolor#1\Hy@xspace@end
9112      \close@pdflink
9113      \endgroup
9114      }
9115 \def\@hyper@launch run:#1\|#2#3{% filename, anchor text linkname
9116   \begingroup
9117   \Hy@pstringdef\Hy@pstringF{#1}%
9118   \Hy@pstringdef\Hy@pstringP{#3}%
9119   \leavevmode
9120   \pdfstartlink
9121   attr{%
9122     \Hy@setpdfborder
9123     \Hy@setpdfhighlight
9124     \ifx\@runbordercolor\relax
9125     \else
9126     /C[\@runbordercolor]%
9127     \fi
9128   }%
9129   user {%
9130     /Subtype/Link%
9131     \ifHy@pdfa /F 4\fi
9132     /A<<%
9133     /F(\Hy@pstringF)%
9134     /S/Launch%
9135     \Hy@SetNewWindow
9136     \ifx\|#3\|%
9137     \else
9138     /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9139     \fi
9140     \Hy@href@nextactionraw
9141     >>%
9142     }%
9143     \relax
9144     \Hy@colorlink\@runcolor#2\Hy@xspace@end
9145     \close@pdflink
9146   \endgroup
9147   }

```

\PDF@SetupDox

```
9148 \def\PDF@SetupDoc{%
9149 \ifx\@pdfpagescrop\@empty
9150 \else
9151 \edef\process@me{%
9152 \pdfpagesattr={%
9153 /CropBox[\@pdfpagescrop]%
9154 \expandafter\ifx\expandafter\\\the\pdfpagesattr\\%
9155 \else
9156 ^^J\the\pdfpagesattr
9157 \fi
9158 }%
9159 }%
9160 \process@me
9161 \fi
9162 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9163 \pdfcatalog{%
9164 /PageMode/\@pdfpagemode
9165 \ifx\@baseurl\@empty
9166 \else
9167 /URI<</Base(\Hy@pstringB)>>%
9168 \fi
9169 }%
9170 \ifx\@pdfstartpage\@empty
9171 \else
9172 \ifx\@pdfstartview\@empty
9173 \else
9174 openaction goto page\@pdfstartpage{\@pdfstartview}%
9175 \fi
9176 \fi
9177 \edef\Hy@temp{%
9178 \ifHy@pdftoolbar\else /HideToolbar true\fi
9179 \ifHy@pdfmenubar\else /HideMenubar true\fi
9180 \ifHy@pdfwindowui\else /HideWindowUI true\fi
9181 \ifHy@pdffitwindow /FitWindow true\fi
9182 \ifHy@pdfcenterwindow /CenterWindow true\fi
9183 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9184 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9185 \Hy@UseNameKey{Direction}\@pdfdirection
9186 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9187 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9188 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9189 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9190 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9191 \Hy@UseNameKey{Duplex}\@pdfduplex
9192 \ifx\@pdfpicktraybypdfsize\@empty
9193 \else
9194 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9195 \fi
9196 \ifx\@pdfprintpagerange\@empty
9197 \else
9198 /PrintPageRange[\@pdfprintpagerange]%
9199 \fi
9200 \ifx\@pdfnumcopies\@empty
```

```

9201 \else
9202 /NumCopies \@pdfnumcopies
9203 \fi
9204 }%
9205 \pdfcatalog{%
9206 \ifx\Hy@temp\@empty
9207 \else
9208 /ViewerPreferences<<\Hy@temp>>%
9209 \fi
9210 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9211 \ifx\@pdflang\relax
9212 \else
9213 /Lang(\@pdflang)%
9214 \fi
9215 }%
9216 }

```

\PDF@FinishDoc

```

9217 \def\PDF@FinishDoc{%
9218 \pdf@ifdraftmode{}{%
9219 \Hy@UseMaketitleInfos
9220 \HyInfo@GenerateAddons
9221 \pdfinfo{%
9222 /Author(\@pdfauthor)%
9223 /Title(\@pdftitle)%
9224 /Subject(\@pdfsubject)%
9225 /Creator(\@pdfcreator)%
9226 \ifx\@pdfcreationdate\@empty
9227 \else
9228 /CreationDate(\@pdfcreationdate)%
9229 \fi
9230 \ifx\@pdfmoddate\@empty
9231 \else
9232 /ModDate(\@pdfmoddate)%
9233 \fi
9234 \ifx\@pdfproducer\relax
9235 \else
9236 /Producer(\@pdfproducer)%
9237 \fi
9238 /Keywords(\@pdfkeywords)%
9239 \ifx\@pdftrapped\@empty
9240 \else
9241 /Trapped/\@pdftrapped
9242 \fi
9243 \HyInfo@Addons
9244 }%
9245 }%
9246 \Hy@DisableOption{pdfauthor}%
9247 \Hy@DisableOption{pdftitle}%
9248 \Hy@DisableOption{pdfsubject}%
9249 \Hy@DisableOption{pdfcreator}%
9250 \Hy@DisableOption{addtopdfcreator}%
9251 \Hy@DisableOption{pdfcreationdate}%
9252 \Hy@DisableOption{pdfmoddate}%

```

```

9253 \Hy@DisableOption{pdfproducer}%
9254 \Hy@DisableOption{pdfkeywords}%
9255 \Hy@DisableOption{pdftrapped}%
9256 \Hy@DisableOption{pdfinfo}%
9257 }

```

`\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`.

```

9258 \def\hyper@pagetransition{%
9259 \ifx\@pdfpagetransition\relax
9260 \else
9261 \expandafter\Hy@RemoveTransPageAttr
9262 \the\pdfpageattr^^J/Trans{}}>>\END
9263 \ifx\@pdfpagetransition\@empty
9264 \else
9265 \edef\@processme{%
9266 \global\pdfpageattr{%
9267 \the\pdfpageattr
9268 ^^J/Trans << /S /\@pdfpagetransition\space >>%
9269 }%
9270 }%
9271 \@processme
9272 \fi
9273 \fi
9274 }

```

`\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.

```

9275 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9276 \ifx\#2\%
9277 \global\pdfpageattr{#1}%
9278 \else
9279 \Hy@RemoveTransPageAttr#1#4\END
9280 \fi
9281 }

```

`\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`.

```

9282 \def\hyper@pageduration{%
9283 \ifx\@pdfpageduration\relax
9284 \else
9285 \expandafter
9286 \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{}} \END
9287 \ifx\@pdfpageduration\@empty
9288 \else
9289 \edef\@processme{%
9290 \global\pdfpageattr{%
9291 \the\pdfpageattr

```

```

9292      ^^J/Dur \@pdfpageduration\space
9293      }%
9294      }%
9295      \@processme
9296      \fi
9297      \fi
9298      }

```

`\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.

```

9299 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9300   \ifx\|#2\|
9301     \global\pdfpageattr{#1}%
9302   \else
9303     \Hy@RemoveDurPageAttr#1#4\END
9304   \fi
9305 }

9306 \pdf@ifdraftmode{ }{%
9307   \g@addto@macro\Hy@EveryPageHook{%
9308     \hyper@pagetransition
9309     \hyper@pageduration
9310   }%
9311 }

```

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

```

9312 \</pdfTeX>
9313 \<pdfTeX | xetex>
9314 \Hy@AtBeginDocument{%
9315   \ifHy@setpagesize
9316     \expandafter\@firstofone
9317   \else
9318     \expandafter\@gobble
9319   \fi
9320   {%
9321     \@ifclassloaded{seminar}{%
9322       \<pdfTeX>
9323       \setlength{\pdfhorigin}{1truein}%
9324       \setlength{\pdfvorigin}{1truein}%
9325     \</pdfTeX>
9326     \ifportrait
9327       \ifdim\paperwidth=\z@
9328       \else
9329         \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9330       \fi
9331       \ifdim\paperheight=\z@
9332       \else
9333         \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9334       \fi
9335     \else
9336       \ifdim\paperheight=\z@

```

```

9337     \else
9338     \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9339     \fi
9340     \ifdim\paperwidth=\z@
9341     \else
9342     \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9343     \fi
9344     \fi
9345 }{%
9346     \ifnum\mag=\@m
9347     \ifdim\stockwidth>\z@
9348     \ifdim\stockheight>\z@
9349     \setlength{\pdfpagewidth}{\stockwidth}%
9350     \setlength{\pdfpageheight}{\stockheight}%
9351     \else
9352     \ifdim\paperwidth>\z@
9353     \ifdim\paperheight>\z@
9354     \setlength{\pdfpagewidth}{\paperwidth}%
9355     \setlength{\pdfpageheight}{\paperheight}%
9356     \fi
9357     \fi
9358     \fi
9359     \else
9360     \ifdim\stockwidth=\z@
9361     \ifdim\paperwidth>\z@
9362     \ifdim\paperheight>\z@
9363     \setlength{\pdfpagewidth}{\paperwidth}%
9364     \setlength{\pdfpageheight}{\paperheight}%
9365     \fi
9366     \fi
9367     \fi
9368     \fi
9369     \fi
9370 }%
9371 }%
9372 \Hy@DisableOption{setpagesize}%
9373 }
9374 </pdftex | xetex>
9375 <*pdftex>
9376 \def\Acrobatmenu#1#2{%
9377 \Hy@Acrobatmenu{#1}{#2}{%
9378 \leavevmode
9379 \EdefEscapeName\Hy@temp@menu{#1}%
9380 \pdfstartlink
9381 attr{%
9382 \Hy@setpdfborder
9383 \Hy@setpdfhighlight
9384 \ifx\@menubordercolor\relax
9385 \else
9386 /C[\@menubordercolor]%
9387 \fi
9388 }%
9389 user{%
9390 /Subtype/Link%

```

```

9391      \ifHy@pdfa /F 4\fi
9392      /A<<%
9393      /S/Named%
9394      /N/\Hy@temp@menu
9395      \Hy@href@nextactionraw
9396      >>%
9397      }%
9398      \relax
9399      \Hy@colorlink\@menucolor#2%
9400      \close@pdflink
9401      }%
9402      }
9403      </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 used to communicate to the *dvi* viewer the full (URL) location of the current document so that files specified by relative URL's may be retrieved correctly.

The *href* and *name* commands must be paired with an *end* command later in the TeX file — the TeX commands between the two ends of a pair form an *anchor* in the document. In the case of an *href* command, the *anchor* is to be highlighted in the *dvi* viewer, and when clicked on will cause the scene to shift to the destination specified by *href_string*. The *anchor* associated with a name command represents a possible location to which other hypertext links may refer, either as local references (of the form href="#name_string" with the *name_string* identical to the one in the name command) or as part of a URL (of the form URL#name_string). Here *href_string* is a valid URL or local identifier, while *name_string* could be any string at all: the only caveat is that “” characters should be escaped with a backslash (\), and if it looks like a URL name it may cause problems.

```

9404 (*hypertex)
9405 \providecommand*\XR@ext}{dvi}
9406 \let\PDF@FinishDoc\@empty
9407 \def\PDF@SetupDoc{%
9408   \ifx\@baseurl\@empty

```

```

9409 \else
9410   \special{html:<base href="\@baseurl">}%
9411 \fi
9412 }
9413 \Hy@WrapperDef\hyper@anchor#1{%
9414   \Hy@SaveLastskip
9415   \Hy@VerboseAnchor{#1}%
9416   \begingroup
9417     \let\protect=\string
9418     \hyper@chars
9419     \special{html:<a name=%
9420       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9421   \endgroup
9422   \Hy@activeanchortrue
9423   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9424   \special{html:</a>}%
9425   \Hy@activeanchorfalse
9426   \Hy@RestoreLastskip
9427 }
9428 \Hy@WrapperDef\hyper@anchorstart#1{%
9429   \Hy@SaveLastskip
9430   \Hy@VerboseAnchor{#1}%
9431   \begingroup
9432     \hyper@chars
9433     \special{html:<a name=%
9434       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9435   \endgroup
9436   \Hy@activeanchortrue
9437 }
9438 \def\hyper@anchorend{%
9439   \special{html:</a>}%
9440   \Hy@activeanchorfalse
9441   \Hy@RestoreLastskip
9442 }
9443 \def\@urltype{url}
9444 \def\hyper@linkstart#1#2{%
9445   \Hy@VerboseLinkStart{#1}{#2}%
9446   \expandafter\Hy@colorlink\csname @#1color\endcsname
9447   \def\Hy@tempa{#1}%
9448   \ifx\Hy@tempa\@urltype
9449     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9450   \else
9451     \begingroup
9452       \hyper@chars
9453       \special{html:<a href=%
9454         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
9455     \endgroup
9456   \fi
9457 }
9458 \def\hyper@linkend{%
9459   \special{html:</a>}%
9460   \Hy@endcolorlink
9461 }
9462 \def\hyper@linkfile#1#2#3{%

```

```

9463 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
9464 }
9465 \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.

```

9466 \leavevmode
9467 \ifHy@raiselinks
9468 \Hy@SaveSpaceFactor
9469 \Hy@SaveSavedSpaceFactor
9470 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9471 \Hy@RestoreSavedSpaceFactor
9472 \@linkdim\dp\@tempboxa
9473 \lower\@linkdim\hbox{%
9474 \hyper@chars
9475 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9476 }%
9477 \Hy@colorlink\@urlcolor
9478 \Hy@RestoreSpaceFactor
9479 #1%
9480 \Hy@SaveSpaceFactor
9481 \@linkdim\ht\@tempboxa

```

Because of the interaction with the dvihps processor, we have to subtract a little from the height. This is not clean, or checked. Check with Mark Doyle about what gives here. It may not be needed with the new dvips (Jan 1997).

```

9482 \advance\@linkdim by -6.5\p@
9483 \raise\@linkdim\hbox{\special{html:</a>}}}%
9484 \Hy@endcolorlink
9485 \Hy@RestoreSpaceFactor
9486 \else
9487 \begingroup
9488 \hyper@chars
9489 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9490 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9491 \special{html:</a>}}}%
9492 \Hy@endcolorlink
9493 \endgroup
9494 \fi
9495 }

```

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

```

9496 \def\hyper@link#1#2#3{%
9497 \Hy@VerboseLinkStart{#1}{#2}%
9498 \hyper@linkurl{#3}{\##\HyperDestNameFilter{#2}}}%
9499 }

9500 \def\hyper@image#1#2{%
9501 \begingroup
9502 \hyper@chars
9503 \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
9504 \endgroup
9505 }
9506 </hypertex>
9507 <*/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 hypertext cfg. For dviwindo, \LaTeX must specify the size of the active area for links. For some hooks this information is available but for some, the start and end of the link are specified separately in which case a fixed size area of 10000000sp wide by `\baselineskip` high is used.

```
9508 \providecommand*\XR@ext}{dvi}
9509 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9510 \Hy@WrapperDef\hyper@anchor#1{%
9511   \Hy@SaveLastskip
9512   \Hy@VerboseAnchor{#1}%
9513   \begingroup
9514     \let\protect=\string
9515     \special{mark: #1}%
9516   \endgroup
9517   \Hy@activeanchortrue
9518   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9519   \Hy@activeanchorfalse
9520   \Hy@RestoreLastskip
9521 }
9522 \Hy@WrapperDef\hyper@anchorstart#1{%
9523   \Hy@SaveLastskip
9524   \Hy@VerboseAnchor{#1}%
9525   \special{mark: #1}%
9526   \Hy@activeanchortrue
9527 }
9528 \def\hyper@anchorend{%
9529   \Hy@activeanchorfalse
9530   \Hy@RestoreLastskip
9531 }
9532 \def\hyper@linkstart#1#2{%
9533   \Hy@VerboseLinkStart{#1}{#2}%
9534   \expandafter\Hy@colorlink\csname @#1color\endcsname
9535   \special{button: %
9536     10000000 %
9537     \number\baselineskip\space
9538     #2%
9539   }%
9540 }
9541 \def\hyper@linkend{%
9542   \Hy@endcolorlink
9543 }
9544 \def\hyper@link#1#2#3{%
9545   \Hy@VerboseLinkStart{#1}{#2}%
9546   \leavevmode
9547   \ifHy@raiselinks
```

```

9548 \Hy@SaveSpaceFactor
9549 \Hy@SaveSavedSpaceFactor
9550 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
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 #2%
9558 }%
9559 \expandafter\Hy@colorlink\csname @#1color\endcsname
9560 \Hy@RestoreSpaceFactor
9561 #3\Hy@xspace@end
9562 \Hy@SaveSpaceFactor
9563 \Hy@endcolorlink
9564 }%
9565 \@linkdim\ht\@tempboxa
9566 \advance\@linkdim by -6.5\p@
9567 \raise\@linkdim\hbox{}%
9568 \Hy@RestoreSpaceFactor
9569 \else
9570 \special{button: %
9571 \number\wd\@tempboxa\space
9572 \number\ht\@tempboxa\space
9573 #2%
9574 }%
9575 \expandafter\Hy@colorlink\csname @#1color\endcsname
9576 #3\Hy@xspace@end
9577 \Hy@endcolorlink
9578 \fi
9579 }
9580 \def\hyper@linkurl#1#2{%
9581 \begingroup
9582 \hyper@chars
9583 \leavevmode
9584 \ifHy@raiselinks
9585 \Hy@SaveSpaceFactor
9586 \Hy@SaveSavedSpaceFactor
9587 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9588 \Hy@RestoreSavedSpaceFactor
9589 \@linkdim\dp\@tempboxa
9590 \lower\@linkdim\hbox{%
9591 \special{button: %
9592 \number\wd\@tempboxa\space
9593 \number\ht\@tempboxa\space
9594 launch: \wwwbrowser\space
9595 #2%
9596 }%
9597 \Hy@colorlink\@urlcolor
9598 \Hy@RestoreSpaceFactor
9599 #1\Hy@xspace@end
9600 \Hy@SaveSpaceFactor
9601 \Hy@endcolorlink

```

```

9602 }%
9603 \@linkdim\ht\@tempboxa
9604 \advance\@linkdim by -6.5\p@
9605 \raise\@linkdim\hbox{}%
9606 \Hy@RestoreSpaceFactor
9607 \else
9608 \special{button: %
9609 \number\wd\@tempboxa\space
9610 \number\ht\@tempboxa\space
9611 launch: \wwwbrowser\space
9612 #2%
9613 }%
9614 \Hy@colorlink\@urlcolor
9615 #1\Hy@xspace@end
9616 \Hy@endcolorlink
9617 \fi
9618 \endgroup
9619 }
9620 \def\hyper@linkfile#1#2#3{%
9621 \begingroup
9622 \hyper@chars
9623 \leavevmode
9624 \ifHy@raiselinks
9625 \Hy@SaveSpaceFactor
9626 \Hy@SaveSavedSpaceFactor
9627 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9628 \Hy@RestoreSavedSpaceFactor
9629 \@linkdim\dp\@tempboxa
9630 \lower\@linkdim\hbox{%
9631 \special{button: %
9632 \number\wd\@tempboxa\space
9633 \number\ht\@tempboxa\space
9634 #3,%
9635 file: #2%
9636 }%
9637 \Hy@colorlink\@filecolor
9638 \Hy@RestoreSpaceFactor
9639 #1\Hy@xspace@end
9640 \Hy@SaveSpaceFactor
9641 \Hy@endcolorlink
9642 }%
9643 \@linkdim\ht\@tempboxa
9644 \advance\@linkdim by -6.5\p@
9645 \raise\@linkdim\hbox{}%
9646 \Hy@RestoreSpaceFactor
9647 \else
9648 \special{button: %
9649 \number\wd\@tempboxa\space
9650 \number\ht\@tempboxa\space
9651 #3,%
9652 file: #2%
9653 }%
9654 \Hy@colorlink\@filecolor
9655 #1\Hy@xspace@end

```

```

9656     \Hy@endcolorlink
9657     \fi
9658 \endgroup
9659 }
9660 \HyInfo@AddonUnsupportedtrue
9661 \def\PDF@FinishDoc{%
9662   \Hy@UseMaketitleInfos
9663   \HyInfo@TrappedUnsupported
9664   \special{PDF: Keywords \@pdfkeywords}%
9665   \special{PDF: Title \@pdftitle}%
9666   \special{PDF: Creator \@pdfcreator}%
9667   \ifx\@pdfcreationdate\@empty
9668   \else
9669     \special{PDF: CreationDate \@pdfcreationdate}%
9670   \fi
9671   \ifx\@pdfmoddate\@empty
9672   \else
9673     \special{PDF: ModDate \@pdfmoddate}%
9674   \fi
9675   \special{PDF: Author \@pdfauthor}%
9676   \ifx\@pdfproducer\relax
9677   \else
9678     \special{PDF: Producer \@pdfproducer}%
9679   \fi
9680   \special{PDF: Subject \@pdfsubject}%
9681   \Hy@DisableOption{pdfauthor}%
9682   \Hy@DisableOption{pdftitle}%
9683   \Hy@DisableOption{pdfsubject}%
9684   \Hy@DisableOption{pdfcreator}%
9685   \Hy@DisableOption{addtopdfcreator}%
9686   \Hy@DisableOption{pdfcreationdate}%
9687   \Hy@DisableOption{pdfcreationdate}%
9688   \Hy@DisableOption{pdfmoddate}%
9689   \Hy@DisableOption{pdfproducer}%
9690   \Hy@DisableOption{pdfkeywords}%
9691   \Hy@DisableOption{pdftrapped}%
9692   \Hy@DisableOption{pdfinfo}%
9693 }
9694 \def\PDF@SetupDoc{%
9695   \ifx\@baseurl\@empty
9696   \else
9697     \special{PDF: Base \@baseurl}%
9698   \fi
9699   \ifx\@pdfpagescrop\@empty\else
9700     \special{PDF: BBox \@pdfpagescrop}%
9701   \fi
9702   \def\Hy@temp{}%
9703   \ifx\@pdfstartpage\@empty
9704   \else
9705     \ifx\@pdfstartview\@empty
9706     \else
9707       \edef\Hy@temp{%
9708         ,Page=\@pdfstartpage
9709         ,View=\@pdfstartview

```

```

9710     }%
9711     \fi
9712 \fi
9713 \edef\Hy@temp{%
9714     \noexpand\pdfmark{%
9715         pdfmark=/DOCVIEW,%
9716         PageMode=/\@pdfpagemode
9717     }\Hy@temp
9718 }%
9719 }%
9720 \Hy@temp
9721 \ifx\@pdfpagescrop\@empty
9722 \else
9723     \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9724 \fi
9725 \edef\Hy@temp{%
9726     \ifHy@pdftoolbar\else /HideToolbar true\fi
9727     \ifHy@pdfmenubar\else /HideMenubar true\fi
9728     \ifHy@pdfwindowui\else /HideWindowUI true\fi
9729     \ifHy@pdfwindow /FitWindow true\fi
9730     \ifHy@pdfcenterwindow /CenterWindow true\fi
9731     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9732     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9733     \Hy@UseNameKey{Direction}\@pdfdirection
9734     \Hy@UseNameKey{ViewArea}\@pdfviewarea
9735     \Hy@UseNameKey{ViewClip}\@pdfviewclip
9736     \Hy@UseNameKey{PrintArea}\@pdfprintarea
9737     \Hy@UseNameKey{PrintClip}\@pdfprintclip
9738     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9739     \Hy@UseNameKey{Duplex}\@pdfduplex
9740     \ifx\@pdfpicktraybypdfsize\@empty
9741     \else
9742         /PickTrayByPDFSize \@pdfpicktraybypdfsize
9743     \fi
9744     \ifx\@pdfprintpagerange\@empty
9745     \else
9746         /PrintPageRange[\@pdfprintpagerange]%
9747     \fi
9748     \ifx\@pdfnumcopies\@empty
9749     \else
9750         /NumCopies \@pdfnumcopies
9751     \fi
9752 }%
9753 \pdfmark{pdfmark=/PUT,%
9754     Raw={%
9755         \string{Catalog\string}<<%
9756         \ifx\Hy@temp\@empty
9757         \else
9758             /ViewerPreferences<<\Hy@temp>>%
9759         \fi
9760         \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9761         \ifx\@pdflang\relax
9762         \else
9763             /Lang(\@pdflang)%

```

```

9764     \fi
9765     >>%
9766   }%
9767 }%
9768 }
9769 </dviwindo>
9770 <*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.

```

9771 \special{dvipdfmx:config C 0x0010}
9772 \providecommand*{\XR@ext}{pdf}
9773 \Hy@setbreaklinks{true}
9774 \def\HyPat@ObjRef{%
9775   @[^ ]+}%
9776 }
9777 \newsavebox{\pdfm@box}
9778 \def\@pdfm@mark#1{\special{pdf:#1}}
9779 \Hy@WrapperDef\@pdfm@dest#1{%
9780   \Hy@SaveLastskip
9781   \Hy@VerboseAnchor{#1}%
9782   \begingroup
9783     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9784     \def\x{XYZ}%
9785     \ifx\x\@pdfview
9786       \def\x{XYZ @xpos @ypos null}%
9787     \else
9788       \def\x{FitH}%
9789       \ifx\x\@pdfview
9790         \def\x{FitH @ypos}%
9791       \else
9792         \def\x{FitBH}%
9793         \ifx\x\@pdfview
9794           \def\x{FitBH @ypos}%
9795         \else
9796           \def\x{FitV}%
9797           \ifx\x\@pdfview
9798             \def\x{FitV @xpos}%
9799           \else
9800             \def\x{FitBV}%
9801             \ifx\x\@pdfview
9802               \def\x{FitBV @xpos}%
9803             \else
9804               \def\x{Fit}%
9805               \ifx\x\@pdfview
9806                 \let\x\@pdfview
9807               \else
9808                 \def\x{FitB}%
9809                 \ifx\x\@pdfview

```

```

9810         \let\x\@pdfview
9811     \else
9812         \def\x{FitR}%
9813     \ifx\x\@pdfview
9814         \Hy@Warning{'pdfview=FitR' is not supported}%
9815         \def\x{XYZ @xpos @ypos null}%
9816     \else
9817         \@onelevel@sanitize\@pdfview
9818         \Hy@Warning{%
9819             Unknown value '\@pdfview' for pdfview%
9820         }%
9821         \def\x{XYZ @xpos @ypos null}%
9822     \fi
9823 \fi
9824 \fi
9825 \fi
9826 \fi
9827 \fi
9828 \fi
9829 \fi
9830 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
9831 \endgroup
9832 \Hy@RestoreLastskip
9833 }
9834 \providecommand*\@pdfview{XYZ}
9835 \providecommand*\@pdfborder{0 0 1}
9836 \providecommand*\@pdfborderstyle{}
9837 \def\hyper@anchor#1{%
9838     \@pdfm@dest{#1}%
9839 }
9840 \def\hyper@anchorstart#1{%
9841     \Hy@activeanchortrue
9842     \@pdfm@dest{#1}%
9843 }
9844 \def\hyper@anchorend{%
9845     \Hy@activeanchorfalse
9846 }
9847 \newcounter{Hy@AnnotLevel}
9848 \ifHy@ocgcolorlinks
9849     \def\OBJ@OCG@view{@OCG@view}%
9850     \@pdfm@mark{%
9851         obj \OBJ@OCG@view <<%
9852         /Type/OCG%
9853         /Name(View)%
9854         /Usage<<%
9855         /Print<<%
9856         /PrintState/OFF%
9857         >>%
9858         /View<<%
9859         /ViewState/ON%
9860         >>%
9861         >>%
9862         >>%

```

```

9863 }%
9864 \@pdfm@mark{close \OBJ@OCG@view}%
9865 \def\OBJ@OCG@print{@OCG@print}%
9866 \@pdfm@mark{%
9867   obj \OBJ@OCG@print <<%
9868     /Type/OCG%
9869     /Name(Print)%
9870     /Usage<<%
9871     /Print<<%
9872     /PrintState/ON%
9873     >>%
9874     /View<<%
9875     /ViewState/OFF%
9876     >>%
9877     >>%
9878     >>%
9879 }%
9880 \@pdfm@mark{close \OBJ@OCG@print}%
9881 \def\OBJ@OCGs{@OCGs}%
9882 \@pdfm@mark{%
9883   obj \OBJ@OCGs [%
9884     \OBJ@OCG@view\space\OBJ@OCG@print
9885   ]%
9886 }%
9887 \@pdfm@mark{close \OBJ@OCGs}%
9888 \@pdfm@mark{%
9889   put @catalog <<%
9890     /OCProperties<<%
9891     /OCGs \OBJ@OCGs
9892     /D<<%
9893     /OFF[\OBJ@OCG@print]%
9894     /AS[%
9895       <<%
9896         /Event/View%
9897         /OCGs \OBJ@OCGs
9898         /Category[/View]%
9899       >>%
9900       <<%
9901         /Event/Print%
9902         /OCGs \OBJ@OCGs
9903         /Category[/Print]%
9904       >>%
9905       <<%
9906         /Event/Export%
9907         /OCGs \OBJ@OCGs
9908         /Category[/Print]%
9909       >>%
9910     ]%
9911     >>%
9912     >>%
9913     >>%
9914 }%
9915 \AddToHook{shipout/before}{%
9916   \setbox\ShipoutBox=\hbox{%

```

```

9917 \copy\ShipoutBox
9918 \@pdfm@mark{%
9919   put @resources <<%
9920     /Properties<<%
9921     /OCView \OBJ@OCG@view
9922     /OCPrint \OBJ@OCG@print
9923   >>%
9924   >>%
9925  }%
9926}%
9927}%
9928 \Hy@AtBeginDocument{%
9929   \def\Hy@colorlink#1{%
9930     \begingroup
9931       \ifHy@ocgcolorlinks
9932         \def\Hy@ocgcolor{#1}%
9933         \setbox0=\hbox\bgroup\color@begingroup
9934       \else
9935         \HyColor@UseColor#1%
9936       \fi
9937  }%
9938   \def\Hy@endcolorlink{%
9939     \ifHy@ocgcolorlinks
9940       \color@endgroup\egroup
9941     \mbox{%
9942       \@pdfm@mark{content /OC/OCPrint BDC}%
9943       \rlap{\copy0}%
9944       \@pdfm@mark{content EMC/OC/OCView BDC}%
9945       \begingroup
9946         \expandafter\HyColor@UseColor\Hy@ocgcolor
9947         \box0 %
9948       \endgroup
9949       \@pdfm@mark{content EMC}%
9950     }%
9951     \fi
9952   \endgroup
9953  }%
9954  }%
9955 \else
9956   \Hy@DisableOption{ocgcolorlinks}%
9957 \fi

```

Use primitive counter arithmetic here to avoid amsmath redefining `\stepcounter` (github issue/13)

```

9958 \def\Hy@BeginAnnot#1{%
9959   \global\advance\c@Hy@AnnotLevel\@ne
9960   \ifnum\c@Hy@AnnotLevel=\@ne
9961     #1%
9962   \fi
9963 }
9964 \def\Hy@endAnnot{%
9965   \ifnum\value{Hy@AnnotLevel}=\@ne
9966     \Hy@endcolorlink
9967     \@pdfm@mark{eann}%

```

```

9968 \fi
9969 \global\advance\c@Hy@AnnotLevel\m@ne
9970 }

9971 \def\Hy@undefinedname{UNDEFINED}
9972 \def\hyper@linkstart#1#2{%
9973   \Hy@VerboseLinkStart{#1}{#2}%
9974   \leavevmode
9975   \Hy@BeginAnnot{%
9976     \protected@edef\Hy@testname{#2}%
9977     \ifx\Hy@testname\@empty
9978       \Hy@Warning{%
9979         Empty destination name,\MessageBreak
9980         using ``\Hy@undefinedname'%
9981       }%
9982       \let\Hy@testname\Hy@undefinedname
9983     \else
9984       \Hy@pstringdef\Hy@testname{%
9985         \expandafter\HyperDestNameFilter\expandafter{%
9986           \Hy@testname
9987         }%
9988       }%
9989     \fi
9990     \@pdfm@mark{%
9991       bann<<%
9992       /Type/Annot%
9993       /Subtype/Link%
9994       \ifHy@pdfa /F 4\fi
9995       \Hy@setpdfborder
9996       \Hy@setpdfhighlight
9997       \expandafter\ifx\csname @#1bordercolor\endcsname\relax
9998       \else
9999         /C[\csname @#1bordercolor\endcsname]%
10000     \fi
10001     /A<<%
10002     /S/GoTo%
10003     /D(\Hy@testname)%
10004     \Hy@href@nextactionraw
10005     >>%
10006     >>%
10007   }%
10008   \expandafter\Hy@colorlink\csname @#1color\endcsname
10009 }%
10010 }

10011 \def\hyper@linkend{\Hy@EndAnnot}%
10012 \def\hyper@link#1#2#3{%
10013   \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
10014 }

2025-05-20 added a group for issue #380

10015 \def\hyper@linkfile#1#2#3{%
10016   \leavevmode
10017   \begingroup
10018   \Hy@BeginAnnot{%
10019     \def\Hy@pstringF{#2}%

```

```

10020 \Hy@CleanupFile\Hy@pstringF
10021 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
10022 \Hy@pstringdef\Hy@pstringD{#3}%
10023 \Hy@MakeRemoteAction
10024 \@pdfm@mark{%
10025     bann<<%
10026     /Type/Annot%
10027     /Subtype/Link%
10028     \ifHy@pdfa /F 4\fi
10029     \Hy@setpdfborder
10030     \Hy@setpdfhighlight
10031     \ifx\@filebordercolor\relax
10032     \else
10033     /C[\@filebordercolor]%
10034     \fi
10035     /A<<%
10036     /S/GoToR%
10037     /F(\Hy@pstringF)%
10038     /D%
10039     \ifx\#3\%
10040     [\Hy@href@page\@pdfremotestartview]%
10041     \else
10042     (\Hy@pstringD)%
10043     \fi
10044     \Hy@SetNewWindow
10045     \Hy@href@nextactionraw
10046     >>%
10047     >>%
10048     }%
10049     \Hy@colorlink\@filecolor
10050 }%
10051 #1\Hy@xspace@end
10052 \Hy@endAnnot
10053 \endgroup
10054 }
10055 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
10056     \leavevmode
10057     \Hy@BeginAnnot{%
10058     \Hy@pstringdef\Hy@pstringF{#1}%
10059     \Hy@pstringdef\Hy@pstringP{#3}%
10060     \@pdfm@mark{%
10061     bann<<%
10062     /Type/Annot%
10063     /Subtype/Link%
10064     \ifHy@pdfa /F 4\fi
10065     \Hy@setpdfborder
10066     \Hy@setpdfhighlight
10067     \ifx\@runbordercolor\relax
10068     \else
10069     /C[\@runbordercolor]%
10070     \fi
10071     /A<<%
10072     /F(\Hy@pstringF)%
10073     /S/Launch%

```

```

10074      \Hy@SetNewWindow
10075      \ifx\|#3\|
10076      \else
10077          /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10078      \fi
10079      \Hy@href@nextactionraw
10080      >>%
10081      >>%
10082      }%
10083      \Hy@colorlink\@runcolor
10084      }%
10085      #2\Hy@xspace@end
10086      \Hy@EndAnnot
10087      }
10088      \def\hyper@linkurl#1#2{%
10089      \leavevmode
10090      \Hy@BeginAnnot{%
10091          \Hy@pstringdef\Hy@pstringURI{#2}%
10092          \@pdfm@mark{%
10093              bann<<%
10094              /Type/Annot%
10095              /Subtype/Link%
10096              \ifHy@pdfa /F 4\fi
10097              \Hy@setpdfborder
10098              \Hy@setpdfhighlight
10099              \ifx\@urlbordercolor\relax
10100              \else
10101                  /C[\@urlbordercolor]%
10102              \fi
10103              /A<<%
10104              /S/URI%
10105              /URI(\Hy@pstringURI)%
10106              \ifHy@href@ismap
10107                  /IsMap true%
10108              \fi
10109              \Hy@href@nextactionraw
10110              >>%
10111              >>%
10112              }%
10113              \Hy@colorlink\@urlcolor
10114              }%
10115              #1\Hy@xspace@end
10116              \Hy@EndAnnot
10117          }
10118      \def\Acrobatmenu#1#2{%
10119      \Hy@Acrobatmenu{#1}{#2}{%
10120          \Hy@BeginAnnot{%
10121              \EdefEscapeName\Hy@temp@menu{#1}%
10122              \@pdfm@mark{%
10123                  bann<<%
10124                  /Type/Annot%
10125                  /Subtype/Link%
10126                  \ifHy@pdfa /F 4\fi
10127                  \Hy@setpdfborder

```

```

10128      \Hy@setpdfhighlight
10129      \ifx\@menubordercolor\relax
10130      \else
10131      /C[\@menubordercolor]%
10132      \fi
10133      /A<<%
10134      /S/Named%
10135      /N/\Hy@temp@menu
10136      \Hy@href@nextactionraw
10137      >>%
10138      >>%
10139      }%
10140      \Hy@colorlink\@menucolor
10141      }%
10142      #2\Hy@xspace@end
10143      \Hy@endannot
10144      }%
10145      }
10146
10147      \def\PDF@FinishDoc{%
10148      \Hy@UseMaketitleInfos
10149      \HyInfo@GenerateAddons
10150      \@pdfm@mark{%
10151      docinfo<<%
10152      /Title(\@pdftitle)%
10153      /Subject(\@pdfsubject)%
10154      /Creator(\@pdfcreator)%
10155      \ifx\@pdfcreationdate\@empty
10156      \else
10157      /CreationDate(\@pdfcreationdate)%
10158      \fi
10159      \ifx\@pdfmoddate\@empty
10160      \else
10161      /ModDate(\@pdfmoddate)%
10162      \fi
10163      /Author(\@pdfauthor)%
10164      \ifx\@pdfproducer\relax
10165      \else
10166      /Producer(\@pdfproducer)%
10167      \fi
10168      /Keywords(\@pdfkeywords)%
10169      \ifx\@pdftrapped\@empty
10170      \else
10171      /Trapped/\@pdftrapped
10172      \fi
10173      \HyInfo@Addons
10174      >>%
10175      }%
10176      \Hy@DisableOption{pdfauthor}%
10177      \Hy@DisableOption{pdftitle}%
10178      \Hy@DisableOption{pdfsubject}%
10179      \Hy@DisableOption{pdfcreator}%
10180      \Hy@DisableOption{addtopdfcreator}%
10181      \Hy@DisableOption{pdfcreationdate}%

```

```

10182 \Hy@DisableOption{pdfcreationdate}%
10183 \Hy@DisableOption{pdfmoddate}%
10184 \Hy@DisableOption{pdfproducer}%
10185 \Hy@DisableOption{pdfkeywords}%
10186 \Hy@DisableOption{pdftrapped}%
10187 \Hy@DisableOption{pdfinfo}%
10188 }

10189 \def\PDF@SetupDoc{%
10190 \edef\Hy@temp{%
10191 \ifHy@pdftoolbar\else /HideToolbar true\fi
10192 \ifHy@pdfmenubar\else /HideMenubar true\fi
10193 \ifHy@pdfwindowui\else /HideWindowUI true\fi
10194 \ifHy@pdfwindow /FitWindow true\fi
10195 \ifHy@pdfcenterwindow /CenterWindow true\fi
10196 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10197 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10198 \Hy@UseNameKey{Direction}\@pdfdirection
10199 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10200 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10201 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10202 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10203 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10204 \Hy@UseNameKey{Duplex}\@pdfduplex
10205 \ifx\@pdfpicktraybypdfsize\@empty
10206 \else
10207 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10208 \fi
10209 \ifx\@pdfprintpagerange\@empty
10210 \else
10211 /PrintPageRange[\@pdfprintpagerange]%
10212 \fi
10213 \ifx\@pdfnumcopies\@empty
10214 \else
10215 /NumCopies \@pdfnumcopies
10216 \fi
10217 }%
10218 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10219 \@pdfm@mark{%
10220 docview<<%
10221 \ifx\@pdfstartpage\@empty
10222 \else
10223 \ifx\@pdfstartview\@empty
10224 \else
10225 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10226 \fi
10227 \fi
10228 \ifx\@baseurl\@empty
10229 \else
10230 /URI<</Base(\Hy@pstringB)>>%
10231 \fi
10232 /PageMode/\@pdfpagemode
10233 \ifx\Hy@temp\@empty
10234 \else
10235 /ViewerPreferences<<\Hy@temp>>%

```

```

10236 \fi
10237 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10238 \ifx\@pdflang\relax
10239 \else
10240 /Lang(\@pdflang)%
10241 \fi
10242 >>%
10243 }%
10244 \ifx\@pdfpagescrop\@empty
10245 \else
10246 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
10247 \fi
10248 }
10249 </dvipdfm | xetex>
10250 < *dvipdfm | xetex>

```

\hyper@pagetransition

```

10251 \def\hyper@pagetransition{%
10252 \ifx\@pdfpagetransition\relax
10253 \else
10254 \ifx\@pdfpagetransition\@empty
10255 \else
10256 \special{pdf:put @thispage %
10257 <</Trans<</S/\@pdfpagetransition>>>>%
10258 }%
10259 \fi
10260 \fi
10261 }

```

\hyper@pageduration

```

10262 \def\hyper@pageduration{%
10263 \ifx\@pdfpageduration\relax
10264 \else
10265 \ifx\@pdfpageduration\@empty
10266 \else
10267 \special{pdf:put @thispage %
10268 <</Dur \@pdfpageduration>>>>%
10269 }%
10270 \fi
10271 \fi
10272 }

```

```

10273 \g@addto@macro\Hy@EveryPageBoxHook{%
10274 \hyper@pagetransition
10275 \hyper@pageduration
10276 }
10277 </dvipdfm | xetex>

```

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

```

10278 < *dvipdfm>
10279 \AddToHook{shipout/firstpage}{%
10280 \ifHy@setpagesize

```

```

10281 \begingroup
10282 \ifnum\mag=\@m
10283 \ifdim\stockwidth>\z@
10284 \ifdim\stockheight>\z@
10285 \special{papersize=\the\stockwidth,\the\stockheight}%
10286 \else
10287 \ifdim\paperwidth>\z@
10288 \ifdim\paperheight>\z@
10289 \special{papersize=\the\paperwidth,\the\paperheight}%
10290 \fi
10291 \fi
10292 \fi
10293 \else
10294 \ifdim\stockwidth=\z@
10295 \ifdim\paperwidth>\z@
10296 \ifdim\paperheight>\z@
10297 \special{papersize=\the\paperwidth,\the\paperheight}%
10298 \fi
10299 \fi
10300 \fi
10301 \fi
10302 \fi
10303 \endgroup
10304 \fi
10305 \Hy@DisableOption{setpagesize}%
10306 }
10307 </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.

```

10308 <*vtexhtml>
10309 \providecommand*{\XR@ext}{.htm}
10310 \RequirePackage{vtexhtml}
10311 \newif\if@Localurl
10312 \let\PDF@FinishDoc\@empty
10313 \def\PDF@SetupDoc{%
10314 \ifx\@baseurl\@empty
10315 \else
10316 \special{!direct <base href="\@baseurl">}%
10317 \fi
10318 }
10319 \def\@urltype{url}
10320 \def\hyper@link#1#2#3{%
10321 \Hy@VerboseLinkStart{#1}{#2}%
10322 \leavevmode
10323 \special{!direct <a href=%
10324 \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10325 #3\Hy@xspace@end
10326 \special{!direct </a>}%
10327 }
10328 \def\hyper@linkurl#1#2{%
10329 \begingroup

```

```

10330 \hyper@chars
10331 \leavevmode
10332 \MathBSuppress=1\relax
10333 \special{!direct <a href=%
10334 \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10335 #1\Hy@xspace@end
10336 \MathBSuppress=0\relax
10337 \special{!direct </a>}%
10338 \endgroup
10339 }
10340 \def\hyper@linkfile#1#2#3{%
10341 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
10342 }
10343 \def\hyper@linkstart#1#2{%
10344 \Hy@VerboseLinkStart{#1}{#2}%
10345 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
10346 \@Localurltrue
10347 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10348 \else
10349 \@Localurlfalse
10350 \begingroup
10351 \hyper@chars
10352 \special{!aref \HyperDestNameFilter{#2}}%
10353 \endgroup
10354 \fi
10355 }
10356 \def\hyper@linkend{%
10357 \if@Localurl
10358 \special{!endaref}%
10359 \else
10360 \special{!direct </a>}%
10361 \fi
10362 }
10363 \Hy@WrapperDef\hyper@anchorstart#1{%
10364 \Hy@SaveLastskip
10365 \Hy@VerboseAnchor{#1}%
10366 \begingroup
10367 \hyper@chars
10368 \special{!aname #1}%
10369 \special{!direct <a name=%
10370 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10371 \endgroup
10372 \Hy@activeanchortrue
10373 }
10374 \def\hyper@anchorend{%
10375 \special{!direct </a>}%
10376 \Hy@activeanchorfalse
10377 \Hy@RestoreLastskip
10378 }
10379 \Hy@WrapperDef\hyper@anchor#1{%
10380 \Hy@SaveLastskip
10381 \Hy@VerboseAnchor{#1}%
10382 \begingroup
10383 \let\protect=\string

```

```

10384 \hyper@chars
10385 \leavevmode
10386 \special{!aname #1}%
10387 \special{!direct <a name=%
10388     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10389 \endgroup
10390 \Hy@activeanchortrue
10391 \bgroup\anchor@spot\egroup
10392 \special{!direct </a>}%
10393 \Hy@activeanchorfalse
10394 \Hy@RestoreLastskip
10395 }
10396 \def\@Form[#1]{%
10397 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10398 }
10399 \let\@endForm\@empty
10400 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10401 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10402 }
10403 \def\@TextField[#1]#2{% parameters, label
10404 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10405 }
10406 \def\@CheckBox[#1]#2{% parameters, label
10407 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
10408 }
10409 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10410 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10411 }
10412 \def\@PushButton[#1]#2{% parameters, label
10413 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10414 }
10415 \def\@Reset[#1]#2{%
10416 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10417 }
10418 \def\@Submit[#1]#2{%
10419 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10420 }
10421 </vtexhtml>
10422 <*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.

```

10423 \ifcsname mediaheight\endcsname
10424 \ifHy@setpagesize
10425 \providecommand*\VTeXInitMediaSize{%
10426 \ifnum\mag=\@m
10427 \ifdim\stockwidth>\z@
10428 \ifdim\stockheight>\z@
10429 \setlength\mediaheight\stockheight
10430 \setlength\mediawidth\stockwidth
10431 \else
10432 \ifdim\paperwidth>\z@
10433 \ifdim\paperheight>\z@

```

```

10434         \setlength\mediaheight\paperheight
10435         \setlength\mediawidth\paperwidth
10436     \fi
10437 \fi
10438 \fi
10439 \else
10440     \ifdim\stockwidth=\z@
10441     \ifdim\paperwidth>\z@
10442     \ifdim\paperheight>\z@
10443         \setlength\mediaheight\paperheight
10444         \setlength\mediawidth\paperwidth
10445     \fi
10446 \fi
10447 \fi
10448 \fi
10449 \fi
10450 }%
10451 \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10452 \fi
10453 \Hy@DisableOption{setpagesize}%
10454 \fi

```

Older versions of VTeX require xyz in lower case.

```

10455 \providecommand*\@pdfview{xyz}
10456 \providecommand*\@pdfborder{0 0 1}
10457 \providecommand*\@pdfborderstyle{}
10458 \let\CurrentBorderColor\@linkbordercolor
10459 \Hy@WrapperDef\hyper@anchor#1{%
10460     \Hy@SaveLastskip
10461     \Hy@VerboseAnchor{#1}%
10462     \begingroup
10463         \let\protect=\string
10464         \hyper@chars
10465         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10466     \endgroup
10467     \Hy@activeanchortrue
10468     \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10469     \Hy@activeanchorfalse
10470     \Hy@RestoreLastskip
10471 }
10472 \Hy@WrapperDef\hyper@anchorstart#1{%
10473     \Hy@SaveLastskip
10474     \Hy@VerboseAnchor{#1}%
10475     \begingroup
10476         \hyper@chars
10477         \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10478     \endgroup
10479     \Hy@activeanchortrue
10480 }
10481 \def\hyper@anchorend{%
10482     \Hy@activeanchorfalse
10483     \Hy@RestoreLastskip
10484 }
10485 \def\@urltype{url}
10486 \def\Hy@undefinedname{UNDEFINED}

```

```

10487 \def\hyper@linkstart#1#2{%
10488   \Hy@VerboseLinkStart{#1}{#2}%
10489   \Hy@pstringdef\Hy@pstringURI{#2}%
10490   \expandafter\Hy@colorlink\csname @#1color\endcsname
10491   \@ifundefined{#1bordercolor}{%
10492     \let\CurrentBorderColor\relax
10493   }{%
10494     \edef\CurrentBorderColor{%
10495       \csname @#1bordercolor\endcsname
10496     }%
10497   }%
10498   \def\Hy@tempa{#1}%
10499   \ifx\Hy@tempa\@uratype
10500     \special{!%
10501       aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10502         \ifHy@href@ismap
10503           /IsMap true%
10504         \fi
10505         \Hy@href@nextactionraw
10506       >;%
10507       a=<%
10508         \ifHy@pdfa /F 4\fi
10509         \Hy@setpdfborder
10510         \ifx\CurrentBorderColor\relax
10511           \else
10512             /C [\CurrentBorderColor]%
10513           \fi
10514         >%
10515       }%
10516     \else
10517       \protected@edef\Hy@testname{#2}%
10518       \ifx\Hy@testname\@empty
10519         \Hy@Warning{%
10520           Empty destination name,\MessageBreak
10521           using '\Hy@undefinedname'%
10522         }%
10523       \let\Hy@testname\Hy@undefinedname
10524       \fi
10525       \special{!%
10526         aref \expandafter\HyperDestNameFilter
10527           \expandafter{\Hy@testname};%
10528         a=<%
10529           \ifHy@pdfa /F 4\fi
10530           \Hy@setpdfborder
10531           \ifx\CurrentBorderColor\relax
10532             \else
10533               /C [\CurrentBorderColor]%
10534             \fi
10535           >%
10536         }%
10537       \fi
10538     }
10539   \def\hyper@linkend{%
10540     \special{!endaref}%

```

```

10541 \Hy@endcolorlink
10542 }
10543 \def\hyper@linkfile#1#2#3{%
10544 \leavevmode
10545 \def\Hy@pstringF{#2}%
10546 \Hy@CleanupFile\Hy@pstringF
10547 \special{!%
10548   aref <%
10549   \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi\fi
10550   f=\Hy@pstringF>#3;%
10551   a=<%
10552     \ifHy@pdfa /F 4\fi
10553     \Hy@setpdfborder
10554     \ifx\@filebordercolor\relax
10555     \else
10556       /C [\@filebordercolor]%
10557     \fi
10558   >%
10559 }%
10560 \Hy@colorlink\@filecolor
10561 #1\Hy@xspace@end
10562 \Hy@endcolorlink
10563 \special{!endaref}%
10564 }
10565 \def\hyper@linkurl#1#2{%
10566 \begingroup
10567 \Hy@pstringdef\Hy@pstringURI{#2}%
10568 \hyper@chars
10569 \leavevmode
10570 \special{!%
10571   aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10572   \ifHy@href@ismap
10573     /IsMap true%
10574   \fi
10575   \Hy@href@nextactionraw
10576   >,%
10577   a=<%
10578     \ifHy@pdfa /F 4\fi
10579     \Hy@setpdfborder
10580     \ifx\@urlbordercolor\relax
10581     \else
10582       /C [\@urlbordercolor]%
10583     \fi
10584   >%
10585 }%
10586 \Hy@colorlink\@urlcolor
10587 #1\Hy@xspace@end
10588 \Hy@endcolorlink
10589 \special{!endaref}%
10590 \endgroup
10591 }
10592 \def\hyper@link#1#2#3{%
10593 \Hy@VerboseLinkStart{#1}{#2}%
10594 \@ifundefined{@#1bordercolor}{%

```

```

10595 \let\CurrentBorderColor\relax
10596 }{%
10597 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
10598 }%
10599 \leavevmode
10600 \protected@edef\Hy@testname{#2}%
10601 \ifx\Hy@testname\@empty
10602 \Hy@Warning{%
10603 Empty destination name,\MessageBreak
10604 using \Hy@undefinedname'%
10605 }%
10606 \let\Hy@testname\Hy@undefinedname
10607 \fi
10608 \special{!%
10609 aref \expandafter\HyperDestNameFilter
10610 \expandafter{\Hy@testname};%
10611 a=<%
10612 \ifHy@pdfa /F 4\fi
10613 \Hy@setpdfborder
10614 \ifx\CurrentBorderColor\relax
10615 \else
10616 /C [\CurrentBorderColor]%
10617 \fi
10618 >%
10619 }%
10620 \expandafter
10621 \Hy@colorlink\csname @#1color\endcsname
10622 #3\Hy@xspace@end
10623 \Hy@endcolorlink
10624 \special{!endaref}%
10625 }
10626 \def\hyper@image#1#2{%
10627 \hyper@linkurl{#2}{#1}%
10628 }
10629 \def\@hyper@launch run:#1\#2#3{%
10630 \Hy@pstringdef\Hy@pstringF{#1}%
10631 \Hy@pstringdef\Hy@pstringP{#3}%
10632 \leavevmode
10633 \special{!aref %
10634 <u=%
10635 /Type/Action%
10636 /S/Launch%
10637 /F(\Hy@pstringF)%
10638 \Hy@SetNewWindow
10639 \ifx\#3\%
10640 \else
10641 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10642 \fi
10643 \Hy@href@nextactionraw
10644 >:%
10645 a=<%
10646 \ifHy@pdfa /F 4\fi
10647 \Hy@setpdfborder
10648 \ifx\@runbordercolor\relax

```

```

10649 \else
10650 /C[\@runbordercolor]%
10651 \fi
10652 >%
10653 }%
10654 \Hy@colorlink\@runcolor
10655 #2\Hy@xspace@end
10656 \Hy@endcolorlink
10657 \special{!endaref}%
10658 }
10659 \def\Acrobatmenu#1#2{%
10660 \EdefEscapeName\Hy@temp@menu{#1}%
10661 \Hy@Acrobatmenu{#1}{#2}{%
10662 \special{!%
10663 aref <u=/S /Named /N /\Hy@temp@menu>;%
10664 a=<%
10665 \ifHy@pdfa /F 4\fi
10666 \Hy@setpdfborder
10667 \ifx\@menubordercolor\relax
10668 \else
10669 /C[\@menubordercolor]%
10670 \fi
10671 >%
10672 }%
10673 \Hy@colorlink\@menucolor
10674 #2\Hy@xspace@end
10675 \Hy@endcolorlink
10676 \special{!endaref}%
10677 }%
10678 }

```

The following code (transition effects) is made by Alex Kostin.

The code below makes sense for V_TE_X 7.02 or later.

Please never use `\@ifundefined{VTeXversion}{..}{..}` *globally*.

```

10679 \ifnum\Hy@VTeXversion<702 %
10680 \else
10681 \def\hyper@pagetransition{%
10682 \ifx\@pdfpagetransition\relax
10683 \else
10684 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```

10685 \else
10686 \hvtex@parse@trans\@pdfpagetransition
10687 \fi
10688 \fi
10689 }%

```

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:

```

10690 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
10691 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
10692 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
10693 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
10694 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
10695 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
10696 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

10697 \def\hvtex@par@dimension{/Dm}%
10698 \def\hvtex@par@direction{/Di}%
10699 \def\hvtex@par@duration{/D}%
10700 \def\hvtex@par@motion{/M}%

```

Tokenizer:

```

10701 \def\hvtex@gettoken{%
10702   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
10703 }%

```

Notice that tokens in the input buffer must be space delimited.

```

10704 \def\hvtex@gettoken@#1 #2\@nil{%
10705   \edef\hvtex@token{#1}%
10706   \edef\hvtex@buffer{#2}%
10707 }%
10708 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

10709 \let\hvtex@trans@code\@empty
10710 \let\hvtex@param@dimension\@empty
10711 \let\hvtex@param@direction\@empty
10712 \let\hvtex@param@duration\@empty
10713 \let\hvtex@param@motion\@empty
10714 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

10715 \hvtex@gettoken
10716 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

10717 \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

10718   \else
10719     \hvtex@gettoken
10720   \fi
10721 \fi
10722 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

10723   \hvtex@trans@params
10724 }%

```

Reentrant macro to parse optional parameters.

```

10725 \def\hvtex@trans@params{%
10726   \ifx\hvtex@buffer\@empty
10727   \else
10728     \hvtex@gettoken
10729     \let\hvtex@trans@par\hvtex@token
10730     \ifx\hvtex@buffer\@empty
10731     \else
10732       \hvtex@gettoken
10733       \ifx\hvtex@trans@par\hvtex@par@duration
/D is the effect duration in seconds. VTeX special takes it in milliseconds.
10734         \let\hvtex@param@duration\hvtex@token
10735       \else \ifx\hvtex@trans@par\hvtex@par@motion
/M can be either /I or /O
10736         \expandafter\edef\expandafter\hvtex@param@motion
10737         \expandafter{\expandafter\@gobble\hvtex@token}%
10738       \else \ifx\hvtex@trans@par\hvtex@par@dimension
/Dm can be either /H or /V
10739         \expandafter\edef\expandafter\hvtex@param@dimension
10740         \expandafter{\expandafter\@gobble\hvtex@token}%
10741       \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).

```

10742     \let\hvtex@param@direction\hvtex@token
10743     \fi\fi\fi\fi
10744   \fi
10745 \fi
10746 \ifx\hvtex@buffer\@empty
10747   \let\next\hvtex@produce@trans
10748 \else
10749   \let\next\hvtex@trans@params
10750 \fi
10751 \next
10752 }%

```

Merge <transition_effect> and issue the special when possible. Too lazy to validate optional parameters.

```

10753 \def\hvtex@produce@trans{%
10754   \let\vtex@trans@special\@empty
10755   \if S\hvtex@trans@code
10756     \edef\vtex@trans@special{\hvtex@trans@code

```

```

10757     \hvtex@param@dimension\hvtex@param@motion}%
10758 \else\if B\hvtex@trans@code
10759     \edef\vtex@trans@special{%
10760         \hvtex@trans@code\hvtex@param@dimension
10761     }%
10762 \else\if X\hvtex@trans@code
10763     \edef\vtex@trans@special{%
10764         \hvtex@trans@code\hvtex@param@motion
10765     }%
10766 \else\if W\hvtex@trans@code
10767     \edef\vtex@trans@special{%
10768         \hvtex@trans@code\hvtex@param@direction
10769     }%
10770 \else\if D\hvtex@trans@code
10771     \let\vtex@trans@special\hvtex@trans@code
10772 \else\if R\hvtex@trans@code
10773     \let\vtex@trans@special\hvtex@trans@code
10774 \else\if G\hvtex@trans@code
10775     \edef\vtex@trans@special{%
10776         \hvtex@trans@code\hvtex@param@direction
10777     }%
10778 \fi\fi\fi\fi\fi\fi
10779 \ifx\vtex@trans@special\@empty
10780 \else
10781     \ifx\hvtex@param@duration\@empty
10782     \else
10783         \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

10784     \multiply\dimen@\@m
10785     \edef\vtex@trans@special{%
10786         \vtex@trans@special,\strip@pt\dimen@
10787     }%
10788 \fi

```

And all the mess is just for this.

```

10789     \special{!trans \vtex@trans@special}%
10790 \fi
10791 }%
10792 \def\hyper@pageduration{%
10793     \ifx\@pdfpageduration\relax
10794     \else
10795         \ifx\@pdfpageduration\@empty
10796             \special{!duration-}%
10797         \else
10798             \special{!duration \@pdfpageduration}%
10799         \fi
10800 \fi
10801 }%
10802 \g@addto@macro\Hy@EveryPageBoxHook{%
10803     \hyper@pagetransition
10804     \hyper@pageduration
10805 }%
10806 \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

```

10807 \ifx\@pdfproducer\relax
10808 \def\@pdfproducer{VTeX}%
10809 \ifnum\Hy@VTeXversion>\z@
10810 \count@\VTeXversion
10811 \divide\count@ 100 %
10812 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
10813 \multiply\count@ -100 %
10814 \advance\count@\VTeXversion
10815 \edef\@pdfproducer{%
10816 \@pdfproducer
10817 .\ifnum\count@<10 0\fi\the\count@
10818 \ifx\VTeXOS\@undefined\else
10819 \ifnum\VTeXOS>0 %
10820 \ifnum\VTeXOS<6 %
10821 \space%
10822 \ifcase\VTeXOS
10823 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
10824 \fi
10825 )%
10826 \fi
10827 \fi
10828 \fi
10829 ,\space
10830 \ifnum\OpMode=\@ne PDF\else PS\fi
10831 \space backend%
10832 \ifx\gexmode\@undefined\else
10833 \ifnum\gexmode>\z@\space with GeX\fi
10834 \fi
10835 }%
10836 \fi
10837 \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).

```

10838 \def\PDF@SetupDoc{%
10839   \ifx\@pdfpagescrop\@empty
10840   \else
10841     \special{!pdfinfo b=<\@pdfpagescrop>}%
10842   \fi
10843   \ifx\@pdfstartpage\@empty
10844   \else
10845     \ifx\@pdfstartview\@empty
10846     \else
10847       \special{!onopen Page\@pdfstartpage}%
10848     \fi
10849   \fi
10850   \special{!pdfinfo p=</\@pdfpagemode>}%
10851   \ifx\@baseurl\@empty
10852   \else
10853     \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
10854   \fi
10855   \special{!pdfinfo v=<<<%
10856     \ifHy@pdftoolbar\else /HideToolbar true\fi
10857     \ifHy@pdfmenubar\else /HideMenubar true\fi
10858     \ifHy@pdfwindowui\else /HideWindowUI true\fi
10859     \ifHy@pdfwindow /FitWindow true\fi
10860     \ifHy@pdfcenterwindow /CenterWindow true\fi
10861     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10862     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10863     \Hy@UseNameKey{Direction}\@pdfdirection
10864     \Hy@UseNameKey{ViewArea}\@pdfviewarea
10865     \Hy@UseNameKey{ViewClip}\@pdfviewclip
10866     \Hy@UseNameKey{PrintArea}\@pdfprintarea
10867     \Hy@UseNameKey{PrintClip}\@pdfprintclip
10868     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10869     \Hy@UseNameKey{Duplex}\@pdfduplex
10870     \ifx\@pdfpicktraybypdfsize\@empty
10871     \else
10872       /PickTrayByPDFSize \@pdfpicktraybypdfsize
10873     \fi
10874     \ifx\@pdfprintpagerange\@empty
10875     \else
10876       /PrintPageRange[\@pdfprintpagerange]%
10877     \fi

```

```

10878 \ifx\@pdfnumcopies\@empty
10879 \else
10880 /NumCopies \@pdfnumcopies
10881 \fi
10882 >>>}%
10883 \ifx\@pdfpagelayout\@empty
10884 \else
10885 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
10886 \fi
10887 }%
10888 \HyInfo@AddonUnsupportedtrue
10889 \define@key{Hyp}{pdfcreationdate}{%
10890 \Hy@Warning{%
10891 VTeX does not support pdfcreationdate.\MessageBreak
10892 Therefore its setting is ignored%
10893 }%
10894 }
10895 \define@key{Hyp}{pdfmoddate}{%
10896 \Hy@Warning{%
10897 VTeX does not support pdfmoddate.\MessageBreak
10898 Therefore its setting is ignored%
10899 }%
10900 }
10901 \def\PDF@FinishDoc{%
10902 \Hy@UseMaketitleInfos
10903 \HyInfo@TrappedUnsupported
10904 \special{!pdfinfo a=<\@pdfauthor>}%
10905 \special{!pdfinfo t=<\@pdftitle>}%
10906 \special{!pdfinfo s=<\@pdfsubject>}%
10907 \special{!pdfinfo c=<\@pdfcreator>}%
10908 \ifx\@pdfproducer\relax
10909 \else
10910 \special{!pdfinfo r=<\@pdfproducer>}%
10911 \fi
10912 \special{!pdfinfo k=<\@pdfkeywords>}%
10913 \Hy@DisableOption{pdfauthor}%
10914 \Hy@DisableOption{pdftitle}%
10915 \Hy@DisableOption{pdfsubject}%
10916 \Hy@DisableOption{pdfcreator}%
10917 \Hy@DisableOption{addtopdfcreator}%
10918 \Hy@DisableOption{pdfcreationdate}%
10919 \Hy@DisableOption{pdfcreationdate}%
10920 \Hy@DisableOption{pdfmoddate}%
10921 \Hy@DisableOption{pdfproducer}%
10922 \Hy@DisableOption{pdfkeywords}%
10923 \Hy@DisableOption{pdftrapped}%
10924 \Hy@DisableOption{pdfinfo}%
10925 }
10926 </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.

```
10927 <dviwindo>\def\literalps@out#1{\special{ps:#1}}}%  
10928 <packageEnd>\providecommand*\Hy@DistillerDestFix{}%  
10929 <*pdfmark | dviwindo>  
10930 \def\Hy@DistillerDestFix{%  
10931   \begingroup  
10932     \let\x\literalps@out
```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```
10933   \ifnum \@ifundefined{OpMode}{0}{}%  
10934     \@ifundefined{gexmode}{0}{}%  
10935     \ifnum\gexmode>0 \OpMode\else 0\fi  
10936   }>1 %  
10937   \def\x##1{%  
10938     \immediate\special{!=##1}}%  
10939   }%  
10940   \fi  
10941   \x{%  
10942     /product where{%  
10943       pop %  
10944       product(Distiller)search{%  
10945         pop pop pop %  
10946         version(.)search{%  
10947           exch pop exch pop%  
10948           (3011)eq{%  
10949             gsave %  
10950             newpath 0 0 moveto closepath clip%  
10951             /Courier findfont 10 scalefont setfont %  
10952             72 72 moveto(.)show %  
10953             grestore%  
10954             }if%  
10955             }{pop}ifelse%  
10956             }{pop}ifelse%  
10957           }if%  
10958           }%  
10959         \endgroup  
10960       }  
10961     </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

```

10962 (*pdfmark)
10963 \Hy@breaklinks@unsupported
10964 \def\HyPat@ObjRef{%
10965   \[~{}]+\}%
10966 }
10967 \Hy@WrapperDef\hyper@anchor#1{%
10968   \Hy@SaveLastskip
10969   \Hy@VerboseAnchor{#1}%
10970   \begingroup
10971     \pdfmark[\anchor@spot]{%
10972       pdfmark=/DEST,%
10973       linktype=anchor,%
10974       View=/\@pdfview \@pdfviewparams,%
10975       DestAnchor={#1}%
10976     }%
10977   \endgroup
10978   \Hy@RestoreLastskip
10979 }
10980 \@ifundefined{hyper@anchorstart}{\endinput}{}
10981 \Hy@WrapperDef\hyper@anchorstart#1{%
10982   \Hy@SaveLastskip
10983   \Hy@VerboseAnchor{#1}%
10984   \literalps@out{H.S}%
10985   \Hy@AllowHyphens
10986   \xdef\hyper@currentanchor{#1}%
10987   \Hy@activeanchortrue
10988 }
10989 \def\hyper@anchorend{%
10990   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
10991   \pdfmark{%
10992     pdfmark=/DEST,%
10993     linktype=anchor,%
10994     View=/\@pdfview \@pdfviewparams,%
10995     DestAnchor=\hyper@currentanchor,%
10996   }%
10997   \Hy@activeanchorfalse
10998   \Hy@RestoreLastskip
10999 }
11000 \def\hyper@linkstart#1#2{%
11001   \Hy@VerboseLinkStart{#1}{#2}%
11002   \ifHy@breaklinks
11003     \else
11004     \leavevmode

```

```

11005 \ifmmode
11006   \def\Hy@LinkMath{$}%
11007 \else
11008   \let\Hy@LinkMath\@empty
11009 \fi
11010 \Hy@SaveSpaceFactor
11011 \hbox\bgroup
11012 \Hy@RestoreSpaceFactor
11013 \Hy@LinkMath
11014 \fi
11015 \expandafter\Hy@colorlink\csname @#1color\endcsname
11016 \literalps@out{H.S}%
11017 \Hy@AllowHyphens
11018 \xdef\hyper@currentanchor{#2}%
11019 \gdef\hyper@currentlinktype{#1}%
11020 }
11021 \def\hyper@linkend{%
11022   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
11023   \@ifundefined{@\hyper@currentlinktype bordercolor}{%
11024     \let\Hy@tempcolor\relax
11025   }{%
11026     \edef\Hy@tempcolor{%
11027       \csname @\hyper@currentlinktype bordercolor\endcsname
11028     }%
11029   }%
11030   \pdfmark{%
11031     pdfmark=/ANN,%
11032     linktype=link,%
11033     Subtype=/Link,%
11034     PDFAFlags=4,%
11035     Dest=\hyper@currentanchor,%
11036     AcroHighlight=\@pdfhighlight,%
11037     Border=\@pdfborder,%
11038     BorderStyle=\@pdfborderstyle,%
11039     Color=\Hy@tempcolor,%
11040     Raw=H.B%
11041   }%
11042   \Hy@endcolorlink
11043   \ifHy@breaklinks
11044   \else
11045     \Hy@LinkMath
11046     \Hy@SaveSpaceFactor
11047     \egroup
11048     \Hy@RestoreSpaceFactor
11049   \fi
11050 }

```

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.

```

11051 \begingroup
11052   \catcode`P=12 %
11053   \catcode`T=12 %
11054   \lowercase{\endgroup

```

```

11055 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
11056 }
11057 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

11058 \def\hyper@pagetransition{%
11059 \ifx\@pdfpagetransition\relax
11060 \else
11061 \ifx\@pdfpagetransition\@empty
11062 % 1. Does an old entry have to be deleted?
11063 % 2. If 1=yes, how to delete?
11064 \else
11065 \pdfmark{%
11066 pdfmark=/PUT,%
11067 Raw={%
11068 \string{ThisPage\string}%
11069 <</Trans << /S /\@pdfpagetransition\space >> >>%
11070 }%
11071 }%
11072 \fi
11073 \fi
11074 }

```

\hyper@pageduration

```

11075 \def\hyper@pageduration{%
11076 \ifx\@pdfpageduration\relax
11077 \else
11078 \ifx\@pdfpageduration\@empty
11079 % 1. Does an old entry have to be deleted?
11080 % 2. If 1=yes, how to delete?
11081 \else
11082 \pdfmark{%
11083 pdfmark=/PUT,%
11084 Raw={%
11085 \string{ThisPage\string}%
11086 <</Dur \@pdfpageduration>>%
11087 }%
11088 }%
11089 \fi
11090 \fi
11091 }

```

```

11092 \g@addto@macro\Hy@EveryPageBoxHook{%
11093 \hyper@pagetransition
11094 \hyper@pageduration
11095 }

```

```

11096 \def\hyper@image#1#2{%
11097 \hyper@linkurl{#2}{#1}%
11098 }
11099 \def\Hy@undefinedname{UNDEFINED}
11100 \def\hyper@link#1#2#3{%
11101 \Hy@VerboseLinkStart{#1}{#2}%
11102 \@ifundefined{@#1bordercolor}{%
11103 \let\Hy@tempcolor\relax

```

```

11104 }{%
11105   \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11106 }%
11107 \begingroup
11108   \protected@edef\Hy@testname{#2}%
11109   \ifx\Hy@testname\@empty
11110     \Hy@Warning{%
11111       Empty destination name,\MessageBreak
11112       using ``\Hy@undefinedname'%
11113     }%
11114     \let\Hy@testname\Hy@undefinedname
11115   \fi
11116   \pdfmark[{#3}]{%
11117     Color=\Hy@tempcolor,%
11118     linktype={#1},%
11119     AcroHighlight=\@pdfhighlight,%
11120     Border=\@pdfborder,%
11121     BorderStyle=\@pdfborderstyle,%
11122     pdfmark=/ANN,%
11123     Subtype=/Link,%
11124     PDFAMFlags=4,%
11125     Dest=\Hy@testname
11126   }%
11127 \endgroup
11128 }
11129 \newtoks\pdf@docset
11130 \def\PDF@FinishDoc{%
11131   \Hy@UseMaketitleInfos
11132   \Hy@Info@GenerateAddons
11133   \let\Hy@temp\@empty
11134   \ifx\@pdfcreationdate\@empty
11135   \else
11136     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11137   \fi
11138   \ifx\@pdfmoddate\@empty
11139   \else
11140     \expandafter\def\expandafter\Hy@temp\expandafter{%
11141       \Hy@temp
11142       ModDate=\@pdfmoddate,%
11143     }%
11144   \fi
11145   \ifx\@pdfproducer\relax
11146   \else
11147     \expandafter\def\expandafter\Hy@temp\expandafter{%
11148       \Hy@temp
11149       Producer=\@pdfproducer,%
11150     }%
11151   \fi
11152   \expandafter
11153   \pdfmark\expandafter{%
11154     \Hy@temp
11155     pdfmark=/DOCINFO,%
11156     Title=\@pdftitle,%
11157     Subject=\@pdfsubject,%

```

```

11158   Creator=\@pdfcreator,%
11159   Author=\@pdfauthor,%
11160   Keywords=\@pdfkeywords,%
11161   Trapped=\@pdftrapped
11162 }%
11163 \ifx\HyInfo@Addons\@empty
11164 \else
11165   \pdfmark{%
11166     pdfmark=/DOCINFO,%
11167     Raw={\HyInfo@Addons}%
11168   }%
11169 \fi
11170 \Hy@DisableOption{pdfauthor}%
11171 \Hy@DisableOption{pdftitle}%
11172 \Hy@DisableOption{pdfsubject}%
11173 \Hy@DisableOption{pdfcreator}%
11174 \Hy@DisableOption{addtopdfcreator}%
11175 \Hy@DisableOption{pdfcreationdate}%
11176 \Hy@DisableOption{pdfcreationdate}%
11177 \Hy@DisableOption{pdfmoddate}%
11178 \Hy@DisableOption{pdfproducer}%
11179 \Hy@DisableOption{pdfkeywords}%
11180 \Hy@DisableOption{pdftrapped}%
11181 \Hy@DisableOption{pdfinfo}%
11182 }
11183 \def\PDF@SetupDoc{%
11184   \def\Hy@temp{}%
11185   \ifx\@pdfstartpage\@empty
11186   \else
11187     \ifx\@pdfstartview\@empty
11188     \else
11189       \edef\Hy@temp{%
11190         ,Page=\@pdfstartpage
11191         ,View=\@pdfstartview
11192       }%
11193     \fi
11194   \fi
11195   \edef\Hy@temp{%
11196     \noexpand\pdfmark{%
11197       pdfmark=/DOCVIEW,%
11198       PageMode=/\@pdfpagemode
11199     }\Hy@temp
11200   }%
11201 }%
11202 \Hy@temp
11203 \ifx\@pdfpagescrop\@empty
11204 \else
11205   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11206 \fi
11207 \edef\Hy@temp{%
11208   \ifHy@pdftoolbar\else /HideToolbar true\fi
11209   \ifHy@pdfmenubar\else /HideMenubar true\fi
11210   \ifHy@pdfwindowui\else /HideWindowUI true\fi
11211   \ifHy@pdfwindow /FitWindow true\fi

```

```

11212 \ifHy@pdfcenterwindow /CenterWindow true\fi
11213 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11214 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11215 \Hy@UseNameKey{Direction}\@pdfdirection
11216 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11217 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11218 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11219 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11220 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11221 \Hy@UseNameKey{Duplex}\@pdfduplex
11222 \ifx\@pdfpicktraybypdfsize\@empty
11223 \else
11224 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11225 \fi
11226 \ifx\@pdfprintpagerange\@empty
11227 \else
11228 /PrintPageRange[\@pdfprintpagerange]%
11229 \fi
11230 \ifx\@pdfnumcopies\@empty
11231 \else
11232 /NumCopies \@pdfnumcopies
11233 \fi
11234 }%
11235 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11236 \pdfmark{%
11237 pdfmark=/PUT,%
11238 Raw={%
11239 \string{Catalog\string}<<%
11240 \ifx\Hy@temp\@empty
11241 \else
11242 /ViewerPreferences<<\Hy@temp>>%
11243 \fi
11244 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11245 \ifx\@pdflang\relax
11246 \else
11247 /Lang(\@pdflang)%
11248 \fi
11249 \ifx\@baseurl\@empty
11250 \else
11251 /URI<</Base(\Hy@pstringB)>>%
11252 \fi
11253 >>%
11254 }%
11255 }%
11256 }
11257 </pdfmark>
11258 <*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.

```

11259 \newif\ifHy@pdfmarkerror
11260 \def\pdfmark{\@ifnextchar[{\pdfmark@}{\pdfmark@[]}}
11261 \def\pdfmark@[#1]#2{%
11262   \Hy@pdfmarkerrorfalse
11263   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11264   \@processme
11265   \let\pdf@type\relax
11266   \let\pdf@objdef\@empty
11267   \kvsetkeys{PDF}{#2}%
11268   \ifHy@pdfmarkerror
11269   \else
11270     \ifx\pdf@type\relax
11271       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11272       \ifx\#1\%
11273         \else
11274           \pdf@rect{#1}%
11275           \fi
11276         \else
11277           \ifx\#1\%
11278             \literalps@out{%
11279               [%
11280                 \ifx\pdf@objdef\@empty
11281                 \else
11282                   /_objdef\string{\pdf@objdef\string}%
11283                 \fi
11284                 \the\pdf@toks\space\pdf@type\space pdfmark%
11285               ]%
11286             \else
11287               \@ifundefined{@\pdf@linktype color}{%
11288                 \Hy@colorlink\@linkcolor
11289               }{%
11290                 \expandafter\Hy@colorlink
11291                 \csname @\pdf@linktype color\endcsname
11292               }%
11293             \pdf@rect{#1}%
11294             \literalps@out{%
11295               [%
11296                 \ifx\pdf@objdef\@empty
11297                 \else
11298                   /_objdef\string{\pdf@objdef\string}%
11299                 \fi
11300                 \the\pdf@toks\space\pdf@type\space pdfmark%
11301               ]%
11302             \Hy@endcolorlink
11303             \fi
11304           \fi
11305         \fi
11306       }

```

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}
```

```
11307 \newsavebox{\pdf@box}
11308 \providecommand*{\Hy@setouterhbox}{\sbox}
11309 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
11310 \def\Hy@DEST{/DEST}
11311 \def\pdf@rect#1{%
11312   \begingroup
11313   \chardef\x=1 %
11314   \def\Hy@temp{#1}%
11315   \ifx\Hy@temp\@empty
11316     \chardef\x=0 %
11317   \else
11318     \def\y{\anchor@spot}%
11319     \ifx\Hy@temp\y
11320       \def\y{\relax}%
11321       \ifx\anchor@spot\y
11322         \chardef\x=0 %
11323       \fi
11324     \fi
11325   \fi
11326   \expandafter\endgroup
11327   \ifcase\x
11328     \literalps@out{H.S}%
11329     \literalps@out{H.R}%
11330   \else
11331     \leavevmode
11332     \Hy@SaveSpaceFactor
11333     \ifmmode
11334       \def\Hy@LinkMath{$}%
11335     \else
11336       \let\Hy@LinkMath\@empty
11337     \fi
11338     \ifHy@breaklinks
11339       \Hy@setouterhbox\pdf@box{%
11340         \Hy@RestoreSpaceFactor
11341         \Hy@LinkMath
11342         \Hy@AllowHyphens#1\Hy@xspace@end
11343         \Hy@LinkMath
11344         \Hy@SaveSpaceFactor
11345       }%
11346     \else
11347       \sbox\pdf@box{%
11348         \Hy@RestoreSpaceFactor
11349         \Hy@LinkMath
11350         #1\Hy@xspace@end
11351         \Hy@LinkMath
11352         \Hy@SaveSpaceFactor
```

```

11353 }%
11354 \fi
11355 \dimen@ht\pdf@box
11356 \ifdim\dp\pdf@box=\z@
11357 \literalps@out{H.S}%
11358 \else
11359 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11360 \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...).

```

11361 \ifHy@breaklinks
11362 \ifhmode
11363 \Hy@breaklinksunhbox\pdf@box
11364 \else
11365 \box\pdf@box
11366 \fi
11367 \else
11368 \expandafter\box\pdf@box
11369 \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

11370 \ifdim\dimen@=\z@
11371 \literalps@out{H.R}%
11372 \else
11373 \raise\dimen@\hbox{\literalps@out{H.R}}%
11374 \fi
11375 \Hy@RestoreSpaceFactor
11376 \fi
11377 \ifx\pdf@type\Hy@DEST
11378 \else
11379 \pdf@addtoksx{H.B}%
11380 \fi
11381 }

```

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.

```

11382 \newtoks\pdf@toks
11383 \newtoks\pdf@defaulttoks
11384 \pdf@defaulttoks={}%
11385 \def\pdf@addtoks#1#2{%
11386 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
11387 \@processme
11388 }
11389 \def\pdf@addtoksx#1{%
11390 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11391 \@processme
11392 }
11393 \def\PDFdefaults#1{%

```

```

11394 \pdf@defaulttoks={#1}%
11395 }

This is the list of allowed keys. See the Acrobat manual for an explanation.

11396 % what is the type of pdfmark?
11397 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11398 % what is the link type?
11399 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
11400 \def\pdf@linktype{link}
11401 % named object?
11402 \define@key{PDF}{objdef}{\edef\pdf@objdef{#1}}
11403 \let\pdf@objdef\@empty
11404 % parameter is a stream of PDF
11405 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11406 % parameter is a name
11407 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11408 % parameter is a array
11409 \define@key{PDF}{Border}{%
11410   \edef\Hy@temp{#1}%
11411   \ifx\Hy@temp\@empty
11412     \else
11413       \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
11414     \fi
11415 }
11416 \let\Hy@BorderArrayPatch\@empty
11417 % parameter is a dictionary
11418 \define@key{PDF}{BorderStyle}{%
11419   \edef\Hy@temp{#1}%
11420   \ifx\Hy@temp\@empty
11421     \else
11422       \pdf@addtoks{<<#1>>}{BS}%
11423     \fi
11424 }
11425 % parameter is a array
11426 \define@key{PDF}{Color}{%
11427   \ifx\relax#1\relax
11428     \else
11429       \pdf@addtoks{[#1]}{Color}% hash-ok
11430     \fi
11431 }
11432 % parameter is a string
11433 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11434 % parameter is a integer
11435 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11436 % parameter is a array
11437 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
11438 % parameter is a string
11439 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
11440 % parameter is a string or file
11441 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11442 % parameter is a destination
11443 \define@key{PDF}{Dest}{%
11444   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11445   \ifx\Hy@pstringDest\@empty
11446     \Hy@pdfmarkerrortrue

```

```

11447 \Hy@Warning{Destination with empty name ignored}%
11448 \else
11449 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11450 \fi
11451 }
11452 \define@key{PDF}{DestAnchor}{%
11453 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11454 \ifx\Hy@pstringDest\@empty
11455 \Hy@pdfmarkerrortrue
11456 \Hy@Warning{Destination with empty name ignored}%
11457 \else
11458 \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11459 \fi
11460 }
11461 % parameter is a string
11462 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11463 % parameter is a string
11464 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
11465 % parameter is a int
11466 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11467 \define@key{PDF}{PDFAFlags}{%
11468 \ifHy@pdfa
11469 \pdf@addtoks{#1}{F}%
11470 \fi
11471 }
11472 % parameter is a name
11473 \define@key{PDF}{AcroHighlight}{%
11474 \begingroup
11475 \edef\x{#1}%
11476 \expandafter\endgroup\ifx\x\@empty
11477 \else
11478 \pdf@addtoks{#1}{H}%
11479 \fi
11480 }
11481 % parameter is a string
11482 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
11483 % parameter is a string
11484 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
11485 % parameter is a string
11486 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11487 % parameter is a string
11488 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
11489 % parameter is a Boolean
11490 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11491 % parameter is a integer or name
11492 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11493 % parameter is a name
11494 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11495 % parameter is a string
11496 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
11497 % parameter is a array
11498 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
11499 % parameter is a integer
11500 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}

```

```

11501 % parameter is a name
11502 \define@key{PDF}{Subtype}{\pdf@addtoks{(#1)}{Subtype}}
11503 % parameter is a string
11504 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
11505 % parameter is a string
11506 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
11507 % parameter is a string
11508 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
11509 % parameter is an array
11510 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
11511 % parameter is a string
11512 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

11513 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
11514 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
11515 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
11516 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11517 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
11518 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
11519 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
11520 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11521 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
11522 \define@key{PDF}{URI}{\pdf@addtoks{(#1)}{URI}}
11523 \define@key{PDF}{Trapped}{%
11524   \edef\Hy@temp{#1}%
11525   \ifx\Hy@temp\@empty
11526     \else
11527       \pdf@addtoks{/#1}{Trapped}%
11528     \fi
11529 }
11530
11531 </pdfmarkbase>
11532 *pdfmark>
11533 \def\Acrobatmenu#1#2{%
11534   \EdefEscapeName\Hy@temp@menu{#1}%
11535   \Hy@Acrobatmenu{#1}{#2}{%
11536     \pdfmark[{#2}]{%
11537       linktype=menu,%
11538       pdfmark=/ANN,%
11539       AcroHighlight=\@pdfhighlight,%
11540       Border=\@pdfborder,%
11541       BorderStyle=\@pdfborderstyle,%
11542       Color=\@menubordercolor,%
11543       Action={<</Subtype/Named/N/\Hy@temp@menu>>},%
11544       Subtype=/Link,%
11545       PDFAFlags=4%
11546     }%
11547   }%
11548 }

```

And now for some useful examples:

```

11549 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}}
11550 \def\PDFNextPage@[#1]#2{%
11551   \pdfmark[{#2}]{%

```

```

11552   #1,%
11553   Border=\@pdfborder,%
11554   BorderStyle=\@pdfborderstyle,%
11555   Color=.2 .1 .5,%
11556   pdfmark=/ANN,%
11557   Subtype=/Link,%
11558   PDFAFlags=4,%
11559   Page=/Next%
11560 }%
11561 }
11562 \def\PDFPreviousPage{%
11563   \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
11564 }
11565 \def\PDFPreviousPage@[#1]#2{%
11566   \pdfmark[#{#2}]{%
11567     #1,%
11568     Border=\@pdfborder,%
11569     BorderStyle=\@pdfborderstyle,%
11570     Color=.4 .4 .1,%
11571     pdfmark=/ANN,%
11572     Subtype=/Link,%
11573     PDFAFlags=4,%
11574     Page=/Prev%
11575   }%
11576 }
11577 \def\PDFOpen#1{%
11578   \pdfmark{#1,pdfmark=/DOCVIEW}%
11579 }

```

This will only work if you use Distiller 2.1 or higher.

```

11580 \def\hyper@linkurl#1#2{%
11581   \begingroup
11582     \Hy@pstringdef\Hy@pstringURI{#2}%
11583     \hyper@chars
11584     \leavevmode
11585     \pdfmark[#{#1}]{%
11586       pdfmark=/ANN,%
11587       linktype=url,%
11588       AcroHighlight=\@pdfhighlight,%
11589       Border=\@pdfborder,%
11590       BorderStyle=\@pdfborderstyle,%
11591       Color=\@urlbordercolor,%
11592       Action={<<%
11593         /Subtype/URI%
11594         /URI(\Hy@pstringURI)%
11595         \ifHy@href@ismap
11596         /IsMap true%
11597       \fi
11598       >>},%
11599       Subtype=/Link,%
11600       PDFAFlags=4%
11601     }%
11602   \endgroup
11603 }
11604 \def\hyper@linkfile#1#2#3{%

```

```

11605 \begingroup
11606 \def\Hy@pstringF{#2}%
11607 \Hy@CleanupFile\Hy@pstringF
11608 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11609 \Hy@pstringdef\Hy@pstringD{#3}%
11610 \Hy@MakeRemoteAction
11611 \leavevmode
11612 \pdfmark[{#1}]{%
11613 pdfmark=/ANN,%
11614 Subtype=/Link,%
11615 PDFAFlags=4,%
11616 AcroHighlight=\@pdfhighlight,%
11617 Border=\@pdfborder,%
11618 BorderStyle=\@pdfborderstyle,%
11619 linktype=file,%
11620 Color=\@filebordercolor,%
11621 Action={%
11622 <<%
11623 /S/GoToR%
11624 \Hy@SetNewWindow
11625 /F(\Hy@pstringF)%
11626 /D%
11627 \ifx\#3\%
11628 [\Hy@href@page\@pdfremotestartview]%
11629 \else
11630 (\Hy@pstringD)cvn%
11631 \fi
11632 \Hy@href@nextactionraw
11633 >>%
11634 }%
11635 }%
11636 \endgroup
11637 }
11638 \def\@hyper@launch run:#1\#2#3{%
11639 \begingroup
11640 \Hy@pstringdef\Hy@pstringF{#1}%
11641 \Hy@pstringdef\Hy@pstringP{#3}%
11642 \leavevmode
11643 \pdfmark[{#2}]{%
11644 pdfmark=/ANN,%
11645 Subtype=/Link,%
11646 PDFAFlags=4,%
11647 AcroHighlight=\@pdfhighlight,%
11648 Border=\@pdfborder,%
11649 BorderStyle=\@pdfborderstyle,%
11650 linktype=run,%
11651 Color=\@runbordercolor,%
11652 Action={%
11653 <<%
11654 /S/Launch%
11655 \Hy@SetNewWindow
11656 /F(\Hy@pstringF)%
11657 \ifx\#3\%
11658 \else

```

```

11659      /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
11660      \fi
11661      \Hy@href@nextactionraw
11662      >>%
11663      }%
11664      }%
11665      \endgroup
11666      }
11667      </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.

```

11668 <*dvips>
11669 \providecommand*\XR@ext\{pdf}
11670 \let\Hy@raisedlink\@empty
11671 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
11672 \def\headerps@out#1{\special{! #1}}%
11673 \input{pdfmark.def}%
11674 \ifx\@pdfproducer\relax
11675 \def\@pdfproducer{dvips + Distiller}%
11676 \fi
11677 \providecommand*\@pdfborder{0 0 1}
11678 \providecommand*\@pdfborderstyle{}
11679 \providecommand*\@pdfview{XYZ}
11680 \providecommand*\@pdfviewparams{ H.V}
11681 \def\Hy@BorderArrayPatch{BorderArrayPatch}

11682 \g@addto@macro\Hy@FirstPageHook{%
11683   \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.

```

11684 /DvipsToPDF{72.27 mul Resolution div} def%
11685 /PDFToDvips{72.27 div Resolution mul} def%
11686 /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.

```

11687   product (Ghostscript) search {pop pop pop revision 927 gt}%
11688   {pop false} ifelse%
11689   {%
11690     /BorderArrayPatch{} def%
11691   }%
11692   {%
11693     /BorderArrayPatch{%
11694       [exch{%
11695         dup dup type/integertype eq exch type/realtype eq or%
11696         {BPToDvips}if%
11697       }forall]%
11698     }def%
11699   } 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.

```

11700   /HyperBorder {1 PDFToDvips} def%
11701   /H.V {pdf@hoff pdf@voff null} def%
11702   /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

```

11703   /H.S {%
11704     currentpoint %
11705     HyperBorder add /pdf@lly exch def %
11706     dup DvipsToPDF 72 add /pdf@hoff exch def %
11707     HyperBorder sub /pdf@llx exch def%
11708   } 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

```

11709   /H.L {%
11710     2 sub dup%
11711     /HyperBasePt exch def %
11712     PDFToDvips /HyperBaseDvips exch def %
11713     currentpoint %
11714     HyperBaseDvips sub /pdf@ury exch def%
11715     /pdf@urx exch def%
11716   } def%
11717   /H.A {%
11718     H.L %
11719   } % | /pdf@voff| = the distance from the top of the page to a point

```

```

11720 % |\baselineskip| above the current point in PDF coordinates
11721     currentpoint exch pop %
11722     vsize 72 sub exch DvipsToPDF %
11723     HyperBasePt sub % baseline skip
11724     sub /pdf@voff exch def%
11725 } def%
11726 /H.R {%
11727     currentpoint %
11728     HyperBorder sub /pdf@ury exch def %
11729     HyperBorder add /pdf@urx exch def %
11730 % |/pdf@voff| = the distance from the top of the page to the current point, in
11731 % PDF coordinates
11732     currentpoint exch pop vsize 72 sub %
11733     exch DvipsToPDF sub /pdf@voff exch def%
11734 } def%
11735 }%
11736 }
11737 \AddToHook{shipout/firstpage}{%
11738     \ifHy@setpagesize
11739     \begingroup
11740     \ifnum\mag=\@m
11741     \ifdim\stockwidth>\z@
11742     \ifdim\stockheight>\z@
11743     \special{papersize=\the\stockwidth,\the\stockheight}%
11744     \else
11745     \ifdim\paperwidth>\z@
11746     \ifdim\paperheight>\z@
11747     \special{papersize=\the\paperwidth,\the\paperheight}%
11748     \fi
11749     \fi
11750     \fi
11751     \else
11752     \ifdim\stockwidth=\z@
11753     \ifdim\paperwidth>\z@
11754     \ifdim\paperheight>\z@
11755     \special{papersize=\the\paperwidth,\the\paperheight}%
11756     \fi
11757     \fi
11758     \fi
11759     \fi
11760     \fi
11761     \endgroup
11762     \fi
11763     \Hy@DisableOption{setpagesize}%
11764 }
11765 \def\setpdfinkmargin#1{%
11766     \begingroup
11767     \setlength{\dimen@}{#1}%
11768     \literalps@out{%
11769         /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
11770     }%
11771     \endgroup
11772 }

```

```
11773 </dvips>
```

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.

```
11774 (*vtexpdfmark)
11775 \providecommand*\XR@ext}{pdf}
11776 \let\Hy@raisedlink\@empty
11777 \def\literals@out#1{\special{pS:#1}}%
11778 \def\headerps@out#1{\immediate\special{pS:#1}}%
11779 \input{pdfmark.def}%
11780 \ifx\@pdfproducer\relax
11781   \ifnum\OpMode=\@ne
11782     \def\@pdfproducer{VTeX}%
11783   \else
11784     \def\@pdfproducer{VTeX + Distiller}%
11785   \fi
11786 \fi
11787 \providecommand*\@pdfborder{0 0 1}
11788 \providecommand*\@pdfborderstyle{}
11789 \providecommand*\@pdfview{XYZ}
11790 \providecommand*\@pdfviewparams{ H.V}
11791 \g@addto@macro\Hy@FirstPageHook{%
11792   \headerps@out{%
11793     /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.

```
11794   /HyperBorder {1} def%
11795   /H.V {pdf@hoff pdf@voff null} def%
11796   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def%
```

H.S (start of anchor, link, or rect) stores the x and y coordinates of the current point, in PDF coordinates: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```
11797   /H.S {%
11798     currentpoint %
11799     HyperBorder sub%
11800     /pdf@lly exch def %
11801     dup 72 add /pdf@hoff exch def %
11802     HyperBorder sub%
11803     /pdf@llx exch def%
11804   } def%
```

The x and y coordinates of the current point, minus the $\backslash\text{baselineskip}$: $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```
11805   /H.L {%
11806     2 sub%
11807     /HyperBasePt exch def %
11808     currentpoint %
```

```

11809   HyperBasePt add HyperBorder add%
11810   /pdf@ury exch def %
11811   HyperBorder add%
11812   /pdf@urx exch def%
11813   } def%
11814   /H.A {%
11815     H.L %
11816     currentpoint exch pop %
11817     vsize 72 sub exch %
11818     HyperBasePt add add%
11819     /pdf@voff exch def%
11820   } def%
pdf@ury =  $Y_c$  + HyperBorder, pdf@urx =  $X_c$  + HyperBorder
11821   /H.R {%
11822     currentpoint %
11823     HyperBorder add%
11824     /pdf@ury exch def %
11825     HyperBorder add%
11826     /pdf@urx exch def %
11827     currentpoint exch pop vsize 72 sub add%
11828     /pdf@voff exch def%
11829   } def%
11830 }%
11831 }

11832 \def\setpdfinkmargin#1{%
11833   \begingroup
11834     \setlength{\dimen@}{#1}%
11835     \literalps@out{%
11836       /HyperBorder{\strip@pt\dimen@}def%
11837     }%
11838   \endgroup
11839 }

11840 \</vtxpdfmark>

```

44.11 Textures

```

11841 <*textures>
11842 \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.

```

11843 \begingroup
11844   \obeylines %
11845   \gdef\Hy@ps@CR{\noexpand
11846   }%
11847 \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`.

```
11848 \def\literalps@out#1{%
11849   \special{postscript 0 0 transform}%
11850   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
11851 }%
11852 %
```

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.

```
11853 \def\headerps@out#1{%
11854   \special{%
11855     prepostscript TeXdict begin\Hy@ps@CR
11856       #1\Hy@ps@CR
11857     end%
11858   }%
11859 }%
11860 %
```

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.

```
11861 \g@addto@macro\Hy@FirstPageHook{%
11862   \headerps@out{%
11863     /betterpdfmark {%
11864       systemdict begin %
11865         dup /BP eq%
11866         {cleartomark gsave nulldevice []}%
11867         {dup /EP eq%
11868           {cleartomark cleartomark grestore}%
11869           {cleartomark}%
11870           ifelse%
11871         }ifelse %
11872       end%
11873     }def\Hy@ps@CR
11874     ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
11875   }% end of \headerps@out
11876 }% end of \AddToHook{shipout/firstpage}
11877 %
11878 \input{pdfmark.def}%
11879 %
11880 \ifx\@pdfproducer\relax
11881   \def\@pdfproducer{Textures + Distiller}%
11882 \fi
```

```

11883 \providecommand*\@pdfborder{0 0 1}
11884 \providecommand*\@pdfborderstyle{}
11885 \providecommand*\@pdfview{XYZ}
11886 \providecommand*\@pdfviewparams{ H.V}
11887 %

```

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 .

```

11888 \Hy@AtBeginDocument{%
11889   \headerps@out{%

```

`Textures` lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

11890   /vsize {\Hy@pageheight} def%
11891   /DvipsToPDF {} def%
11892   /PDFToDvips {} def%
11893   /BPToDvips {} def%
11894   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
11895   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
11896   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
11897   /H.S {%
11898     currentpoint %
11899     HyperBorder add /pdf@lly exch def %
11900     dup DvipsToPDF 72 add /pdf@hoff exch def %
11901     HyperBorder sub /pdf@llx exch def%
11902   } def\Hy@ps@CR
11903   /H.L {%
11904     2 sub %
11905     PDFToDvips /HyperBase exch def %
11906     currentpoint %
11907     HyperBase sub /pdf@ury exch def%
11908     /pdf@urx exch def%
11909   } def\Hy@ps@CR
11910   /H.A {%
11911     H.L %
11912     currentpoint exch pop %
11913     vsize 72 sub exch DvipsToPDF %
11914     HyperBase sub % baseline skip
11915     sub /pdf@voff exch def%
11916   } def\Hy@ps@CR
11917   /H.R {%
11918     currentpoint %
11919     HyperBorder sub /pdf@ury exch def %
11920     HyperBorder add /pdf@urx exch def %
11921     currentpoint exch pop vsize 72 sub %
11922     exch DvipsToPDF sub /pdf@voff exch def%
11923   } def\Hy@ps@CR
11924 }%
11925 }

11926 \def\setpdfinkmargin#1{%
11927   \begingroup

```

```

11928 \setlength{\dimen@}{#1}%
11929 \literalps@out{%
11930   /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
11931 }%
11932 \endgroup
11933 }

11934 \Hy@AtBeginDocument{%
11935   \ifHy@colorlinks
11936     \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
11937   \fi
11938 }

```

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.

```

11939 \expandafter\let\expandafter\keepPDF@SetupDoc
11940 \csname PDF@SetupDoc\endcsname
11941 \def\PDF@SetupDoc{%
11942   \ifx\@baseurl\@empty
11943   \else
11944     \special{html:<base href="\@baseurl">}%
11945   \fi
11946   \keepPDF@SetupDoc
11947 }

11948 \Hy@WrapperDef\hyper@anchor#1{%
11949   \Hy@SaveLastskip
11950   \Hy@VerboseAnchor{#1}%
11951   \begingroup
11952     \let\protect=\string
11953     \special{html:<a name=%
11954       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11955   \endgroup
11956   \Hy@activeanchortrue
11957   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11958   \special{html:</a>}%
11959   \Hy@activeanchorfalse
11960   \Hy@RestoreLastskip
11961 }

11962 \Hy@WrapperDef\hyper@anchorstart#1{%
11963   \Hy@SaveLastskip
11964   \Hy@VerboseAnchor{#1}%
11965   \begingroup
11966     \hyper@chars
11967     \special{html:<a name=%
11968       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11969   \endgroup
11970   \Hy@activeanchortrue
11971 }

11972 \def\hyper@anchorend{%
11973   \special{html:</a>}%
11974   \Hy@activeanchorfalse
11975   \Hy@RestoreLastskip
11976 }

11977 \def\@urlltype{url}

```

```

11978 \def\hyper@linkstart#1#2{%
11979   \Hy@VerboseLinkStart{#1}{#2}%
11980   \expandafter\Hy@colorlink\csname @#1color\endcsname
11981   \def\Hy@tempa{#1}%
11982   \ifx\Hy@tempa\@urlltype
11983     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11984   \else
11985     \begingroup
11986       \hyper@chars
11987       \special{%
11988         html:<a href=%
11989         \hyper@quote\#\Hy@DestNameFilter{#2}\hyper@quote>%
11990       }%
11991     \endgroup
11992   \fi
11993 }
11994 \def\hyper@linkend{%
11995   \special{html:</a>}%
11996   \Hy@endcolorlink
11997 }
11998 \def\hyper@linkfile#1#2#3{%
11999   \hyper@linkurl{#1}{%
12000     \Hy@linkfileprefix#2\ifx\#3\\ \else\#3\fi
12001   }%
12002 }
12003 \def\hyper@linkurl#1#2{%
12004   \leavevmode
12005   \ifHy@raiselinks
12006     \Hy@SaveSpaceFactor
12007     \Hy@SaveSavedSpaceFactor
12008     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12009     \Hy@RestoreSavedSpaceFactor
12010     \@linkdim\dp\@tempboxa
12011     \lower\@linkdim\hbox{%
12012       \hyper@chars
12013       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12014     }%
12015     \Hy@colorlink\@urlcolor
12016     \Hy@RestoreSpaceFactor
12017     #1\Hy@xspace@end
12018     \Hy@SaveSpaceFactor
12019     \@linkdim\ht\@tempboxa
12020     \advance\@linkdim by -6.5\p@
12021     \raise\@linkdim\hbox{\special{html:</a>}}%
12022     \Hy@endcolorlink
12023     \Hy@RestoreSpaceFactor
12024   \else
12025     \begingroup
12026       \hyper@chars
12027       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
12028       \Hy@colorlink\@urlcolor#1\Hy@xspace@end
12029       \special{html:</a>}%
12030       \Hy@endcolorlink
12031     \endgroup

```

```

12032 \fi
12033 }

```

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

```

12034 \def\hyper@link#1#2#3{%
12035   \Hy@VerboseLinkStart{#1}{#2}%
12036   \hyper@linkurl{#3}{\#}\HyperDestNameFilter{#2}}%
12037 }
12038 \def\hyper@image#1#2{%
12039   \begingroup
12040     \hyper@chars
12041     \special{html:<img src=\hyper@quote#1\hyper@quote>}%
12042   \endgroup
12043 }
12044 </textures>

```

44.12 dvipsone

```

12045 % \subsection{dvipsone driver}
12046 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
12047 % |\special| commands.
12048 (*dvipsone)
12049 \providecommand*\XR@ext}{pdf}
12050 \let\Hy@raisedlink\@empty
12051 \providecommand*\@pdfborder{0 0 1}
12052 \providecommand*\@pdfborderstyle{}
12053 \def\literalps@out#1{\special{ps:#1}}%
12054 \def\headerps@out#1{\special{headertext=#1}}%
12055 \input{pdfmark.def}%
12056 \HyInfo@AddonUnsupportedtrue
12057 \def\PDF@FinishDoc{%
12058   \Hy@UseMaketitleInfos
12059   \HyInfo@TrappedUnsupported
12060   \special{PDF: Keywords \@pdfkeywords}%
12061   \special{PDF: Title \@pdftitle}%
12062   \special{PDF: Creator \@pdfcreator}%
12063   \ifx\@pdfcreationdate\@empty
12064   \else
12065     \special{PDF: CreationDate \@pdfcreationdate}%
12066   \fi
12067   \ifx\@pdfmoddate\@empty
12068   \else
12069     \special{PDF: ModDate \@pdfmoddate}%
12070   \fi
12071   \special{PDF: Author \@pdfauthor}%
12072   \ifx\@pdfproducer\relax
12073   \else
12074     \special{PDF: Producer \@pdfproducer}%
12075   \fi
12076   \special{PDF: Subject \@pdfsubject}%
12077   \Hy@DisableOption{pdfauthor}%
12078   \Hy@DisableOption{pdftitle}%
12079   \Hy@DisableOption{pdfsubject}%
12080   \Hy@DisableOption{pdfcreator}%

```

```

12081 \Hy@DisableOption{addtopdfcreator}%
12082 \Hy@DisableOption{pdfcreationdate}%
12083 \Hy@DisableOption{pdfcreationdate}%
12084 \Hy@DisableOption{pdfmoddate}%
12085 \Hy@DisableOption{pdfproducer}%
12086 \Hy@DisableOption{pdfkeywords}%
12087 \Hy@DisableOption{pdftrapped}%
12088 \Hy@DisableOption{pdfinfo}%
12089 }
12090 \def\PDF@SetupDoc{%
12091 \def\Hy@temp{}%
12092 \ifx\@pdfstartpage\@empty
12093 \else
12094 \ifx\@pdfstartview\@empty
12095 \else
12096 \edef\Hy@temp{%
12097 ,Page=\@pdfstartpage
12098 ,View=\@pdfstartview
12099 }%
12100 \fi
12101 \fi
12102 \edef\Hy@temp{%
12103 \noexpand\pdfmark{%
12104 pdfmark=/DOCVIEW,%
12105 PageMode=/\@pdfpagemode
12106 \Hy@temp
12107 }%
12108 }%
12109 \Hy@temp
12110 \ifx\@pdfpagescrop\@empty
12111 \else
12112 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
12113 \fi
12114 \edef\Hy@temp{%
12115 \ifHy@pdftoolbar\else /HideToolbar true\fi
12116 \ifHy@pdfmenubar\else /HideMenubar true\fi
12117 \ifHy@pdfwindowui\else /HideWindowUI true\fi
12118 \ifHy@pdffitwindow /FitWindow true\fi
12119 \ifHy@pdfcenterwindow /CenterWindow true\fi
12120 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12121 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12122 \Hy@UseNameKey{Direction}\@pdfdirection
12123 \Hy@UseNameKey{ViewArea}\@pdfviewarea
12124 \Hy@UseNameKey{ViewClip}\@pdfviewclip
12125 \Hy@UseNameKey{PrintArea}\@pdfprintarea
12126 \Hy@UseNameKey{PrintClip}\@pdfprintclip
12127 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12128 \Hy@UseNameKey{Duplex}\@pdfduplex
12129 \ifx\@pdfpicktraybypdfsize\@empty
12130 \else
12131 /PickTrayByPDFSize \@pdfpicktraybypdfsize
12132 \fi
12133 \ifx\@pdfprintpagerange\@empty
12134 \else

```

```

12135    /PrintPageRange[\@pdfprintpagerange]%
12136    \fi
12137    \ifx\@pdfnumcopies\@empty
12138    \else
12139    /NumCopies \@pdfnumcopies
12140    \fi
12141  }%
12142  \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12143  \pdfmark{%
12144    pdfmark=/PUT,%
12145    Raw={%
12146      \string{Catalog\string}<<%
12147      \ifx\Hy@temp\@empty
12148      \else
12149      /ViewerPreferences<<\Hy@temp>>%
12150      \fi
12151      \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12152      \ifx\@pdflang\relax
12153      \else
12154      /Lang(\@pdflang)%
12155      \fi
12156      \ifx\@baseurl\@empty
12157      \else
12158      /URI<</Base(\Hy@pstringB)>>%
12159      \fi
12160      >>%
12161    }%
12162  }%
12163 }
12164 \providecommand*\@pdfview{XYZ}
12165 \providecommand*\@pdfviewparams{ %
12166   gsave revscl currentpoint grestore %
12167   72 add exch pop null exch null%
12168 }
12169 \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 .

```

12170 \g@addto@macro\Hy@FirstPageHook{%
12171   \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

12172   /DvipsToPDF { 65781 div } def%
12173   /PDFToDvips { 65781 mul } def%
12174   /BPToDvips{65781 mul}def%
12175   /HyperBorder { 1 PDFToDvips } def%
12176   /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.

```

12177   /BorderArrayPatch{%

```

```

12178 [exch{%
12179     dup dup type/integertype eq exch type/realttype eq or%
12180     {BPToDvips}if%
12181     }forall]%
12182 }def%
12183 /H.S {%
12184     currentpoint %
12185     HyperBorder add /pdf@lly exch def %
12186     dup DvipsToPDF 72 add /pdf@hoff exch def %
12187     HyperBorder sub /pdf@llx exch def%
12188 } def%
12189 /H.L {%
12190     2 sub %
12191     PDFToDvips /HyperBase exch def %
12192     currentpoint %
12193     HyperBase sub /pdf@ury exch def%
12194     /pdf@urx exch def%
12195 } def%
12196 /H.A {%
12197     H.L %
12198     currentpoint exch pop %
12199     HyperBase sub % baseline skip
12200     DvipsToPDF /pdf@voff exch def%
12201 } def%
12202 /H.R {%
12203     currentpoint %
12204     HyperBorder sub /pdf@ury exch def %
12205     HyperBorder add /pdf@urx exch def %
12206     currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12207 } def%
12208 }%
12209 }
12210 \def\setpdfinkmargin#1{%
12211     \begingroup
12212     \setlength{\dimen@}{#1}%
12213     \literalps@out{%
12214         /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
12215     }%
12216     \endgroup
12217 }
12218 </dvipsone>

```

44.13 TeX4ht

```

12219 <*tex4ht>
12220 \providecommand*\XR@ext>{html}
12221 \let\Hy@raisedlink\@empty
12222 \@ifpackageloaded{tex4ht}{%
12223     \Hy@InfoNoLine{tex4ht is already loaded}%
12224 }{%
12225     \RequirePackage[hTeX4ht]{tex4ht}%
12226 }
12227 \hyperlinkfileprefix{}
12228 \let\PDF@FinishDoc\@empty

```

```

12229 \def\PDF@SetupDoc{%
12230   \ifx\@baseurl\@empty
12231   \else
12232     \special{t4ht=<base href="\@baseurl">}%
12233   \fi
12234 }
12235 \Hy@WrapperDef\hyper@anchor#1{%
12236   \Hy@SaveLastskip
12237   \Hy@VerboseAnchor{#1}%
12238   \begingroup
12239     \let\protect=\string
12240     \special{t4ht=<a name=%
12241       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12242   \endgroup
12243   \Hy@Activeanchortrue
12244   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12245   \special{t4ht=</a>}%
12246   \Hy@Activeanchorfalse
12247   \Hy@RestoreLastskip
12248 }
12249 \Hy@WrapperDef\hyper@anchorstart#1{%
12250   \Hy@SaveLastskip
12251   \Hy@VerboseAnchor{#1}%
12252   \begingroup
12253     \hyper@chars\special{t4ht=<a name=%
12254       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12255   \endgroup
12256   \Hy@Activeanchortrue
12257 }
12258 \def\hyper@anchorend{%
12259   \special{t4ht=</a>}%
12260   \Hy@Activeanchorfalse
12261   \Hy@RestoreLastskip
12262 }
12263 \def\@urltype{url}
12264 \def\hyper@linkstart#1#2{%
12265   \Hy@VerboseLinkStart{#1}{#2}%
12266   \expandafter\Hy@colorlink\csname @#1color\endcsname
12267   \def\Hy@tempa{#1}%
12268   \ifx\Hy@tempa\@urltype
12269     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12270   \else
12271     \begingroup
12272       \hyper@chars
12273       \special{t4ht=<a href=%
12274         \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
12275     \endgroup
12276   \fi
12277 }
12278 \def\hyper@linkend{%
12279   \special{t4ht=</a>}%
12280   \Hy@endcolorlink
12281 }
12282 \def\hyper@linkfile#1#2#3{%

```

```

12283 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
12284 }
12285 \def\hyper@linkurl#1#2{%
12286 \leavevmode
12287 \ifHy@raiselinks
12288 \Hy@SaveSpaceFactor
12289 \Hy@SaveSavedSpaceFactor
12290 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12291 \Hy@RestoreSavedSpaceFactor
12292 \@linkdim\dp\@tempboxa
12293 \lower\@linkdim\hbox{%
12294 \begingroup
12295 \hyper@chars
12296 \special{%
12297 t4ht=<a href=\hyper@quote#2\hyper@quote>%
12298 }%
12299 \endgroup
12300 }%
12301 \Hy@colorlink\@urlcolor
12302 \Hy@RestoreSpaceFactor
12303 #1\Hy@xspace@end
12304 \Hy@SaveSpaceFactor
12305 \Hy@endcolorlink
12306 \@linkdim\ht\@tempboxa
12307 \advance\@linkdim by -6.5\p@
12308 \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12309 \Hy@RestoreSpaceFactor
12310 \else
12311 \begingroup
12312 \hyper@chars
12313 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12314 \Hy@colorlink\@urlcolor
12315 #1\Hy@xspace@end
12316 \Hy@endcolorlink
12317 \special{t4ht=</a>}%
12318 \endgroup
12319 \fi
12320 }

```

Poor implementation of \hyper@link without considering #1.

```

12321 \def\hyper@link#1#2#3{%
12322 \Hy@VerboseLinkStart{#1}{#2}%
12323 \hyper@linkurl{#3}{\#\Hy@HyperDestNameFilter{#2}}%
12324 }
12325 \def\hyper@image#1#2{%
12326 \begingroup
12327 \hyper@chars
12328 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12329 \endgroup
12330 }
12331 \let\autoref\ref
12332 \ifx \rEfLiNK \UnDef
12333 \def\rEfLiNK #1#2{#2}%
12334 \fi
12335 \let\backref\@gobble

```

Fix for tex4ht.

```
12336 \AtBeginDocument{%
12337   \expandafter
12338   \let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
12339   \expandafter\def\csname Make:Label\endcsname#1#2{%
12340     \ifhmode
12341       \Hy@SaveSpaceFactor
12342     \else
12343       \global\Hy@SavedSpaceFactor=1000 %
12344     \fi
12345     \Hy@OrgMakeLabel{#1}{%
12346       \Hy@RestoreSpaceFactor
12347       #2\Hy@xspace@end%
12348     \Hy@SaveSpaceFactor
12349   }%
12350   \Hy@RestoreSpaceFactor
12351 }%
12352 }
12353 \</tex4ht>
12354 \<*tex4htcfg>
12355 \IfFileExists{\jobname.cfg}{\endinput}{}
12356 \Preamble{html}
12357   \begin{document}%
12358 \EndPreamble
12359 \def\TeX{\TeX}
12360 \def\OMEGA{\Omega}
12361 \def\LaTeX{\LaTeX}
12362 \def\LaTeXe{\LaTeX2e}
12363 \def\eTeX{e-TeX}
12364 \def\MF{Metafont}
12365 \def\MP{MetaPost}
12366 \</tex4htcfg>
```

45 Driver-specific form support

45.1 pdfmarks

change 2020-06-20: added /Euro to encoding

```
12367 \<*pdfmark>
12368 \long\def\@Form[#1]{%
12369   \g@addto@macro\Hy@FirstPageHook{%
12370     \headerps@out{%
12371       [%
12372         /__objdef{pdfDocEncoding}%
12373         /type/dict%
12374         /OBJ pdfmark%
12375         [%
12376           {pdfDocEncoding}%
12377           <<%
12378             /Type/Encoding%
12379             /Differences[%
12380               24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
12381               /tilde %
12382               39/quotesingle %
```

12383 96/grave %
 12384 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
 12385 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
 12386 /quotedblbase/quotedblleft/quotedblright/quoteleft%
 12387 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
 12388 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
 12389 160/Euro %
 12390 164/currency %
 12391 166/brokenbar %
 12392 168/dieresis/copyright/ordfeminine %
 12393 172/logicalnot/.notdef/registered/macron/degree/plusminus%
 12394 /twosuperior/threesuperior/acute/mu %
 12395 183/periodcentered/cedilla/onesuperior/ordmasculine %
 12396 188/onequarter/onehalf/threequarters %
 12397 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
 12398 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
 12399 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
 12400 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
 12401 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
 12402 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
 12403 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
 12404 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
 12405 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
 12406 /ucircumflex/udieresis/yacute/thorn/ydieresis%
 12407]%
 12408 >>%
 12409 /PUT pdfmark%
 12410 [%
 12411 /_objdef{ZaDb}%
 12412 /type/dict%
 12413 /OBJ pdfmark%
 12414 [%
 12415 {ZaDb}%
 12416 <<%
 12417 /Type/Font%
 12418 /Subtype/Type1%
 12419 /Name/ZaDb%
 12420 /BaseFont/ZapfDingbats%
 12421 >>%
 12422 /PUT pdfmark%
 12423 [%
 12424 /_objdef{Helv}%
 12425 /type/dict%
 12426 /OBJ pdfmark%
 12427 [%
 12428 {Helv}%
 12429 <<%
 12430 /Type/Font%
 12431 /Subtype/Type1%
 12432 /Name/Helv%
 12433 /BaseFont/Helvetica%
 12434 /Encoding{pdfDocEncoding}%
 12435 >>%
 12436 /PUT pdfmark%

```

12437 [%
12438  /_objdef{aform}%
12439  /type/dict%
12440 /OBJ pdfmark%
12441 [%
12442  /_objdef{afields}%
12443  /type/array%
12444 /OBJ pdfmark%
12445 [%
12446  /_objdef{corder}%
12447  /type/array%
12448 /OBJ pdfmark%
12449 {%
12450 [%
12451  /BBox[0 0 100 100]%
12452  /_objdef{Check}%
12453 /BP pdfmark %
12454 1 0 0 setrgbcolor%
12455 /ZapfDingbats 80 selectfont %
12456 20 20 moveto%
12457 (4)show%
12458 [/EP pdfmark%
12459 [%
12460  /BBox[0 0 100 100]%
12461  /_objdef{Cross}%
12462 /BP pdfmark %
12463 1 0 0 setrgbcolor%
12464 /ZapfDingbats 80 selectfont %
12465 20 20 moveto%
12466 (8)show%
12467 [/EP pdfmark%
12468 [%
12469  /BBox[0 0 250 100]%
12470  /_objdef{Submit}%
12471 /BP pdfmark %
12472 0.6 setgray %
12473 0 0 250 100 rectfill %
12474 1 setgray %
12475 2 2 moveto %
12476 2 98 lineto %
12477 248 98 lineto %
12478 246 96 lineto %
12479 4 96 lineto %
12480 4 4 lineto %
12481 fill %
12482 0.34 setgray %
12483 248 98 moveto %
12484 248 2 lineto %
12485 2 2 lineto %
12486 4 4 lineto %
12487 246 4 lineto %
12488 246 96 lineto %
12489 fill%
12490 /Helvetica 76 selectfont %

```

```

12491 0 setgray %
12492 8 22.5 moveto%
12493 (Submit)show%
12494 [/EP pdfmark%
12495 [%
12496 /BBox[0 0 250 100]%
12497 /_objdef{SubmitP}%
12498 /BP pdfmark %
12499 0.6 setgray %
12500 0 0 250 100 rectfill %
12501 0.34 setgray %
12502 2 2 moveto %
12503 2 98 lineto %
12504 248 98 lineto %
12505 246 96 lineto %
12506 4 96 lineto %
12507 4 4 lineto %
12508 fill %
12509 1 setgray %
12510 248 98 moveto %
12511 248 2 lineto %
12512 2 2 lineto %
12513 4 4 lineto %
12514 246 4 lineto %
12515 246 96 lineto %
12516 fill%
12517 /Helvetica 76 selectfont %
12518 0 setgray %
12519 10 20.5 moveto%
12520 (Submit)show%
12521 [/EP pdfmark%
12522 } ?pdfmark%
12523 [%
12524 {aform}%
12525 <<%
12526 /Fields{afields}%
12527 /DR<<%
12528 /Font<<%
12529 /ZaDb{ZaDb}%
12530 /Helv{Helv}%
12531 >>%
12532 >>%
12533 /DA(/Helv 10 Tf 0 g)%
12534 /CO{corder}%
12535 \ifHy@pdfa
12536 \else
12537 \ifHyField@NeedAppearances
12538 /NeedAppearances true%
12539 \fi
12540 \fi
12541 >>%
12542 /PUT pdfmark%
12543 [%
12544 {Catalog}%

```

```

12545 <<%
12546 /AcroForm{aform}%
12547 >>%
12548 /PUT pdfmark%
12549 }}%
12550 \kvsetkeys{Form}{#1}%
12551 }
12552 \let\@endForm\@empty
12553 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12554 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12555 }

12556 \newcount\HyField@AnnotCount
12557 \HyField@AnnotCount=\z@
12558 \def\HyField@AdvanceAnnotCount{%
12559 \global\advance\HyField@AnnotCount\@ne
12560 }
12561 \def\HyField@TheAnnotCount{%
12562 \the\HyField@AnnotCount
12563 }

12564 \edef\Fld@pageobjref{/P\string{ThisPage\string}}
12565 \def\HyField@AddToFields#1{%
12566 \pdfmark{%
12567 pdfmark=/APPEND,%
12568 Raw={%
12569 \string{afields\string}%
12570 \string{#1\HyField@TheAnnotCount\string}%
12571 }%
12572 }%
12573 \ifx\Fld@calculate@code\@empty
12574 \else
12575 \pdfmark{%
12576 pdfmark=/APPEND,%
12577 Raw={%
12578 \string{corder\string}%
12579 \string{#1\HyField@TheAnnotCount\string}%
12580 }%
12581 }%
12582 \fi
12583 }

12584 \def\@TextField[#1]#2{% parameters, label
12585 \def\Fld@name{#2}%
12586 \let\Fld@default\@empty
12587 \let\Fld@value\@empty
12588 \def\Fld@width{\DefaultWidthofText}%
12589 \def\Fld@height{%
12590 \ifFld@multiline
12591 \DefaultHeightofTextMultiline
12592 \else
12593 \DefaultHeightofText
12594 \fi
12595 }%
12596 \begingroup
12597 \expandafter\HyField@SetKeys\expandafter{%

```

```

12598 \DefaultOptionsofText,#1%
12599 }%
12600 \HyField@FlagsText
12601 \ifFld@hidden\def\Fld@width{1sp}\fi
12602 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12603 \HyField@AdvanceAnnotCount
12604 \LayoutTextField{#2}{%
12605 \leavevmode
12606 \Hy@escapeform\PDFForm@Text
12607 \pdfmark{\MakeTextField{\Fld@width}{\Fld@height}}{%
12608 pdfmark=/ANN,%
12609 objdef=text\HyField@TheAnnotCount,%
12610 Raw={\PDFForm@Text}%
12611 }%
12612 }%
12613 \HyField@AddToFields{text}%
12614 \endgroup
12615 }
12616 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12617 \def\Fld@name{#2}%
12618 \let\Fld@default\relax
12619 \let\Fld@value\relax
12620 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12621 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12622 \begingroup
12623 \Fld@menulength=0 %
12624 \@tempdima\z@
12625 \@for\@curropt:=#3\do{%
12626 \expandafter\Fld@checkequals\@curropt==\%
12627 \Hy@StepCount\Fld@menulength
12628 \settowidth{\@tempdimb}{\@currDisplay}%
12629 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12630 }%
12631 \advance\@tempdima by 15\p@
12632 \begingroup
12633 \HyField@SetKeys{#1}%
12634 \edef\x{\endgroup
12635 \noexpand\expandafter
12636 \noexpand\HyField@SetKeys
12637 \noexpand\expandafter{%
12638 \expandafter\noexpand\cname DefaultOptionsof%
12639 \ifFld@radio
12640 Radio%
12641 \else
12642 \ifFld@combo
12643 \ifFld@popdown
12644 PopdownBox%
12645 \else
12646 ComboBox%
12647 \fi
12648 \else
12649 ListBox%
12650 \fi
12651 \fi

```

```

12652     \endcsname
12653   }%
12654 } \x
12655 \HyField@SetKeys{#1}%
12656 \ifFld@hidden\def\Fld@width{1sp}\fi
12657 \ifx\Fld@value\relax
12658   \let\Fld@value\Fld@default
12659 \fi
12660 \LayoutChoiceField{#2}{%
12661   \ifFld@radio
12662     \HyField@FlagsRadioButton
12663     \@@Radio{#3}%
12664   \else
12665     \begingroup
12666     \HyField@FlagsChoice
12667     \ifdim\Fld@width<\@tempdima
12668       \ifdim\@tempdima<1cm\@tempdima1cm\fi
12669       \edef\Fld@width{\the\@tempdima}%
12670     \fi
12671     \ifFld@combo
12672     \else
12673       \@tempdima=\the\Fld@menulength\Fld@charsize
12674       \advance\@tempdima by \Fld@borderwidth bp %
12675       \advance\@tempdima by \Fld@borderwidth bp %
12676       \edef\Fld@height{\the\@tempdima}%
12677     \fi
12678     \@@ListBox{#3}%
12679   \endgroup
12680 \fi
12681 }%
12682 \endgroup
12683 }
12684 \def\@@Radio#1{%
12685   \Fld@listcount=0 %
12686   \EdefEscapeName\Fld@default{\Fld@default}%
12687   \@for\@curropt:=#1\do{%
12688     \expandafter\Fld@checkequals\@curropt==\%
12689     \EdefEscapeName\@currValue{\@currValue}%
12690     \Hy@StepCount\Fld@listcount
12691     \@currDisplay\space
12692     \Hy@escapeform\PDFForm@Radio
12693     \ifnum\Fld@listcount=1 %
12694       \HyField@AdvanceAnnotCount
12695     \fi
12696     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12697       pdfmark=/ANN,%
12698       objdef=\ifnum\Fld@listcount=1 radio\HyField@TheAnnotCount\fi,%
12699       Raw={%
12700         \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12701       }%
12702   } % deliberate space between radio buttons
12703   \ifnum\Fld@listcount=1 %
12704     \HyField@AddToFields{radio}%
12705   \fi

```

```

12706 }%
12707 }
12708 \newcount\Fld@listcount
12709 \def\@@Listbox#1{%
12710   \HyField@PDFChoices{#1}%
12711   \Hy@escapeform\PDFForm@List
12712   \HyField@AdvanceAnnotCount
12713   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12714     pdfmark=/ANN,%
12715     objdef=list\HyField@TheAnnotCount,%
12716     Raw={\PDFForm@List}%
12717   }%
12718   \HyField@AddToFields{list}%
12719 }
12720 \def\@PushButton[#1]#2{% parameters, label
12721   \def\Fld@name{#2}%
12722   \begingroup
12723     \expandafter\HyField@SetKeys\expandafter{%
12724       \DefaultOptionsofPushButton,#1%
12725     }%
12726     \ifHy@pdfa
12727       \Hy@Error{%
12728         PDF/A: Push button with JavaScript is prohibited%
12729       }\@ehc
12730       \LayoutPushButtonField{%
12731         \leavevmode
12732         \MakeButtonField{#2}%
12733       }%
12734     \else
12735       \HyField@FlagsPushButton
12736       \ifFld@hidden\def\Fld@width{1sp}\fi
12737       \HyField@AdvanceAnnotCount
12738       \LayoutPushButtonField{%
12739         \leavevmode
12740         \Hy@escapeform\PDFForm@Push
12741         \pdfmark[\MakeButtonField{#2}]{%
12742           pdfmark=/ANN,%
12743           objdef=push\HyField@TheAnnotCount,%
12744           Raw={\PDFForm@Push}%
12745         }%
12746       }%
12747       \HyField@AddToFields{push}%
12748     \fi
12749   \endgroup
12750 }
12751 \def\@Submit[#1]#2{%
12752   \def\Fld@width{\DefaultWidthofSubmit}%
12753   \def\Fld@height{\DefaultHeightofSubmit}%
12754   \begingroup
12755     \expandafter\HyField@SetKeys\expandafter{%
12756       \DefaultOptionsofSubmit,#1%
12757     }%
12758     \HyField@FlagsPushButton
12759     \HyField@FlagsSubmit

```

```

12760 \ifFld@hidden\def\Fld@width{1sp}\fi
12761 \Hy@escapeform\PDFForm@Submit
12762 \HyField@AdvanceAnnotCount
12763 \pdfmark[\MakeButtonField{#2}]{%
12764   pdfmark=/ANN,%
12765   objdef=submit\HyField@TheAnnotCount,%
12766   Raw={\PDFForm@Submit /AP<</N{Submit}/D{SubmitP}>>}}%
12767 }%
12768 \HyField@AddToFields{submit}%
12769 \endgroup
12770 }
12771 \def\@Reset[#1]#2{%
12772   \def\Fld@width{\DefaultWidthofReset}%
12773   \def\Fld@height{\DefaultHeightofReset}%
12774   \begingroup
12775     \expandafter\HyField@SetKeys\expandafter{%
12776       \DefaultOptionsofReset,#1%
12777     }%
12778     \leavevmode
12779     \ifHy@pdfa
12780       \Hy@Error{%
12781         PDF/A: Reset action is prohibited%
12782       }\@ehc
12783       \MakeButtonField{#2}%
12784     \else
12785       \HyField@FlagsPushButton
12786       \ifFld@hidden\def\Fld@width{1sp}\fi
12787       \Hy@escapeform\PDFForm@Reset
12788       \HyField@AdvanceAnnotCount
12789       \pdfmark[\MakeButtonField{#2}]{%
12790         pdfmark=/ANN,%
12791         objdef=reset\HyField@TheAnnotCount,%
12792         Raw={\PDFForm@Reset}%
12793       }%
12794       \HyField@AddToFields{reset}%
12795     \fi
12796   \endgroup
12797 }%
12798 \def\@CheckBox[#1]#2{% parameters, label
12799   \def\Fld@name{#2}%
12800   \def\Fld@default{0}%
12801   \begingroup
12802     \def\Fld@width{\DefaultWidthofCheckBox}%
12803     \def\Fld@height{\DefaultHeightofCheckBox}%
12804     \expandafter\HyField@SetKeys\expandafter{%
12805       \DefaultOptionsofCheckBox,#1%
12806     }%
12807     \HyField@FlagsCheckBox
12808     \ifFld@hidden\def\Fld@width{1sp}\fi
12809     \HyField@AdvanceAnnotCount
12810     \LayoutCheckField{#2}{%
12811       \leavevmode
12812       \Hy@escapeform\PDFForm@Check
12813       \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%

```

```

12814 pdfmark=/ANN,%
12815 objdef=check\HyField@TheAnnotCount,%
12816 Raw={\PDFForm@Check}%
12817 }%
12818 }%
12819 \HyField@AddToFields{check}%
12820 \endgroup
12821 }
12822 </pdfmark>

```

45.2 HyperTeX

```

12823 <*hypertex>
12824 \def\@Form[#1]{%
12825 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12826 }
12827 \let\@endForm\@empty
12828 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12829 \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
12830 }
12831 \def\@TextField[#1]#2{% parameters, label
12832 \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
12833 }
12834 \def\@CheckBox[#1]#2{% parameters, label
12835 \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
12836 }
12837 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12838 \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
12839 }
12840 \def\@PushButton[#1]#2{% parameters, label
12841 \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
12842 }
12843 \def\@Reset[#1]#2{%
12844 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12845 }
12846 \def\@Submit[#1]#2{%
12847 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12848 }
12849 </hypertex>

```

45.3 TeX4ht

```

12850 <*tex4ht>
12851 \def\@Form[#1]{%
12852 \kvsetkeys{Form}{#1}%
12853 \HCode{<form action="\Form@action" method="\Form@method">}%
12854 }
12855 \def\@endForm{\HCode{</form>}}
12856 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12857 \Hy@Message{Sorry, TeX4ht does not support gauges}%
12858 }
12859 \def\@TextField[#1]#2{% parameters, label
12860 \let\Hy@reserved@a\@empty
12861 \def\Fld@name{#2}%
12862 \let\Fld@default\@empty

```

```

12863 \bgroup
12864 \Field@toks={ }%
12865 \kvsetkeys{Field}{#1}%
12866 \HCode{<label for="\Fld@name">#2</label>}%
12867 \ifFld@password
12868 \@@PasswordField
12869 \else
12870 \@@TextField
12871 \fi
12872 \egroup
12873 }
12874 \def\@@PasswordField{%
12875 \HCode{%
12876 <input type="password" %
12877 id="\Fld@name" %
12878 name="\Fld@name" %
12879 \ifFld@hidden type="hidden" \fi
12880 value="\Fld@default" %
12881 \the\Field@toks
12882 >%
12883 }%
12884 }
12885 \def\@@TextField{%
12886 \ifFld@multiline
12887 \HCode{<textarea %
12888 \ifFld@readonly readonly \fi
12889 id="\Fld@name" %
12890 name="\Fld@name" %
12891 \ifFld@hidden type="hidden" \fi
12892 \the\Field@toks>%
12893 }%
12894 \Fld@default
12895 \HCode{</textarea>}%
12896 \else
12897 \HCode{<input type="text" %
12898 \ifFld@readonly readonly \fi
12899 id="\Fld@name" %
12900 name="\Fld@name" %
12901 \ifFld@hidden type="hidden" \fi
12902 value="\Fld@default" %
12903 \the\Field@toks>%
12904 }%
12905 \fi
12906 }
12907 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12908 \def\Fld@name{#2}%
12909 \let\Fld@default\@empty
12910 \let\Hy@reserved@a\relax
12911 \begingroup
12912 \expandafter\Fld@findlength#3\\%
12913 \Field@toks={ }%
12914 \kvsetkeys{Field}{#1}%
12915 #2%
12916 \ifFld@radio

```

```

12917     \expandafter\@@Radio#3\\%
12918     \else
12919         \expandafter\@@Menu#3\\%
12920     \fi
12921 \endgroup
12922 }
12923 \def\Fld@findlength#1\\{%
12924     \Fld@menulength=0 %
12925     \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
12926 }
12927 \def\@@Menu#1\\{%
12928     \HCode{<select size="\the\Fld@menulength" %
12929         name="\Fld@name" %
12930         \the\Field@toks>%
12931     }%
12932     \@for\@curropt:=#1\do{%
12933         \expandafter\Fld@checkequals\@curropt==\\%
12934         \HCode{<option %
12935             \ifx\@curropt\Fld@default selected \fi
12936             value="\@currValue">\@currDisplay</option>%
12937         }%
12938     }%
12939     \HCode{</select>}%
12940 }
12941 \def\@@Radio#1\\{%
12942     \@for\@curropt:=#1\do{%
12943         \expandafter\Fld@checkequals\@curropt==\\%
12944         \HCode{<input type="radio" %
12945             \ifx\@curropt\Fld@default checked \fi
12946             name="\Fld@name" %
12947             value="\@currValue" %
12948             \the\Field@toks>%
12949         }%
12950         \@currDisplay
12951     }%
12952 }
12953 \def\@PushButton[#1]#2{% parameters, label
12954     \def\Fld@name{#2}%
12955     \bgroup
12956         \Field@toks={ }%
12957         \kvsetkeys{Field}{#1}%
12958         \HCode{<input type="button" %
12959             name="\Fld@name" %
12960             value="#2" %
12961             \the\Field@toks>%
12962         }%
12963         \HCode{</button>}%
12964     \egroup
12965 }
12966 \def\@Submit[#1]#2{%
12967     \HCode{<button type="submit">#2</button>}%
12968 }
12969 \def\@Reset[#1]#2{%
12970     \HCode{<button type="reset">#2</button>}%

```

```

12971 }
12972 \def\@CheckBox[#1]#2{% parameters, label
12973   \let\Hy@reserved@a\@empty
12974   \def\Fld@name{#2}%
12975   \def\Fld@default{0}%
12976   \bgroup
12977     \Field@toks={ }%
12978     \kvsetkeys{Field}{#1}%
12979     \HCode{<input type="checkbox" %
12980       \ifFld@checked checked \fi
12981       \ifFld@disabled disabled \fi
12982       \ifFld@readonly readonly \fi
12983       name="\Fld@name" %
12984       \ifFld@hidden type="hidden" \fi
12985       value="\Fld@default" %
12986       \the\Field@toks>%
12987     #2%
12988   }%
12989 \egroup
12990 }
12991 </tex4ht>

```

45.4 pdfTeX

```

12992 <*pdfTeX>
12993 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12994   \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
12995 }
12996 \def\MakeFieldObject#1#2{\sbox0{#1}%
12997   \immediate\pdfxform0 %
12998   \expandafter\edef\csname #2Object\endcsname{%
12999     \the\pdfastxform\space 0 R%
13000   }%
13001 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdfastxform}}%
13002 }%
13003 \let\HyField@afields\@empty
13004 \let\HyField@cofields\@empty
13005 \@ifundefined{pdfastlink}
13006 {%
13007   \let\HyField@AddToFields\relax
13008   \PackageInfo{hyperref}{%
13009     You need pdfTeX 1.40.0 for setting the /Fields entry.%
13010     \MessageBreak
13011     Adobe Reader/Acrobat accepts an empty /Field array,%
13012     \MessageBreak
13013     but other PDF viewers might complain%
13014   }}%
13015 {%
13016   \let\HyField@AuxAddToFields\@gobble
13017   \let\HyField@AuxAddToCoFields\@gobbletwo
13018   \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.

```

13019 \def\HyField@ABD@AuxAddToCoFields#1#2{%

```

```

13020 \begingroup
13021 \Hy@safe@activetrue
13022 \let\@secondoftwo\relax
13023 \ifx\HyField@cofields\@empty
13024 \xdef\HyField@cofields{%
13025 \@secondoftwo{#1}{ #2 0 R}%
13026 }%
13027 \else
13028 \let\@secondoftwo\relax
13029 \def\HyField@AddCoField##1##2###3{%
13030 \ifx##1\@empty
13031 \@secondoftwo{#1}{ #2 0 R}%
13032 \expandafter\@gobble
13033 \else
13034 \ifnum\pdfstrcmp{##2}{#1}>\z@
13035 \@secondoftwo{#1}{ #2 0 R}%
13036 \@secondoftwo{##2}{##3}%
13037 \expandafter\expandafter\expandafter\@gobble
13038 \else
13039 \@secondoftwo{##2}{##3}%
13040 \fi
13041 \fi
13042 \HyField@AddCoField
13043 }%
13044 \xdef\HyField@cofields{%
13045 \expandafter\HyField@AddCoField
13046 \HyField@cofields\@empty\@empty\@empty
13047 }%
13048 \fi
13049 \endgroup
13050 }%
13051 \Hy@AtBeginDocument{%
13052 \if@filesw
13053 \immediate\write\@mainaux{%
13054 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
13055 }%
13056 \immediate\write\@mainaux{%
13057 \string\providecommand\string\HyField@AuxAddToCoFields[2]{}%
13058 }%
13059 \fi
13060 \let\HyField@AfterAuxOpen\@firstofone
13061 \def\HyField@AuxAddToFields#1{%
13062 \xdef\HyField@afields{%
13063 \ifx\HyField@afields\@empty
13064 \else
13065 \HyField@afields
13066 \space
13067 \fi
13068 #1 0 R%
13069 }%
13070 }%
13071 \let\HyField@AuxAddToCoFields\HyField@ABD@AuxAddToCoFields
13072 }%
13073 \def\HyField@AddToFields{%

```

```

13074 \expandafter\HyField@@AddToFields\expandafter{%
13075 \the\pdflastlink
13076 }%
13077 \ifx\Fld@calculate@code\@empty
13078 \else
13079 \begingroup
13080 \Hy@safe@activetrue
13081 \edef\Hy@temp{%
13082 \endgroup
13083 \if@filesw
13084 \write\@mainaux{%
13085 \string\HyField@AuxAddToCoFields{%
13086 \Fld@calculate@sortkey
13087 }{%
13088 \the\pdflastlink
13089 }%
13090 }%
13091 \fi
13092 }%
13093 \Hy@temp
13094 \fi
13095 }%
13096 \def\HyField@@AddToFields#1{%
13097 \HyField@AfterAuxOpen{%
13098 \if@filesw
13099 \write\@mainaux{%
13100 \string\HyField@AuxAddToFields{#1}%
13101 }%
13102 \fi
13103 }%
13104 }%
13105 }
13106 \def\@Form[#1]{%
13107 \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13108 \kvsetkeys{Form}{#1}%
13109 \pdf@ifdraftmode{}{%
13110 \Hy@FormObjects
13111 \ifnum\pdftexversion>13 %
13112 \pdfrefobj\OBJ@pdfdocencoding
13113 \pdfrefobj\OBJ@ZaDb
13114 \pdfrefobj\OBJ@Helv
13115 \fi
13116 \AddToHook{enddocument/afteraux}{%
13117 \immediate\pdfobj{%
13118 <<%
13119 /Fields[\HyField@afields]%
13120 \ifx\HyField@cofields\@empty
13121 \else
13122 /CO[\romannumeral-`\Q\HyField@cofields]%
13123 \fi
13124 /DR<<%
13125 /Font<<%
13126 /ZaDb \OBJ@ZaDb\space 0 R%
13127 /Helv \OBJ@Helv\space 0 R%

```

```

13128      >>%
13129      >>%
13130      /DA(/Helv 10 Tf 0 g)%
13131      \ifHy@pdfa
13132      \else
13133      \ifHyField@NeedAppearances
13134      /NeedAppearances true%
13135      \fi
13136      \fi
13137      >>%
13138      }%
13139      \edef\OBJ@acroform{\the\pdflastobj}%
13140      \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
13141      }%
13142      }%
13143      \MakeFieldObject{%
Same as \ding{123} of package pifont.
13144      \begingroup
13145      \fontfamily{pzd}%
13146      \fontencoding{U}%
13147      \fontseries{m}%
13148      \fontshape{n}%
13149      \selectfont
13150      \char123 %
13151      \endgroup
13152      }{Ding}%
13153      \MakeFieldObject{%
13154      \fbox{\textcolor{yellow}{\textsf{Submit}}}%
13155      }{Submit}%
13156      \MakeFieldObject{%
13157      \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
13158      }{SubmitP}%
13159      }
13160      \let\@endForm\@empty
13161      \let\HyAnn@AbsPageLabel\@empty
13162      \let\Fld@pageobjref\@empty
13163      \@ifundefined{pdfpageref}{%
13164      }{%
13165      \@ifpackageloaded{zref-abspage}{%
13166      \newcount\HyAnn@Count
13167      \HyAnn@Count=\z@
13168      \def\HyAnn@AbsPageLabel{%
13169      \global\advance\HyAnn@Count by\@ne
13170      \zref@labelbyprops{HyAnn@\the\HyAnn@Count}{abspage}%
13171      \zref@refused{HyAnn@\the\HyAnn@Count}%
13172      }%
13173      \def\Fld@pageobjref{%
13174      \zref@ifrefundefined{HyAnn@\the\HyAnn@Count}{%
13175      }{%
13176      \zref@ifrefcontainsprop{HyAnn@\the\HyAnn@Count}{abspage}{%
13177      /P \pdfpageref
13178      \zref@extractdefault{HyAnn@\the\HyAnn@Count}{abspage}{1} %
13179      \space 0 R%
13180      }{%

```

```

13181     }%
13182   }%
13183 }%
13184 }{%
13185 }%
13186 }

13187 \def\@TextField[#1]#2{% parameters, label
13188   \def\Fld@name{#2}%
13189   \let\Fld@default\@empty
13190   \let\Fld@value\@empty
13191   \def\Fld@width{\DefaultWidthofText}%
13192   \def\Fld@height{%
13193     \ifFld@multiline
13194       \DefaultHeightofTextMultiline
13195     \else
13196       \DefaultHeightofText
13197     \fi
13198   }%
13199   \begingroup
13200     \expandafter\HyField@SetKeys\expandafter{%
13201       \DefaultOptionsofText,#1%
13202     }%
13203     \PDFForm@Name
13204     \HyField@FlagsText
13205     \ifFld@hidden\def\Fld@width{1sp}\fi
13206     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13207     \LayoutTextField{#2}{%
13208       \leavevmode
13209       \HyAnn@AbsPageLabel
13210       \Hy@escapeform\PDFForm@Text
13211       \pdfstartlink user {\PDFForm@Text}\relax
13212       \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
13213       \HyField@AddToFields
13214     }%
13215   \endgroup
13216 }

13217 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13218   \def\Fld@name{#2}%
13219   \let\Fld@default\relax
13220   \let\Fld@value\relax
13221   \def\Fld@width{\DefaultWidthofChoiceMenu}%
13222   \def\Fld@height{\DefaultHeightofChoiceMenu}%
13223   \begingroup
13224     \Fld@menulength=0 %
13225     \@tempdima\z@
13226     \@for\@curropt:=#3\do{%
13227       \expandafter\Fld@checkequals\@curropt==\%
13228       \Hy@StepCount\Fld@menulength
13229       \settowidth{\@tempdimb}{\@currDisplay}%
13230       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13231     }%
13232     \advance\@tempdima by 15\p@
13233     \begingroup
13234       \HyField@SetKeys{#1}%

```

```

13235 \edef\x{\endgroup
13236 \noexpand\expandafter
13237 \noexpand\HyField@SetKeys
13238 \noexpand\expandafter{%
13239 \expandafter\noexpand\csname DefaultOptionsof%
13240 \ifFld@radio
13241 Radio%
13242 \else
13243 \ifFld@combo
13244 \ifFld@popdown
13245 PopdownBox%
13246 \else
13247 ComboBox%
13248 \fi
13249 \else
13250 ListBox%
13251 \fi
13252 \fi
13253 \endcsname
13254 }%
13255 }\x
13256 \HyField@SetKeys{#1}%
13257 \PDFForm@Name
13258 \ifFld@hidden\def\Fld@width{1sp}\fi
13259 \ifx\Fld@value\relax
13260 \let\Fld@value\Fld@default
13261 \fi
13262 \LayoutChoiceField{#2}{%
13263 \ifFld@radio
13264 \HyField@FlagsRadioButton
13265 \@@Radio{#3}%
13266 \else
13267 \begingroup
13268 \HyField@FlagsChoice
13269 \ifdim\Fld@width<\@tempdima
13270 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13271 \edef\Fld@width{\the\@tempdima}%
13272 \fi
13273 \ifFld@combo
13274 \else
13275 \@tempdima=\the\Fld@menulength\Fld@charsize
13276 \advance\@tempdima by \Fld@borderwidth bp %
13277 \advance\@tempdima by \Fld@borderwidth bp %
13278 \edef\Fld@height{\the\@tempdima}%
13279 \fi
13280 \@@ListBox{#3}%
13281 \endgroup
13282 \fi
13283 }%
13284 \endgroup
13285 }
13286 \def\@@Radio#1{%
13287 \Fld@listcount=0 %
13288 \EdefEscapeName\Fld@default{\Fld@default}%

```

```

13289 \@for\@curropt:=#1\do{%
13290   \expandafter\Fld@checkequals\@curropt==\\%
13291   \EdefEscapeName\@currValue{\@currValue}%
13292   \Hy@StepCount\Fld@listcount
13293   \@currDisplay\space
13294   \leavevmode
13295   \HyAnn@AbsPageLabel
13296   \Hy@escapeform\PDFForm@Radio
13297   \pdfstartlink user {%
13298     \PDFForm@Radio
13299     /AP<<%
13300     /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.

```

13301     /\@currValue\space \DingObject
13302     >>%
13303     >>%
13304   }%
13305   \relax
13306   \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
13307   \ifnum\Fld@listcount=1 %
13308     \HyField@AddToFields
13309   \fi
13310   \space % deliberate space between radio buttons
13311 }%
13312 }
13313 \newcount\Fld@listcount
13314 \def\@@Listbox#1{%
13315   \HyField@PDFChoices{#1}%
13316   \leavevmode
13317   \HyAnn@AbsPageLabel
13318   \Hy@escapeform\PDFForm@List
13319   \pdfstartlink user {\PDFForm@List}\relax
13320   \MakeChoiceField{\Fld@width}{\Fld@height}%
13321   \pdfendlink
13322   \HyField@AddToFields
13323 }
13324 \def\@PushButton[#1]#2{% parameters, label
13325   \def\Fld@name{#2}%
13326   \begingroup
13327     \expandafter\HyField@SetKeys\expandafter{%
13328       \DefaultOptionsofPushButton,#1%
13329     }%
13330     \PDFForm@Name
13331     \ifHy@pdfa
13332       \Hy@Error{%
13333         PDF/A: Push button with JavaScript is prohibited%
13334       }\@ehc
13335     \LayoutPushButtonField{%
13336       \leavevmode
13337       \MakeButtonField{#2}%
13338     }%

```

```

13339 \else
13340 \HyField@FlagsPushButton
13341 \ifFld@hidden\def\Fld@width{1sp}\fi
13342 \LayoutPushButtonField{%
13343 \leavevmode
13344 \HyAnn@AbsPageLabel
13345 \Hy@escapeform\PDFForm@Push
13346 \pdfstartlink user {\PDFForm@Push}\relax
13347 \MakeButtonField{#2}%
13348 \pdfendlink
13349 \HyField@AddToFields
13350 }%
13351 \fi
13352 \endgroup
13353 }
13354 \def\@Submit[#1]#2{%
13355 \def\Fld@width{\DefaultWidthofSubmit}%
13356 \def\Fld@height{\DefaultHeightofSubmit}%
13357 \begingroup
13358 \expandafter\HyField@SetKeys\expandafter{%
13359 \DefaultOptionsofSubmit,#1%
13360 }%
13361 \HyField@FlagsPushButton
13362 \HyField@FlagsSubmit
13363 \ifFld@hidden\def\Fld@width{1sp}\fi
13364 \leavevmode
13365 \HyAnn@AbsPageLabel
13366 \Hy@escapeform\PDFForm@Submit
13367 \pdfstartlink user {%
13368 \PDFForm@Submit
13369 /AP<</N \SubmitObject/D \SubmitPObject>>%
13370 }%
13371 \relax
13372 \MakeButtonField{#2}%
13373 \pdfendlink
13374 \HyField@AddToFields
13375 \endgroup
13376 }
13377 \def\@Reset[#1]#2{%
13378 \def\Fld@width{\DefaultWidthofReset}%
13379 \def\Fld@height{\DefaultHeightofReset}%
13380 \begingroup
13381 \expandafter\HyField@SetKeys\expandafter{%
13382 \DefaultOptionsofReset,#1%
13383 }%
13384 \leavevmode
13385 \ifHy@pdfa
13386 \Hy@Error{%
13387 PDF/A: Reset action is prohibited%
13388 }\@ehc
13389 \MakeButtonField{#2}%
13390 \else
13391 \HyField@FlagsPushButton
13392 \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

13393 \HyAnn@AbsPageLabel
13394 \Hy@escapeform\PDFForm@Reset
13395 \pdfstartlink user {\PDFForm@Reset}\relax
13396 \MakeButtonField{#2}%
13397 \pdfendlink
13398 \HyField@AddToFields
13399 \fi
13400 \endgroup
13401 }
13402 \def\@CheckBox[#1]#2{% parameters, label
13403 \def\Fld@name{#2}%
13404 \def\Fld@default{0}%
13405 \begingroup
13406 \def\Fld@width{\DefaultWidthofCheckBox}%
13407 \def\Fld@height{\DefaultHeightofCheckBox}%
13408 \expandafter\HyField@SetKeys\expandafter{%
13409 \DefaultOptionsofCheckBox,#1%
13410 }%
13411 \PDFForm@Name
13412 \HyField@FlagsCheckBox
13413 \ifFld@hidden\def\Fld@width{1sp}\fi
13414 \LayoutCheckField{#2}{%
13415 \leavevmode
13416 \HyAnn@AbsPageLabel
13417 \Hy@escapeform\PDFForm@Check
13418 \pdfstartlink user {\PDFForm@Check}\relax
13419 \MakeCheckField{\Fld@width}{\Fld@height}%
13420 \pdfendlink
13421 \HyField@AddToFields
13422 }%
13423 \endgroup
13424 }
13425 \def\Hy@FormObjects{%
13426 \pdfobj {%
13427 <<%
13428 /Type/Encoding%
13429 /Differences[%
13430 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13431 /ring/tilde %
13432 39/quotesingle %
13433 96/grave %
13434 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13435 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13436 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13437 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13438 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13439 160/Euro %
13440 164/currency %
13441 166/brokenbar %
13442 168/dieresis/copyright/ordfeminine %
13443 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13444 /twosuperior/threesuperior/acute/mu %
13445 183/periodcentered/cedilla/onesuperior/ordmasculine %
13446 188/onequarter/onehalf/threequarters %

```

```

13447      192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13448      /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13449      /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13450      /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13451      /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13452      /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13453      /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13454      /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13455      /ocircumflex/otilde/odieresis/divide/oshlash/ugrave%
13456      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
13457  }%
13458  >>%
13459 }%
13460  \xdef\OBJ@pdfdocencoding{\the\pdfastobj}%
13461  \pdfobj{%
13462  <<%
13463    /Type/Font%
13464    /Subtype/Type1%
13465    /Name/ZaDb%
13466    /BaseFont/ZapfDingbats%
13467  >>%
13468 }%
13469  \xdef\OBJ@ZaDb{\the\pdfastobj}%
13470  \pdfobj{%
13471  <<%
13472    /Type/Font%
13473    /Subtype/Type1%
13474    /Name/Helv%
13475    /BaseFont/Helvetica%
13476    /Encoding \OBJ@pdfdocencoding\space 0 R%
13477  >>%
13478 }%
13479  \xdef\OBJ@Helv{\the\pdfastobj}%
13480  \global\let\Hy@FormObjects\relax
13481  }
13482  \pdfTeX

```

45.5 dvipdfm, xetex

D. P. Story adapted the pdfTeX forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```
13483 \*dvipdfm | xetex
```

\@Gauge

```

13484 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13485   \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13486 }

```

\@Form

```

13487 \def\@Form[#1]{%
13488   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13489   \kvsetkeys{Form}{#1}%
13490   \Hy@FormObjects
13491   \@pdfm@mark{obj @afields []}%

```

```

13492 \@pdfm@mark{obj @corder []}%
13493 \@pdfm@mark{%
13494   obj @aform <<%
13495   /Fields @afields%
13496   /DR<<%
13497   /Font<<%
13498   /ZaDb @OBJZaDb%
13499   /Helv @OBJHelv%
13500   >>%
13501   >>%
13502   /DA(/Helv 10 Tf 0 g)%
13503   /CO @corder%
13504   \ifHy@pdfa
13505   \else
13506     \ifHyField@NeedAppearances
13507       /NeedAppearances true%
13508     \fi
13509   \fi
13510   >>%
13511 }%
13512 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
13513 }

\@endForm

13514 \let\@endForm\@empty

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.
13515 \def\dvipdfm@setdim{%
13516   height \the\ht\pdfm@box\space
13517   width \the\wd\pdfm@box\space
13518   depth \the\dp\pdfm@box\space
13519 }

\HyField@AnnotCount
13520 \newcount\HyField@AnnotCount
13521 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount
13522 \def\HyField@AdvanceAnnotCount{%
13523   \global\advance\HyField@AnnotCount\@ne
13524 }

\HyField@TheAnnotCount
13525 \def\HyField@TheAnnotCount{%
13526   \the\HyField@AnnotCount
13527 }

\Fld@pageobjref
13528 \def\Fld@pageobjref{/P @thispage}%

\HyField@AddToFields
13529 \def\HyField@AddToFields#1{%
13530   \@pdfm@mark{put @afields @#1\HyField@TheAnnotCount}%

```

```

13531 \ifx\Fld@calculate@code\@empty
13532 \else
13533 \@pdfm@mark{put @corder @#1\HyField@TheAnnotCount}%
13534 \fi
13535 }

```

\@TextField

```

13536 \def\@TextField[#1]#2{% parameters, label
13537 \def\Fld@name{#2}%
13538 \let\Fld@default\@empty
13539 \let\Fld@value\@empty
13540 \def\Fld@width{\DefaultWidthofText}%
13541 \def\Fld@height{%
13542 \ifFld@multiline
13543 \DefaultHeightofTextMultiline
13544 \else
13545 \DefaultHeightofText
13546 \fi
13547 }%
13548 \begingroup
13549 \expandafter\HyField@SetKeys\expandafter{%
13550 \DefaultOptionsofText,#1%
13551 }%
13552 \PDFForm@Name
13553 \HyField@FlagsText
13554 \ifFld@hidden\def\Fld@width{1sp}\fi
13555 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13556 \setbox\pdfm@box=\hbox{%
13557 \MakeTextField{\Fld@width}{\Fld@height}%
13558 }%
13559 \HyField@AdvanceAnnotCount
13560 \LayoutTextField{#2}{%
13561 \leavevmode
13562 \Hy@escapeform\PDFForm@Text
13563 \@pdfm@mark{%
13564 ann @text\HyField@TheAnnotCount\space
13565 \dvipdfm@setdim << \PDFForm@Text >>%
13566 }%
13567 }%
13568 \unhbox\pdfm@box
13569 \HyField@AddToFields{text}%
13570 % record in @afields array
13571 \endgroup
13572 }

```

\@ChoiceMenu

```

13573 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13574 \def\Fld@name{#2}%
13575 \let\Fld@default\relax
13576 \let\Fld@value\relax
13577 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13578 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13579 \begingroup
13580 \Fld@menulength=0 %

```

```

13581 \@tempdima\z@
13582 \@for\@curropt:=#3\do{%
13583   \expandafter\Fld@checkequals\@curropt==\\%
13584   \Hy@StepCount\Fld@menulength
13585   \settowidth{\@tempdimb}{\@currDisplay}%
13586   \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13587 }%
13588 \advance\@tempdima by 15\p@
13589 \begingroup
13590   \HyField@SetKeys{#1}%
13591 \edef\x{\endgroup
13592   \noexpand\expandafter
13593   \noexpand\HyField@SetKeys
13594   \noexpand\expandafter{%
13595     \expandafter\noexpand\csname DefaultOptionsof%
13596       \ifFld@radio
13597         Radio%
13598       \else
13599         \ifFld@combo
13600         \ifFld@popdown
13601         PopdownBox%
13602       \else
13603         ComboBox%
13604       \fi
13605     \else
13606     ListBox%
13607     \fi
13608   \fi
13609   \endcsname
13610 }%
13611 }\x
13612 \HyField@SetKeys{#1}%
13613 \PDFForm@Name
13614 \ifFld@hidden\def\Fld@width{1sp}\fi
13615 \ifx\Fld@value\relax
13616   \let\Fld@value\Fld@default
13617 \fi
13618 \LayoutChoiceField{#2}{%
13619   \ifFld@radio
13620     \HyField@FlagsRadioButton
13621     \@@Radio{#3}%
13622   \else
13623     \begingroup
13624     \HyField@FlagsChoice
13625     \ifdim\Fld@width<\@tempdima
13626       \ifdim\@tempdima<1cm\@tempdima1cm\fi
13627     \edef\Fld@width{\the\@tempdima}%
13628     \fi
13629     \ifFld@combo
13630     \else
13631       \@tempdima=\the\Fld@menulength\Fld@charsize
13632       \advance\@tempdima by \Fld@borderwidth bp %
13633       \advance\@tempdima by \Fld@borderwidth bp %
13634       \edef\Fld@height{\the\@tempdima}%

```

```

13635         \fi
13636         \@@Listbox{#3}%
13637     \endgroup
13638     \fi
13639 }%
13640 \endgroup
13641 }

\@@Radio
13642 \def\@@Radio#1{%
13643     \Fld@listcount=0 %
13644     \EdefEscapeName\Fld@default{\Fld@default}%
13645     \setbox\pdfm@box=\hbox{%
13646         \MakeRadioField{\Fld@width}{\Fld@height}%
13647     }%
13648     \@for\@curropt:=#1\do{%
13649         \expandafter\Fld@checkequals\@curropt==\%
13650         \EdefEscapeName\@currValue{\@currValue}%
13651         \Hy@StepCount\Fld@listcount
13652         \@currDisplay\space
13653         \leavevmode
13654         \Hy@escapeform\PDFForm@Radio
13655         \ifnum\Fld@listcount=1 %
13656             \HyField@AdvanceAnnotCount
13657         \fi
13658         \@pdfm@mark{%
13659             ann %
13660             \ifnum\Fld@listcount=1 %
13661                 @radio\HyField@TheAnnotCount%
13662             \space
13663         \fi
13664         \dvipdfm@setdim
13665         <<%
13666         \PDFForm@Radio
13667         /AP<</N<</\@currValue /null>>>>%
13668         >>%
13669     }%
13670     \unhcopy\pdfm@box\space% deliberate space between radio buttons
13671     \ifnum\Fld@listcount=1 %
13672         \HyField@AddToFields{radio}%
13673     \fi
13674 }%
13675 }

\Fld@listcount
13676 \newcount\Fld@listcount

\@@Listbox
13677 \def\@@Listbox#1{%
13678     \HyField@PDFChoices{#1}%
13679     \setbox\pdfm@box=\hbox{%
13680         \MakeChoiceField{\Fld@width}{\Fld@height}%
13681     }%
13682     \leavevmode

```

```

13683 \Hy@escapeform\PDFForm@List
13684 \HyField@AdvanceAnnotCount
13685 \@pdfm@mark{%
13686   ann @list\HyField@TheAnnotCount\space
13687   \dvipdfm@setdim
13688   <<\PDFForm@List>>%
13689 }%
13690 \unhbox\pdfm@box
13691 \HyField@AddToFields{list}%
13692 }

```

\@PushButton

```

13693 \def\@PushButton[#1]#2{% parameters, label
13694   \def\Fld@name{#2}%
13695   \begingroup
13696     \expandafter\HyField@SetKeys\expandafter{%
13697       \DefaultOptionsofPushButton,#1%
13698     }%
13699     \PDFForm@Name
13700     \ifHy@pdfa
13701       \Hy@Error{%
13702         PDF/A: Push button with JavaScript is prohibited%
13703       }\@ehc
13704       \LayoutPushButtonField{%
13705         \leavevmode
13706         \MakeButtonField{#2}%
13707       }%
13708     \else
13709       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13710       \HyField@FlagsPushButton
13711       \ifFld@hidden\def\Fld@width{1sp}\fi
13712       \HyField@AdvanceAnnotCount
13713       \LayoutPushButtonField{%
13714         \leavevmode
13715         \Hy@escapeform\PDFForm@Push
13716         \@pdfm@mark{%
13717           ann @push\HyField@TheAnnotCount\space
13718           \dvipdfm@setdim
13719           <<\PDFForm@Push>>%
13720         }%
13721       }%
13722       \unhbox\pdfm@box
13723       \HyField@AddToFields{push}%
13724     \fi
13725   \endgroup
13726 }

```

\@Submit

```

13727 \def\@Submit[#1]#2{%
13728   \def\Fld@width{\DefaultWidthofSubmit}%
13729   \def\Fld@height{\DefaultHeightofSubmit}%
13730   \begingroup
13731     \expandafter\HyField@SetKeys\expandafter{%
13732       \DefaultOptionsofSubmit,#1%

```

```

13733 }%
13734 \HyField@FlagsPushButton
13735 \HyField@FlagsSubmit
13736 \ifFld@hidden\def\Fld@width{1sp}\fi
13737 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}}%
13738 \leavevmode
13739 \Hy@escapeform\PDFForm@Submit
13740 \HyField@AdvanceAnnotCount
13741 \@pdfm@mark{%
13742   ann @submit\HyField@TheAnnotCount\space
13743   \dvi pdfm@setdim
13744   <<\PDFForm@Submit>>%
13745 }%
13746 \unhbox\pdfm@box%
13747 \HyField@AddToFields{submit}%
13748 \endgroup
13749 }

```

\@Reset

```

13750 \def\@Reset[#1]#2{%
13751   \def\Fld@width{\DefaultWidthofReset}%
13752   \def\Fld@height{\DefaultHeightofReset}%
13753   \begingroup
13754     \expandafter\HyField@SetKeys\expandafter{%
13755       \DefaultOptionsofReset,#1%
13756     }%
13757     \leavevmode
13758     \ifHy@pdfa
13759       \Hy@Error{%
13760         PDF/A: Reset action is prohibited%
13761       }\@ehc
13762       \MakeButtonField{#2}%
13763     \else
13764       \HyField@FlagsPushButton
13765       \ifFld@hidden\def\Fld@width{1sp}\fi
13766       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}}%
13767       \Hy@escapeform\PDFForm@Reset
13768       \HyField@AdvanceAnnotCount
13769       \@pdfm@mark{%
13770         ann @reset\HyField@TheAnnotCount\space
13771         \dvi pdfm@setdim
13772         <<\PDFForm@Reset>>%
13773       }%
13774       \unhbox\pdfm@box
13775       \HyField@AddToFields{reset}%
13776     \fi
13777   \endgroup
13778 }

```

\@CheckBox

```

13779 \def\@CheckBox[#1]#2{% parameters, label
13780   \def\Fld@name{#2}%
13781   \def\Fld@default{0}%
13782   \begingroup

```

```

13783 \def\Fld@width{\DefaultWidthofCheckBox}%
13784 \def\Fld@height{\DefaultHeightofCheckBox}%
13785 \expandafter\HyField@SetKeys\expandafter{%
13786 \DefaultOptionsofCheckBox,#1%
13787 }%
13788 \PDFForm@Name
13789 \HyField@FlagsCheckBox
13790 \ifFld@hidden\def\Fld@width{1sp}\fi
13791 \setbox\pdfm@box=\hbox{%
13792 \MakeCheckField{\Fld@width}{\Fld@height}%
13793 }%
13794 \HyField@AdvanceAnnotCount
13795 \LayoutCheckField{#2}{%
13796 \leavevmode
13797 \Hy@escapeform\PDFForm@Check
13798 \@pdfm@mark{%
13799 ann @check\HyField@TheAnnotCount\space
13800 \dvi pdfm@setdim
13801 <<\PDFForm@Check>>%
13802 }%
13803 \unhbox\pdfm@box
13804 \HyField@AddToFields{check}%
13805 }%
13806 \endgroup
13807 }

13808 \def\Hy@FormObjects{%
13809 \@pdfm@mark{obj @OBJpdfdocencoding%
13810 <<%
13811 /Type/Encoding%
13812 /Differences[%
13813 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
13814 39/quotesingle %
13815 96/grave %
13816 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13817 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13818 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13819 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
13820 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13821 160/Euro %
13822 164/currency %
13823 166/brokenbar %
13824 168/dieresis/copyright/ordfeminine %
13825 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13826 /twosuperior/threesuperior/acute/mu %
13827 183/periodcentered/cedilla/onesuperior/ordmasculine %
13828 188/onequarter/onehalf/threequarters %
13829 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13830 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13831 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
13832 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13833 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
13834 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
13835 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%

```

```

13836      /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%
13837      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
13838      /thorn/ydieresis%
13839      ]%
13840      >>%
13841      }%
13842      \@pdfm@mark{obj @OBJZaDb%
13843      <<%
13844      /Type/Font%
13845      /Subtype/Type1%
13846      /Name/ZaDb%
13847      /BaseFont/ZapfDingbats%
13848      >>%
13849      }%
13850      \@pdfm@mark{obj @OBJHelv%
13851      <<%
13852      /Type/Font%
13853      /Subtype/Type1%
13854      /Name/Helv%
13855      /BaseFont/Helvetica%
13856      /Encoding @OBJpdfdocencoding%
13857      >>%
13858      }%
13859      \global\let\Hy@FormObjects\relax
13860      }
13861      </dvipdfm | xetex>

```

45.6 Common forms part

```

13862 (*pdfform)

\Fld@pageobjref

13863 \providecommand*{\Fld@pageobjref}{%

\Hy@escapestring

13864 \@ifundefined{pdf@escapestring}
13865 {%
13866   \let\Hy@escapestring\@firstofone
13867   \def\Hy@escapeform#1{%
13868     \ifHy@pdfescapeform
13869       \def\Hy@escapestring##1{%
13870         \noexpand\Hy@escapestring{\noexpand##1}%
13871       }%
13872       \edef\Hy@temp{#1}%
13873       \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
13874       \def\Hy@escapestring##1{%
13875         \@ifundefined{Hy@esc@\string##1}{%
13876           ##1%
13877           \ThisShouldNotHappen
13878         }{%
13879           \csname Hy@esc@\string##1\endcsname
13880         }%
13881       }%
13882     \else

```

```

13883     \let\Hy@escapestring\@firstofone
13884     \fi
13885 }%
13886 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
13887     \ifx\|#3\|
13888     \else
13889     \expandafter
13890     \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
13891     \Hy@ReturnAfterFi{%
13892     \Hy@@escapeform#3\@nil
13893     }%
13894     \fi
13895 }%
13896 }{%
13897     \def\Hy@escapeform#1{%
13898     \ifHy@pdfescapeform
13899     \let\Hy@escapestring\pdfescapestring
13900     \else
13901     \let\Hy@escapestring\@firstofone
13902     \fi
13903 }%
13904 \Hy@escapeform{}%
13905 }

```

\PDFForm@Name

```

13906 \def\PDFForm@Name{%
13907     \PDFForm@@Name\Fld@name
13908     \ifx\Fld@altname\relax
13909     \else
13910     \PDFForm@@Name\Fld@altname
13911     \fi
13912     \ifx\Fld@mappingname\relax
13913     \else
13914     \PDFForm@@Name\Fld@mappingname
13915     \fi
13916 }

```

\PDFForm@@Name

```

13917 \def\PDFForm@@Name#1{%
13918     \begingroup
13919     \ifnum\Hy@pdf@major@minor@version<105 % implementation note 117, PDF spec 1.7
13920     \ifHy@unicode
13921     \Hy@unicodetfalse
13922     \fi
13923     \fi
13924     \pdfstringdef\Hy@gtemp#1%
13925     \endgroup
13926     \let#1\Hy@gtemp
13927 }

```

\Fld@additionalactions

```

13928 \def\Fld@@additionalactions{%
    K input (keystroke) format

```

```

13929 \ifx\Fld@keystroke@code\@empty
13930 \else
13931 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
13932 \fi

F display format
13933 \ifx\Fld@format@code\@empty
13934 \else
13935 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
13936 \fi

V validation
13937 \ifx\Fld@validate@code\@empty
13938 \else
13939 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
13940 \fi

C calculation
13941 \ifx\Fld@calculate@code\@empty
13942 \else
13943 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
13944 \fi

Fo receiving the input focus
13945 \ifx\Fld@onfocus@code\@empty
13946 \else
13947 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
13948 \fi

Bl losing the input focus (blurred)
13949 \ifx\Fld@onblur@code\@empty
13950 \else
13951 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
13952 \fi

D pressing the mouse button (down)
13953 \ifx\Fld@onmousedown@code\@empty
13954 \else
13955 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
13956 \fi

U releasing the mouse button (up)
13957 \ifx\Fld@onmouseup@code\@empty
13958 \else
13959 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
13960 \fi

E cursor enters the annotation's active area.
13961 \ifx\Fld@onenter@code\@empty
13962 \else
13963 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
13964 \fi

X cursor exits the annotation's active area.
13965 \ifx\Fld@onexit@code\@empty
13966 \else
13967 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
13968 \fi

```

```

13969 }
13970 \def\Fld@additionalactions{%
13971 \if-\Fld@@additionalactions-%
13972 \else
13973 \ifHy@pdfa
13974 \else
13975 /AA<<\Fld@@additionalactions>>%
13976 \fi
13977 \fi
13978 }

```

\Fld@annotnames

```

13979 \def\Fld@annotnames{%
13980 /T(\Fld@name)%
13981 \ifx\Fld@altname\relax
13982 \else
13983 /TU(\Fld@altname)%
13984 \fi
13985 \ifx\Fld@mappingname\relax
13986 \else
13987 /TM(\Fld@mappingname)%
13988 \fi
13989 }

```

\PDFForm@Check

```

13990 \def\PDFForm@Check{%
13991 /Subtype/Widget%
13992 \Fld@annotflags
13993 \Fld@pageobjref
13994 \Fld@annotnames
13995 /FT/Btn%
13996 \Fld@flags
13997 /Q \Fld@align
13998 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
13999 /AP<< /N <</Yes<<>>>> >> %new string /Yes is from below
14000 /MK<<%
14001 \ifnum\Fld@rotation=\z@
14002 \else
14003 /R \Fld@rotation
14004 \fi
14005 \ifx\Fld@bordercolor\relax
14006 \else
14007 /BC[\Fld@bordercolor]%
14008 \fi
14009 \ifx\Fld@bcolor\relax
14010 \else
14011 /BG[\Fld@bcolor]%
14012 \fi
14013 /CA(\Hy@escapestring{\Fld@cbsymbol})%
14014 >>%
14015 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14016 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14017 /H/P%
14018 \ifFld@checked /V/Yes/AS/Yes\else /V/Off/AS/Off\fi

```

```

14019 \Fld@additionalactions
14020 }

```

\PDFForm@Push

```

14021 \ifHy@pdfa
14022 \else
14023 \def\PDFForm@Push{%
14024 /Subtype/Widget%
14025 \Fld@annotflags
14026 \Fld@pageobjref
14027 \Fld@annotnames
14028 /FT/Btn%
14029 \Fld@flags
14030 /H/P%
14031 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14032 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14033 \ifx\Fld@bordercolor\relax\else 1\fi
14034 \space
14035 \else
14036 /MK<<%
14037 \ifnum\Fld@rotation=\z@
14038 \else
14039 /R \Fld@rotation
14040 \fi
14041 \ifx\Fld@bordercolor\relax
14042 \else
14043 /BC[\Fld@bordercolor]%
14044 \fi
14045 >>%
14046 \fi
14047 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
14048 \Fld@additionalactions
14049 }%
14050 \fi

```

\PDFForm@List

```

14051 \def\PDFForm@List{%
14052 /Subtype/Widget%
14053 \Fld@annotflags
14054 \Fld@pageobjref
14055 \Fld@annotnames
14056 /FT/Ch%
14057 \Fld@flags
14058 /Q \Fld@align
14059 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14060 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14061 \ifx\Fld@bordercolor\relax\else 1\fi
14062 \ifx\Fld@bcolor\relax \else 1\fi
14063 \space
14064 \else
14065 /MK<<%
14066 \ifnum\Fld@rotation=\z@
14067 \else
14068 /R \Fld@rotation

```

```

14069     \fi
14070     \ifx\Fld@bordercolor\relax
14071     \else
14072         /BC[\Fld@bordercolor]%
14073     \fi
14074     \ifx\Fld@bcolor\relax
14075     \else
14076         /BG[\Fld@bcolor]%
14077     \fi
14078     >>%
14079 \fi
14080 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14081     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14082 \Fld@choices
14083 \Fld@additionalactions
14084 }

```

\PDFForm@Radio

```

14085 \def\PDFForm@Radio{%
14086 /Subtype/Widget%
14087 \Fld@annotflags
14088 \Fld@pageobjref
14089 \Fld@annotnames
14090 /FT/Btn%
14091 \Fld@flags
14092 /H/P%
14093 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14094 /MK<<%
14095     \ifnum\Fld@rotation=\z@
14096     \else
14097         /R \Fld@rotation
14098     \fi
14099     \ifx\Fld@bordercolor\relax
14100     \else
14101         /BC[\Fld@bordercolor]%
14102     \fi
14103     \ifx\Fld@bcolor\relax
14104     \else
14105         /BG[\Fld@bcolor]%
14106     \fi
14107     /CA(\Hy@escapestring{\Fld@radiosymbol})%
14108 >>%
14109 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14110     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%

```

New code, the default value is used for all buttons

```

14111 \ifx\Fld@default\@empty
14112     /V/Off%
14113     /DV/Off%
14114 \else
14115     /V/\Fld@default
14116     /DV/\Fld@default
14117 \fi
14118 \Fld@additionalactions
14119 }

```

\PDFForm@Text

```
14120 \def\PDFForm@Text{%
14121 /Subtype/Widget%
14122 \Fld@annotflags
14123 \Fld@pageobjref
14124 \Fld@annotnames
14125 /FT/Tx%
14126 \Fld@flags
14127 /Q \Fld@align
14128 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
14129 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14130 \ifx\Fld@bordercolor\relax\else 1\fi
14131 \ifx\Fld@bcolor\relax \else 1\fi
14132 \space
14133 \else
14134 /MK<<%
14135 \ifnum\Fld@rotation=\z@
14136 \else
14137 /R \Fld@rotation
14138 \fi
14139 \ifx\Fld@bordercolor\relax
14140 \else
14141 /BC[\Fld@bordercolor]%
14142 \fi
14143 \ifx\Fld@bcolor\relax
14144 \else
14145 /BG[\Fld@bcolor]%
14146 \fi
14147 >>%
14148 \fi
14149 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14150 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14151 /DV(\Hy@escapestring{\Fld@default})%
14152 /V(\Hy@escapestring{\Fld@value})%
14153 \Fld@additionalactions
14154 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
14155 }
```

\PDFForm@Submit

```
14156 \def\PDFForm@Submit{%
14157 /Subtype/Widget%
14158 \Fld@annotflags
14159 \Fld@pageobjref
14160 \Fld@annotnames
14161 /FT/Btn%
14162 \Fld@flags
14163 /H/P%
14164 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14165 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14166 \ifx\Fld@bordercolor\relax\else 1\fi
14167 \space
14168 \else
14169 /MK<<%
14170 \ifnum\Fld@rotation=\z@
```

```

14171     \else
14172         /R \Fld@rotation
14173     \fi
14174     \ifx\Fld@bordercolor\relax
14175     \else
14176         /BC[\Fld@bordercolor]%
14177     \fi
14178     >>%
14179 \fi
14180 /A<<%
14181 /S/SubmitForm%
14182 /F<<%
14183 /FS/URL%
14184 /F(\Hy@escapestring{\Form@action})%
14185 >>%
14186 \Fld@submitflags
14187 >>%
14188 \Fld@additionalactions
14189 }

```

\PDFForm@Reset

```

14190 \ifHy@pdfa
14191 \else
14192     \def\PDFForm@Reset{%
14193         /Subtype/Widget%
14194         \Fld@annotflags
14195         \Fld@pageobjref
14196         \Fld@annotnames
14197         /FT/Btn%
14198         \Fld@flags
14199         /H/P%
14200         /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
14201         \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14202             \ifx\Fld@bordercolor\relax\else 1\fi
14203             \space
14204     \else
14205         /MK<<%
14206         \ifnum\Fld@rotation=\z@
14207         \else
14208             /R \Fld@rotation
14209         \fi
14210         \ifx\Fld@bordercolor\relax
14211         \else
14212             /BC[\Fld@bordercolor]%
14213         \fi
14214     %     /CA (Clear)
14215     %     /AC (Done)
14216     >>%
14217     \fi
14218     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14219     /A<</S/ResetForm>>%
14220     \Fld@additionalactions
14221 }%
14222 \fi

```

```

14223 </pdfform>
14224 <*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`

```

14225 \def\phantomsection{%
14226   \Hy@MakeCurrentHrefAuto{section*}%
14227   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
14228 }
14229 </packageEnd>

```

46.1 Bookmarks

```

14230 <*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.

```

14231 \def\Hy@writebookmark#1#2#3#4#5{%
14232   % section number, text, label, level, file
14233   \ifx\WriteBookmarks\relax%
14234     \else
14235     \ifnum#4>\Hy@bookmarksdepth\relax
14236     \else
14237       \@writetorep{#1}{#2}{#3}{#4}{#5}%
14238     \fi
14239   \fi
14240 }
14241 \def\Hy@currentbookmarklevel{0}
14242 \def\Hy@numberline#1{#1 }

```

```

14243 \def\@@writetorep#1#2#3#4#5{%
14244   \begingroup
14245   \edef\Hy@tempa{#5}%
14246   \ifx\Hy@tempa\Hy@bookmarkstype
14247     \edef\Hy@level{#4}%
14248     \ifx\Hy@levelcheck Y%
14249       \@tempcnta\Hy@level\relax
14250       \advance\@tempcnta by -1 %
14251       \ifnum\Hy@currentbookmarklevel<\@tempcnta
14252         \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
14253         \advance\@tempcnta by 1 %
14254         \Hy@Warning{%
14255           Difference (\the\@tempcnta) between bookmark levels is %
14256           greater \MessageBreak than one, level fixed%
14257         }%
14258         \@tempcnta\Hy@currentbookmarklevel
14259         \advance\@tempcnta by 1 %
14260         \edef\Hy@level{\the\@tempcnta}%
14261       \fi
14262     \else
14263       \global\let\Hy@levelcheck Y%
14264     \fi
14265     \global\let\Hy@currentbookmarklevel\Hy@level
14266     \@tempcnta\Hy@level\relax
14267     \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
14268     \advance\@tempcnta by -1 %
14269     \edef\Hy@tempa{#3}%
14270     \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
14271     \ifx\Hy@tempa\Hy@tempb
14272       \Hy@Warning{%
14273         The anchor of a bookmark and its parent's must not%
14274         \MessageBreak be the same. Added a new anchor%
14275       }%
14276     \phantomsection
14277   \fi
14278   \ifHy@bookmarksnumbered
14279     \let\numberline\Hy@numberline
14280     \let\booknumberline\Hy@numberline
14281     \let\partnumberline\Hy@numberline
14282     \let\chapternumberline\Hy@numberline
14283   \else
14284     \let\numberline\@gobble
14285     \let\booknumberline\@gobble
14286     \let\partnumberline\@gobble
14287     \let\chapternumberline\@gobble
14288   \fi
14289   \pdfstringdef\Hy@tempa{#2}%
14290   \HyPsd@SanitizeForOutFile\Hy@tempa
14291   \if@filesw
14292     \stepcounter{bookmark@seq@number}%
14293     \@ifundefined{@outlinefile}{%
14294     }{%
14295       \protected@write\@outlinefile{}{%
14296         \protect\BOOKMARK

```

```

14297         [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
14298         {\Hy@tempa}{\Hy@tempb}%
14299         \@percentchar\space\thebookmark@seq@number
14300     }%
14301 }%
14302 \fi
14303 \fi
14304 \endgroup
14305 }
14306 \newcounter{bookmark@seq@number}

14307 \begingroup
14308 \lccode`(`=`{
14309 \lccode`)`=`}%
14310 \lccode`1`=\z@
14311 \lccode`2`=\z@
14312 \lccode`3`=\z@
14313 \lccode`5`=\z@
14314 \lccode`7`=\z@
14315 \lccode`\#`=\z@
14316 \lccode`\` `=\z@
14317 \lccode`\{`=\z@
14318 \lccode`\}`=\z@
14319 \lowercase{%
14320 \endgroup
14321 \def\HyPsd@SanitizeForOutFile#1{%
14322     \@onelevel@sanitize\Hy@tempa
14323     \escapechar`\\%
14324     \edef\Hy@tempa{%
14325         \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
14326     }%
14327     \edef\Hy@tempa{%
14328         \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
14329     }%
14330 }%
14331 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
14332     #1%
14333     \ifx\\#2\\%
14334         \expandafter\@gobble
14335     \else
14336         \expandafter\@firstofone
14337     \fi
14338     {%
14339         \string\173%
14340         \HyPsd@SanitizeOut@BraceLeft#2\@nil
14341     }%
14342 }%
14343 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
14344     #1%
14345     \ifx\\#2\\%
14346         \expandafter\@gobble
14347     \else
14348         \expandafter\@firstofone
14349     \fi
14350     {%

```

```

14351 \string\175%
14352 \HyPsd@SanitizeOut@BraceRight#2\@nil
14353 }%
14354 }%
14355 }

```

In the call of `\BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

14356 \newcommand{\currentpdfbookmark}{%
14357 \pdfbookmark[\Hy@currentbookmarklevel]%
14358 }
14359 \newcommand{\subpdfbookmark}{%
14360 \@tempcnta\Hy@currentbookmarklevel
14361 \Hy@StepCount\@tempcnta
14362 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
14363 }
14364 \newcommand{\belowpdfbookmark}[2]{%
14365 \@tempcnta\Hy@currentbookmarklevel
14366 \Hy@StepCount\@tempcnta
14367 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
14368 \advance\@tempcnta by -1 %
14369 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
14370 }

```

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.

```

14371 \renewcommand\pdfbookmark[3][0]{%
14372 \Hy@writebookmark{}{#2}{#3.#1}{#1}{toc}%
14373 \hyper@anchorstart{#3.#1}\hyper@anchorend
14374 }
14375 \def\BOOKMARK{%
14376 \@ifnextchar[{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
14377 }
14378 \def\@BOOKMARK[#1]{%
14379 \@ifnextchar[{\@@BOOKMARK[{#1}]}{\@@BOOKMARK[{#1}][-]}%
14380 }

```

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`

```

14381 \RequirePackage{rerunfilecheck}[2009/12/10]
14382 \def\Hy@OutlineRerunCheck{%
14383 \RerunFileCheck{\jobname.out}{%
14384 \immediate\closeout\@outlinefile
14385 }{%
14386 Rerun to get outlines right\MessageBreak
14387 or use package `bookmark'%
14388 }%
14389 }

```

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.

14390 `*vtx`

14391 `\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.

```

14392 \begingroup
14393   \catcode\`=12 %
14394   \ifnum\Hy@VTeXversion<650 %
14395     \catcode\`=12 %
14396     \gdef\hv@pdf@char#1#2#3{%
14397       \char
14398       \ifcase'#1#2#3 %
14399         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
14400         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
14401         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
14402         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%
14403         \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
14404         \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
14405         \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
14406         \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
14407         \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
14408         \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
14409         \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
14410         \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
14411         \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
14412         \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
14413         \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
14414         \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
14415         \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
14416         \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
14417         \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
14418         \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
14419         \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
14420         \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
14421         \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
14422         \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
14423         \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
14424         \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
14425         \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
14426         \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
14427         \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
14428         \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
14429         \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
14430         \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
14431       \fi
14432     }%

```

```

14433 \else
14434 \gdef\hv@pdf@char{\char'}%
14435 \fi
14436 \endgroup

```

\@@BOOKMARK

```

14437 \def\@@BOOKMARK[#1][#2]#3#4#5{%
14438 \expandafter\edef\csname @count@#3\endcsname{%
14439 \the\@serial@counter
14440 }%
14441 \edef\@mycount{\the\@serial@counter}%
14442 \Hy@StepCount\@serial@counter
14443 \edef\@parcount{%
14444 \expandafter\ifx\csname @count@#5\endcsname\relax
14445 0%
14446 \else
14447 \csname @count@#5\endcsname
14448 \fi
14449 }%
14450 \immediate\special{%
14451 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14452 s=\ifx#2-c\else o\fi,t=#4%
14453 }%
14454 }%

```

\ReadBookmarks

```

14455 \def\ReadBookmarks{%
14456 \begingroup
14457 \def\0{\hv@pdf@char 0}%
14458 \def\1{\hv@pdf@char 1}%
14459 \def\2{\hv@pdf@char 2}%
14460 \def\3{\hv@pdf@char 3}%
14461 \def\({}%
14462 \def\)}%
14463 \def\do##1{%
14464 \ifnum\catcode`##1=\active
14465 \@makeother##1%
14466 \else
14467 \ifnum\catcode`##1=6 %
14468 \@makeother##1%
14469 \fi
14470 \fi
14471 }%
14472 \dospecials
14473 \Hy@safe@activetrue
14474 \InputIfFileExists{jobname.out}{\}{\}%
14475 \endgroup
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 </vtex>
14486 <*\vtex>
14487 \def\ReadBookmarks{%
14488 \pdf@ifdraftmode{}{%
14489 \begingroup
14490 \def\do##1{%
14491 \ifnum\catcode`##1=\active
14492 \@makeother##1%
14493 \else
14494 \ifnum\catcode`##1=6 %
14495 \@makeother##1%
14496 \fi
14497 \fi
14498 }%
14499 \dospecials
14500 \Hy@safe@activetrue
14501 \escapechar=`\%
14502 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14503 \calc@bm@number{##5}%
14504 }%
14505 \InputIfFileExists{jobname.out}{\relax}{\relax}%
14506 \ifx\WriteBookmarks\relax
14507 \global\let\WriteBookmarks\relax
14508 \fi
14509 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14510 \def\Hy@temp{##4}%
14511 <*\pdfTeX>
14512 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14513 \Hy@OutlineName{}\Hy@pstringName{%
14514 ##2\check@bm@number{##3}}%
14515 }{%
14516 \expandafter\strip@prefix\meaning\Hy@temp
14517 }%
14518 </pdfTeX>
14519 <*\pdfmark>
14520 \pdfmark{%
14521 pdfmark=/OUT,%
14522 Count={##2\check@bm@number{##3}},%
14523 Dest={##3},%
14524 Title=\expandafter\strip@prefix\meaning\Hy@temp
14525 }%
14526 </pdfmark>
14527 <*\dviPDFM|xetex>
14528 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14529 \@pdfm@mark{%
14530 outline \ifHy@DviPDFMxOutlineOpen
14531 [%
14532 \ifnum##21>\z@
14533 \else
14534 -%
14535 \fi

```

```

14536         | %
14537         \fi
14538         ##1<<%
14539         /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14540         /A<<%
14541         /S/GoTo%
14542         /D(\Hy@pstringName)%
14543         >>%
14544         >>%
14545         }%
14546 </dvipdfm | xetex>
14547     }%
14548     \begingroup
14549     \def\WriteBookmarks{0}%
14550     \InputIfFileExists{jobname.out}{-}{-}%
14551     \endgroup
14552     {%\escapechar\m@ne\InputIfFileExists{jobname.out}{-}{-}}%
14553     \endgroup
14554 }%
14555 \ifx\WriteBookmarks\relax
14556 \else
14557     \if@files
14558     \newwrite\@outlinefile
14559     \Hy@OutlineRerunCheck
14560     \immediate\openout\@outlinefile=jobname.out\relax
14561     \fi
14562 \fi
14563 }
14564 (*pdfTeX)
14565 \def\Hy@OutlineName#1#2#3#4{%
14566     \pdfoutline goto name{#2}count#3{#4}%
14567 }
14568 </pdfTeX>
14569 \def\check@bm@number#1{%
14570     \expandafter\ifx\csname B_#1\endcsname\relax
14571     0%
14572     \else
14573     \csname B_#1\endcsname
14574     \fi
14575 }
14576 \def\calc@bm@number#1{%
14577     \@tempcnta=\check@bm@number{#1}\relax
14578     \advance\@tempcnta by 1 %
14579     \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
14580 }
14581 </!vTeX>
14582 \ifHy@implicit
14583 \else
14584     \expandafter\endinput
14585 \fi
14586 </outlines>
14587 (*outlines | hypertex)
14588 \newlength\Hy@SectionHShift

```

```

14589 \def\Hy@sectionAnchorHref#1{%
14590   \ifx\protect\@typeset@protect
14591     \Hy@@@sectionAnchor{#1}%
14592   \fi
14593 }
14594 \DeclareRobustCommand*{\Hy@@@sectionAnchor}[1]{%
14595   \leavevmode
14596   \hbox to 0pt{%
14597     \kern-\Hy@sectionHShift
14598     \Hy@raisedlink{%
14599       \hyper@anchorstart{#1}\hyper@anchorend
14600     }%
14601     \hss
14602   }%
14603 }
14604 \AddToNoCaseChangeList{\Hy@@@sectionAnchor}
14605 \@ifundefined{hyper@nopatch@sectioning}
14606 {
14607   \let\H@old@ssect\@ssect
14608   \def\@ssect#1#2#3#4#5{%
14609     \Hy@MakeCurrentHrefAuto{section*}%
14610     \setlength{\Hy@sectionHShift}{#1}%
14611     \begingroup
14612       \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14613       \toks\tw@\expandafter{%
14614         \expandafter\Hy@sectionAnchorHref\expandafter{\@currentHref}%
14615         #5%
14616       }%
14617     \edef\x{\endgroup
14618       \the\toks@\the\toks\tw@}%
14619   }\x
14620 }
14621 \let\H@old@schapter\@schapter
14622 \def\@schapter#1{%
14623   \begingroup
14624     \let\@mkboth\@gobbletwo
14625     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14626     \Hy@raisedlink{%
14627       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14628     }%
14629   \endgroup
14630   \H@old@schapter{#1}%
14631 }

```

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:

```

14632 \@ifundefined{@chapter}{\}{%
14633   \let\Hy@org@chapter\@chapter
14634   \def\@chapter{%
14635     \def\Hy@next{%
14636       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14637       \Hy@raisedlink{%
14638         \hyper@anchorstart{\@currentHref}\hyper@anchorend

```

```

14639 }%
14640 }%
14641 \ifnum\c@secnumdepth>\m@ne
14642 \@ifundefined{if@mainmatter}%
14643 \iftrue{\csname if@mainmatter\endcsname}%
14644 \let\Hy@next\relax
14645 \fi
14646 \fi
14647 \Hy@next
14648 \Hy@org@chapter
14649 }%
14650 }

14651 \let\H@old@part\@part
14652 \@ifundefined{chapter}
14653 {\let\Hy@secnum@part\z@}
14654 {\let\Hy@secnum@part\m@ne}
14655 \def\@part{%
14656 \ifnum\Hy@secnum@part>\c@secnumdepth
14657 \phantomsection
14658 \fi
14659 \H@old@part
14660 }

14661 \let\H@old@spart\@spart
14662 \def\@spart#1{%
14663 \Hy@MakeCurrentHrefAuto{part*}%
14664 \Hy@raisedlink{%
14665 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14666 }%
14667 \H@old@spart{#1}%
14668 }

14669 \let\H@old@sect\@sect
14670 \def\@sect#1#2#3#4#5#6[#7]#8{%
14671 \ifnum #2>\c@secnumdepth
14672 \expandafter\@firstoftwo
14673 \else
14674 \expandafter\@secondoftwo
14675 \fi
14676 {%
14677 \Hy@MakeCurrentHrefAuto{section*}%
14678 \setlength{\Hy@SectionHShift}{#3}%
14679 \begingroup
14680 \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]}%
14681 \toks\tw@\expandafter{%
14682 \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14683 #8%
14684 }%
14685 \edef\x{\endgroup
14686 \the\toks@\the\toks\tw@}%
14687 }\x
14688 }{%
14689 \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}[#7]{#8}%
14690 }%
14691 }

```

```

14692 }{}
14693 </outlines | hypertext>
14694 <*outlines>

14695 \expandafter\def\csname Parent-4\endcsname{}
14696 \expandafter\def\csname Parent-3\endcsname{}
14697 \expandafter\def\csname Parent-2\endcsname{}
14698 \expandafter\def\csname Parent-1\endcsname{}
14699 \expandafter\def\csname Parent0\endcsname{}
14700 \expandafter\def\csname Parent1\endcsname{}
14701 \expandafter\def\csname Parent2\endcsname{}
14702 \expandafter\def\csname Parent3\endcsname{}
14703 \expandafter\def\csname Parent4\endcsname{}

14704 </outlines>

```

47 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

47.1 PD1 encoding

```

14705 <*pd1enc>
14706 \DeclareFontEncoding{PD1}{}{}

Accents
14707 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
14708 \DeclareTextAccent{\'}{PD1}{\textacute}
14709 \DeclareTextAccent{\^}{PD1}{\textasciicircum}
14710 \DeclareTextAccent{\~}{PD1}{\texttilde}
14711 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
14712 \DeclareTextAccent{\r}{PD1}{\textring}
14713 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
14714 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
14715 \DeclareTextAccent{\c}{PD1}{\textcedilla}
14716 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
14717 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
14718 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
14719 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
14720 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
14721 \DeclareTextCompositeCommand{\^}{PD1}{\@empty}{\textasciicircum}
14722 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
14723 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
14724 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
14725 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
14726 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
14727 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
14728 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
14729 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
14730 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
14731 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
14732 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}
14733 \DeclareTextCompositeCommand{\^}{PD1}{\ }{\textasciicircum}

```

```

14734 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
14735 \DeclareTextCompositeCommand{"}{PD1}{\ }{\textasciidieresis}
14736 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textring}
14737 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
14738 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
14739 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
14740 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
14741 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
14742 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
14743 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
14744 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
14745 \DeclareTextCommand{\newtie}{PD1}[1]{%
14746 \TextSymbolUnavailable{\newtie{#1}}#1%
14747 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

14748 % U+0009 (CHARACTER TABULATION)
14749 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
14750 % U+000A (LINE FEED)
14751 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
14752 % U+000D (CARRIAGE RETURN)
14753 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

14754 % U+02D8 BREVE; breve
14755 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
14756 % U+02C7 CARON; caron
14757 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
14758 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
14759 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
14760 % U+02D9 DOT ABOVE; dotaccent
14761 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
14762 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
14763 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
14764 % U+02DB OGONEK; ogonek
14765 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
14766 % U+02DA RING ABOVE; ring
14767 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
14768 % U+02DC SMALL TILDE; ilde, *tilde
14769 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; *space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

14770 % U+0022 QUOTATION MARK; quotedbl

14771 \DeclareTextCommand{\textquotedbl}{PD1}{"}% \042 U+0022

14772 % U+0023 NUMBER SIGN; numbersign

14773 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023

14774 % U+0024 DOLLAR SIGN; dollar

14775 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024

14776 % U+0025 PERCENT SIGN; percent

14777 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025

14778 % U+0026 AMPERSAND; ampersand

14779 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

\047: U+0027 APOSTROPHE; quotesingle

14780 % U+0028 LEFT PARENTHESIS; parenleft
 14781 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028
 14782 % U+0029 RIGHT PARENTHESIS; parenright
 14783 \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
 14784 % U+002E FULL STOP; period
 14785 \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
 14786 % U+003C LESS-THAN SIGN; less
 14787 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C
 \075: U+003D EQUALS SIGN; equal
 14788 % U+003E GREATER-THAN SIGN; greater
 14789 \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
 14790 % U+005C REVERSE SOLIDUS; backslash
 14791 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
 14792 % "U+2216 SET MINUS" simulated by "U+005C REVERSE SOLIDUS"
 14793 \DeclareTextCommand{\textsetminus}{PD1}{\textbackslash}
 \135: U+005D RIGHT SQUARE BRACKET; bracketright
 14794 % U+005E CIRCUMFLEX ACCENT; asciicircum
 14795 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
 14796 % U+005F LOW LINE; underscore
 14797 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
 14798 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
 14799 % U+0060 GRAVE ACCENT; grave
 14800 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
 \141: U+0061 LATIN SMALL LETTER A; a
 ...
 \150: U+0068 LATIN SMALL LETTER H; h
 14801 % U+0069 LATIN SMALL LETTER I; i
 14802 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
 \152: U+006A LATIN SMALL LETTER J; j
 ...
 \172: U+007A LATIN SMALL LETTER Z; z
 14803 % U+007B LEFT CURLY BRACKET; braceleft
 14804 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B

14805 % U+007C VERTICAL LINE; *bar, verticalbar
 14806 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
 14807 % U+007D RIGHT CURLY BRACKET; braceright
 14808 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
 14809 % U+007E TILDE; asciitilde
 14810 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
 Slot \177 (0x7F) is undefined in PDFDocEncoding.
 14811 % U+2022 BULLET; bullet
 14812 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
 14813 % U+2020 DAGGER; dagger
 14814 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
 14815 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)
 14816 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
 14817 \DeclareTextCommand{\textddagger}{PD1}{\textdaggerdbl}
 14818 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 14819 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
 14820 % U+2014 EM DASH; emdash
 14821 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
 14822 % U+2013 EN DASH; endash
 14823 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
 14824 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 14825 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
 14826 % U+2044 FRACTION SLASH; fraction
 14827 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
 14828 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 ingleft
 14829 \DeclareTextCommand{\guilsingleft}{PD1}{\210}% U+2039
 14830 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
 ingright
 14831 \DeclareTextCommand{\guilsingright}{PD1}{\211}% U+203A
 14832 % U+2212 MINUS SIGN; minus
 14833 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
 14834 % U+2030 PER MILLE SIGN; perthousand
 14835 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
 14836 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 14837 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
 14838 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 14839 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
 14840 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 14841 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
 14842 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 14843 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
 14844 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 14845 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
 14846 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 14847 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
 14848 % U+2122 TRADE MARK SIGN; trademark
 14849 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
 14850 % U+FB01 LATIN SMALL LIGATURE FI; fi
 14851 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
 14852 % U+FB02 LATIN SMALL LIGATURE FL; fl
 14853 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
 14854 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
 14855 \DeclareTextCommand{\L}{PD1}{\225}% U+0141

14856 % U+0152 LATIN CAPITAL LIGATURE OE; OE
 14857 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
 14858 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
 14859 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
 14860 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 14861 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178
 14862 \DeclareTextCommand{\IJ}{PD1}{IJ}% ligature U+0049 U+004A
 14863 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 14864 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
 14865 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
 14866 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
 14867 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
 14868 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
 14869 % U+0153 LATIN SMALL LIGATURE OE; oe
 14870 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
 14871 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
 14872 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
 14873 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 14874 \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.
 14875 % U+20AC EURO SIGN; *Euro, euro
 14876 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
 14877 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 14878 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
 14879 % U+00A2 CENT SIGN; cent
 14880 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
 14881 % U+00A3 POUND SIGN; sterling
 14882 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
 14883 % U+00A4 CURRENCY SIGN; currency
 14884 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
 14885 % U+00A5 YEN SIGN; yen
 14886 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
 14887 % U+00A6 BROKEN BAR; brokenbar
 14888 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
 14889 % U+00A7 SECTION SIGN; section
 14890 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
 14891 % U+00A8 DIAERESIS; dieresis
 14892 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
 14893 % U+00A9 COPYRIGHT SIGN; copyright
 14894 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
 14895 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 14896 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
 14897 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetleft
 14898 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
 14899 \DeclareTextCommand{\guillemetleft}{PD1}{\253}% U+00AB
 14900 % U+00AC NOT SIGN; logicalnot
 14901 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
 14902 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not
 No glyph \255 in PDFDocEncoding.
 14903 % U+00AE REGISTERED SIGN; registered
 14904 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
 14905 % U+00AF MACRON; *macron, overscore

14906 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
14907 % U+00B0 DEGREE SIGN; degree
14908 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
14909 % U+00B1 PLUS-MINUS SIGN; plusminus
14910 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
14911 % U+00B2 SUPERSCRIPT TWO; twosuperior
14912 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}%* U+00B2
14913 % U+00B3 SUPERSCRIPT THREE; threesuperior
14914 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}%* U+00B3
14915 % U+00B4 ACUTE ACCENT; acute
14916 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
14917 % U+00B5 MICRO SIGN; mu, mul
14918 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
14919 % U+00B6 PILCROW SIGN; paragraph
14920 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
14921 % U+00B7 MIDDLE DOT; middot, *periodcentered
14922 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
14923 % U+00B8 CEDILLA; cedilla
14924 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
14925 % U+00B9 SUPERSCRIPT ONE; onesuperior
14926 \DeclareTextCommand{\textonesuperior}{PD1}{\271}%* U+00B9
14927 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
14928 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
14929 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetright
14930 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
14931 \DeclareTextCommand{\guillemetright}{PD1}{\273}% U+00BB
14932 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
14933 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
14934 % U+00BD VULGAR FRACTION ONE HALF; onehalf
14935 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
14936 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
14937 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
14938 % U+00BF INVERTED QUESTION MARK; questiondown
14939 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
14940 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
14941 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
14942 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
14943 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
14944 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
14945 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
14946 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
14947 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
14948 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
14949 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
14950 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
14951 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
14952 % U+00C6 LATIN CAPITAL LETTER AE; AE
14953 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
14954 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
14955 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
14956 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
14957 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
14958 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
14959 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9

14960 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
14961 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA
14962 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
14963 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB
14964 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
14965 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
14966 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
14967 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD
14968 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
14969 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE
14970 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
14971 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF
14972 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
14973 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
14974 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
14975 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
14976 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
14977 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
14978 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
14979 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
14980 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
14981 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
14982 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
14983 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
14984 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
14985 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
14986 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6
14987 % U+00D7 MULTIPLICATION SIGN; multiply
14988 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
14989 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
14990 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
14991 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
14992 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9
14993 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
14994 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA
14995 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
14996 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB
14997 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
14998 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC
14999 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
15000 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD
15001 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)
15002 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
15003 \DeclareTextCommand{\textThorn}{PD1}{\336}%* U+00DE
15004 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
15005 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
15006 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
15007 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0
15008 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
15009 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1
15010 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
15011 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2
15012 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
15013 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3

15014 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
15015 \DeclareTextCompositeCommand{"}{PD1}{a}{\344}% U+00E4
15016 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
15017 \DeclareTextCompositeCommand{r}{PD1}{a}{\345}% U+00E5
15018 % U+00E6 LATIN SMALL LETTER AE; ae
15019 \DeclareTextCommand{ae}{PD1}{\346}% U+00E6
15020 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
15021 \DeclareTextCompositeCommand{c}{PD1}{c}{\347}% U+00E7
15022 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
15023 \DeclareTextCompositeCommand`}{PD1}{e}{\350}% U+00E8
15024 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
15025 \DeclareTextCompositeCommand'}{PD1}{e}{\351}% U+00E9
15026 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
15027 \DeclareTextCompositeCommand{^}{PD1}{e}{\352}% U+00EA
15028 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
15029 \DeclareTextCompositeCommand{"}{PD1}{e}{\353}% U+00EB
15030 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
15031 \DeclareTextCompositeCommand`}{PD1}{i}{\354}% U+00EC
15032 \DeclareTextCompositeCommand{^}{PD1}{i}{\354}% U+00EC
15033 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
15034 \DeclareTextCompositeCommand'}{PD1}{i}{\355}% U+00ED
15035 \DeclareTextCompositeCommand{^}{PD1}{i}{\355}% U+00ED
15036 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
15037 \DeclareTextCompositeCommand{^}{PD1}{i}{\356}% U+00EE
15038 \DeclareTextCompositeCommand{^}{PD1}{i}{\356}% U+00EE
15039 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
15040 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF
15041 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF
15042 % U+00F0 LATIN SMALL LETTER ETH; eth
15043 \DeclareTextCommand{dh}{PD1}{\360}% U+00F0
15044 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
15045 \DeclareTextCompositeCommand{~}{PD1}{n}{\361}% U+00F1
15046 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
15047 \DeclareTextCompositeCommand`}{PD1}{o}{\362}% U+00F2
15048 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
15049 \DeclareTextCompositeCommand'}{PD1}{o}{\363}% U+00F3
15050 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
15051 \DeclareTextCompositeCommand{^}{PD1}{o}{\364}% U+00F4
15052 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
15053 \DeclareTextCompositeCommand{~}{PD1}{o}{\365}% U+00F5
15054 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
15055 \DeclareTextCompositeCommand{"}{PD1}{o}{\366}% U+00F6
15056 % U+00F7 DIVISION SIGN; divide
15057 \DeclareTextCommand{textdivide}{PD1}{\367}% U+00F7
15058 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
15059 \DeclareTextCommand{o}{PD1}{\370}% U+00F8
15060 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
15061 \DeclareTextCompositeCommand`}{PD1}{u}{\371}% U+00F9
15062 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
15063 \DeclareTextCompositeCommand'}{PD1}{u}{\372}% U+00FA
15064 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
15065 \DeclareTextCompositeCommand{^}{PD1}{u}{\373}% U+00FB
15066 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
15067 \DeclareTextCompositeCommand{"}{PD1}{u}{\374}% U+00FC

```

15068 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
15069 \DeclareTextCompositeCommand{\'}{PD1}{y}{\375}% U+00FD
15070 % U+00FE LATIN SMALL LETTER THORN; thorn; \th, \thorn (wasysym)
15071 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
15072 \DeclareTextCommand{\textthorn}{PD1}{\376}%* U+00FE
15073 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
15074 \DeclareTextCompositeCommand{"}{PD1}{y}{\377}% U+00FF
15075 \DeclareTextCommand{\ij}{PD1}{ij}% ligature U+0069 U+006A

```

Glyphs that consist of several characters.

```

15076 \DeclareTextCommand{\SS}{PD1}{SS}%
15077 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}%

```

Aliases (german.sty)

```

15078 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}%
15079 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}%
15080 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}%
15081 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}%
15082 \DeclareTextCommand{\textflqq}{PD1}{\guillemetleft}%
15083 \DeclareTextCommand{\textfrqq}{PD1}{\guillemetright}%
15084 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}%
15085 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}%

```

Aliases (math names)

```

15086 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}%
15087 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}%
15088 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}%
15089 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}%
15090 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}%
15091 \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).

```

15092 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
15093 \DeclareTextCompositeCommand{'}{PD1}{c}{c}% cacute
15094 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
15095 \DeclareTextCompositeCommand{'}{PD1}{n}{n}% nacute
15096 \DeclareTextCompositeCommand{'}{PD1}{s}{s}% sacute
15097 \DeclareTextCompositeCommand{'}{PD1}{z}{z}% zacute
15098 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
15099 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
15100 \DeclareTextCompositeCommand{'}{PD1}{C}{C}% Cacute
15101 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
15102 \DeclareTextCompositeCommand{'}{PD1}{N}{N}% Nacute
15103 \DeclareTextCompositeCommand{'}{PD1}{S}{S}% Sacute
15104 \DeclareTextCompositeCommand{'}{PD1}{Z}{Z}% Zacute
15105 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

```

```

15106 </pd1enc>

```

47.2 PU encoding

```

15107 <*puenc>
15108 \DeclareFontEncoding{PU}{}{}

```

47.2.1 NFSS2 accents

15109 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
15110 \DeclareTextCommand{\`}{PU}[1]{#1\83\000}% U+0300
15111 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
15112 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
15113 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
15114 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
15115 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
15116 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
15117 % U+0304 COMBINING MACRON; macroncmb
15118 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
15119 % U+0306 COMBINING BREVE; brevecmb
15120 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
15121 \ifx\CYRDZE\@undefined \else
15122 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
15123 \fi
15124 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
15125 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
15126 % U+0308 COMBINING DIAERESIS; dieresiscmb
15127 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
15128 % U+030A COMBINING RING ABOVE; ringcmb
15129 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
15130 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
15131 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
15132 % U+030C COMBINING CARON; caroncmb
15133 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
15134 \puenc
15135 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
15136 \puextra\DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
15137 *puenc
15138 \ifx\CYRDZE\@undefined \else
15139 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
15140 \fi
15141 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
15142 \DeclareTextCommand{\textinvbreve}{PU}[1]{#1\83\021}% U+0311
15143 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
15144 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
15145 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
15146 % U+0324 COMBINING DIAERESIS BELOW; dieresisbelowcmb; \textsubum-
laut (tipa)
15147 \DeclareTextCommand{\textsubumlaut}{PU}[1]{#1\83\044}% U+0324
15148 % U+0325 COMBINING RING BELOW; ringbelowcmb; \textsubring (tipa)
15149 \DeclareTextCommand{\textsubring}{PU}[1]{#1\83\045}% U+0325
15150 % U+0327 COMBINING CEDILLA; cedillacmb
15151 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
15152 % U+0328 COMBINING OGONEK; ogonekcmb
15153 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
15154 % U+032D COMBINING CIRCUMFLEX ACCENT BELOW;
15155 % \textsubcircum (tipa)
15156 \DeclareTextCommand{\textsubcircum}{PU}[1]{#1\83\055}% U+032D
15157 % U+032E COMBINING BREVE BELOW; brevebelowcmb
15158 \DeclareTextCommand{\textsubbreve}{PU}[1]{#1\83\056}% U+032E
15159 % U+0330 COMBINING TILDE BELOW; tildebelowcmb; \textsubtilde (tipa)
15160 \DeclareTextCommand{\textsubtilde}{PU}[1]{#1\83\060}% U+0330
15161 % U+0331 COMBINING MACRON BELOW; macronbelowcmb

```

15162 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
15163 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-
      blecmb
15164 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
15165 % U+20DD COMBINING ENCLOSING CIRCLE
15166 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

```

Double accents.

```

15167 \DeclareTextCommand{\textacutemacron}{PU}[1]{#1\83\001\83\004}% U+0301 U+0304
15168 \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.

```

15169 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}%
15170 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}%
15171 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}%
15172 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}%
15173 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}%
15174 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}%
15175 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}%
15176 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}%
15177 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}%
15178 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}%
15179 \puenc)
15180 \puextra)\DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}%
15181 \*puenc)
15182 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}%
15183 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}%
15184 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}%
15185 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\@empty}{\83\021}% U+0311
15186 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\@empty}{\83\044}% U+0324
15187 \DeclareTextCompositeCommand{\textsubring}{PU}{\@empty}{\textringlow}%
15188 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\@empty}{\textcircum-
      low}%
15189 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\@empty}{\83\056}% U+032E
15190 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\@empty}{\texttildebelow}%
15191 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}%
15192 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}%
15193 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}%
15194 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}%
15195 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}%
15196 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\@empty}{\83\001\83\004}% U+0301 U
15197 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\@empty}{\83\000\83\004}% U+0300 U
15198 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciigrave}%
15199 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}%
15200 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}%
15201 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}%
15202 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}%
15203 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}%
15204 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}%
15205 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}%
15206 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}%
15207 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}%
15208 \puenc)
15209 \puextra)\DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}%

```

15210 `\puenc`
 15211 `\DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}%`
 15212 `\DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}%`
 15213 `\DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}%`
 15214 `\DeclareTextCompositeCommand{\textinvbreve}{PU}{\ }{\ \83\021}}% U+0311`
 15215 `\DeclareTextCompositeCommand{\textsubumlaut}{PU}{\ }{\ \83\044}}% U+0324`
 15216 `\DeclareTextCompositeCommand{\textsubring}{PU}{\ }{\textringlow}%`
 15217 `\DeclareTextCompositeCommand{\textsubcircum}{PU}{\ }{\textcircumlow}%`
 15218 `\DeclareTextCompositeCommand{\textsubbreve}{PU}{\ }{\ \83\056}}% U+032E`
 15219 `\DeclareTextCompositeCommand{\textsubtilde}{PU}{\ }{\texttildelow}%`
 15220 `\DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}%`
 15221 `\DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}%`
 15222 `\DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}%`
 15223 `\DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}%`
 15224 `\DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}%`
 15225 `\DeclareTextCompositeCommand{\textacutemacron}{PU}{\ }{\ \83\001\83\004}}% U+0301 U+0304`
 15226 `\DeclareTextCompositeCommand{\textgravemacron}{PU}{\ }{\ \83\000\83\004}}% U+0300 U+0304`

Accents for capitals (see encoding TS1)

15227 `\DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}%`
 15228 `\DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}%`
 15229 `\DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}%`
 15230 `\DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}%`
 15231 `\DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}%`
 15232 `\DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}%`
 15233 `\DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}%`
 15234 `\DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}%`
 15235 `\DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}%`
 15236 `\DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}%`
 15237 `\DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}%`
 15238 `\DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}%`
 15239 `\DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}%`
 15240 `\DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}%`
 15241 `\DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}%`

47.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

15242 `% U+0009 (CHARACTER TABULATION)`
 15243 `\DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009`
 15244 `% U+000A (LINE FEED)`
 15245 `\DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A`
 15246 `% U+000D (CARRIAGE RETURN)`
 15247 `\DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D`
 \80\040: U+0020 SPACE; space, spacehackarabic
 \80\041: U+0021 EXCLAMATION MARK; exclam
 15248 `% U+0022 QUOTATION MARK; quotedbl`
 15249 `\DeclareTextCommand{\textquotedbl}{PU}{\"}% \80\042 U+0022`
 15250 `% U+0023 NUMBER SIGN; numbersign`
 15251 `\DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023`
 15252 `% U+0024 DOLLAR SIGN; dollar`
 15253 `\DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024`
 15254 `%* \textdollar -> \mathdollar`
 15255 `%* \textdollar -> \EyesDollar (marvosym)`
 15256 `% U+0025 PERCENT SIGN; percent`

15257 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
15258 % U+0026 AMPERSAND; ampersand
15259 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
15260 %* \textampersand -> \binampersand (stmaryrd)
15261 %* \textampersand -> \with (cml)
15262 % U+0027 APOSTROPHE; quotesingle
15263 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
15264 % U+0028 LEFT PARENTHESIS; parenleft
15265 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
15266 % U+0029 RIGHT PARENTHESIS; parenright
15267 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
15268 % U+002A ASTERISK; asterisk; (?)
15269 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A
15270 % U+002B PLUS SIGN; plus; \MVPlus (marvosym)
15271 \DeclareTextCommand{\textMVPlus}{PU}{\80\053}%* U+002B
15272 % U+002C COMMA; comma; \MVComma (marvosym)
15273 \DeclareTextCommand{\textMVComma}{PU}{\80\054}%* U+002C
15274 % U+002D HYPHEN-MINUS; hyphen; \MVMinus (marvosym)
15275 \DeclareTextCommand{\textMVMinus}{PU}{\80\055}%* U+002D
15276 % U+002E FULL STOP; period; \MVPeriod (marvosym)
15277 \DeclareTextCommand{\textMVPeriod}{PU}{\80\056}%* U+002E
15278 % U+002F SOLIDUS; slash; \MVDivision (marvosym)
15279 \DeclareTextCommand{\textMVDivision}{PU}{\80\057}%* U+002F
15280 % U+0030 DIGIT ZERO; zero; \MVZero (marvosym)
15281 \DeclareTextCommand{\textMVZero}{PU}{\80\060}%* U+0030
15282 % U+0031 DIGIT ONE; one; \MVOne (marvosym)
15283 \DeclareTextCommand{\textMVOne}{PU}{\80\061}%* U+0031
15284 % U+0032 DIGIT TWO; two; \MVTwo (marvosym)
15285 \DeclareTextCommand{\textMVTwo}{PU}{\80\062}%* U+0032
15286 % U+0033 DIGIT THREE; three; \MVThree (marvosym)
15287 \DeclareTextCommand{\textMVThree}{PU}{\80\063}%* U+0033
15288 % U+0034 DIGIT FOUR; four; \MVFour (marvosym)
15289 \DeclareTextCommand{\textMVFour}{PU}{\80\064}%* U+0034
15290 % U+0035 DIGIT FIVE; five; \MVFive (marvosym)
15291 \DeclareTextCommand{\textMVFive}{PU}{\80\065}%* U+0035
15292 % U+0036 DIGIT SIX; six; \MVSix (marvosym)
15293 \DeclareTextCommand{\textMVSix}{PU}{\80\066}%* U+0036
15294 % U+0037 DIGIT SEVEN; seven; \MVSeven (marvosym)
15295 \DeclareTextCommand{\textMVSeven}{PU}{\80\067}%* U+0037
15296 % U+0038 DIGIT EIGHT; eight; \MVEight (marvosym)
15297 \DeclareTextCommand{\textMVEight}{PU}{\80\070}%* U+0038
15298 % U+0039 DIGIT NINE; nine; \MVNine (marvosym)
15299 \DeclareTextCommand{\textMVNine}{PU}{\80\071}%* U+0039

\80\072: U+003A COLON; colon
\80\073: U+003B SEMICOLON; semicolon

15300 % U+003C LESS-THAN SIGN; less
15301 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C

\80\075: U+003D EQUALS SIGN; equal

15302 % U+003E GREATER-THAN SIGN; greater
15303 \DeclareTextCommand{\textgreater}{PU}{>}% \80\076 U+003E

\80\077: U+003F QUESTION MARK; question

15304 % U+0040 COMMERCIAL AT; at; \MVAt (marvosym)

```

15305 \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
15306 % U+005C REVERSE SOLIDUS; backslash
15307 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C
\80\135: U+005D RIGHT SQUARE BRACKET; bracketright
15308 % U+005E CIRCUMFLEX ACCENT; asciicircum
15309 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
15310 % U+005F LOW LINE; underscore
15311 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
15312 %* \textunderscore -> \mathunderscore (LaTeX)
15313 % U+0060 GRAVE ACCENT; grave
15314 \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
15315 % U+0069 LATIN SMALL LETTER I; i
15316 \DeclareTextCompositeCommand{\.}{PU}{i}{i}% \80\151 U+0069
15317 \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
15318 % U+007B LEFT CURLY BRACKET; braceleft
15319 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
15320 % U+007C VERTICAL LINE; *bar, verticalbar
15321 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
15322 %* \textbar -> \textvtrline (tipa)
15323 % U+007D RIGHT CURLY BRACKET; braceright
15324 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
15325 % U+007E TILDE; asciitilde
15326 \DeclareTextCommand{\textasciitilde}{PU}{\80\176}% U+007E

```

47.2.3 Latin-1 Supplement: U+0080 to U+00FF

```

\80\240: U+00A0 NO-BREAK SPACE; nbspace, nonbreakingspace
15327 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
15328 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
15329 % U+00A2 CENT SIGN; cent
15330 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
15331 % U+00A3 POUND SIGN; sterling
15332 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
15333 %* \textsterling -> \mathsterling (LaTeX)
15334 %* \textsterling -> \pounds (LaTeX)
15335 % U+00A4 CURRENCY SIGN; currency
15336 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
15337 % U+00A5 YEN SIGN; yen
15338 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
15339 % U+00A6 BROKEN BAR; brokenbar
15340 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6

```

15341 %* \textbrokenbar -> \brokenvert (wasysym)
15342 % U+00A7 SECTION SIGN; section
15343 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
15344 %* \textsection -> \mathsection (LaTeX)
15345 %* \textsection -> \S (LaTeX)
15346 % U+00A8 DIAERESIS; dieresis
15347 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
15348 % U+00A9 COPYRIGHT SIGN; copyright
15349 \DeclareTextCommand{\textcopyright}{PU}{\80\251}%* U+00A9
15350 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
15351 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
15352 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetleft
15353 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
15354 \DeclareTextCommand{\guillemetleft}{PU}{\80\253}% U+00AB
15355 % U+00AC NOT SIGN; logicalnot
15356 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
15357 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
\80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
15358 % U+00AE REGISTERED SIGN; registered
15359 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
15360 % U+00AF MACRON; *macron, overscore
15361 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
15362 % U+00B0 DEGREE SIGN; degree
15363 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
15364 % U+00B1 PLUS-MINUS SIGN; plusminus
15365 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
15366 % U+00B2 SUPERSCRIPT TWO; twosuperior
15367 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}%* U+00B2
15368 % U+00B3 SUPERSCRIPT THREE; threesuperior
15369 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}%* U+00B3
15370 % U+00B4 ACUTE ACCENT; acute
15371 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
15372 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4
15373 % U+00B5 MICRO SIGN; mu, mu1
15374 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
15375 % U+00B6 PILCROW SIGN; paragraph
15376 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
15377 %* \textparagraph -> \mathparagraph (LaTeX)
15378 % U+00B7 MIDDLE DOT; middot, *periodcentered
15379 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
15380 %* \textperiodcentered -> \MultiplicationDot (marvosym)
15381 %* \textperiodcentered -> \Squaredot (marvosym)
15382 % U+00B8 CEDILLA; cedilla
15383 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
15384 % U+00B9 SUPERSCRIPT ONE; onesuperior
15385 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}%* U+00B9
15386 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
15387 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
15388 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetright
15389 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
15390 \DeclareTextCommand{\guillemetright}{PU}{\80\273}% U+00BB
15391 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
15392 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
15393 % U+00BD VULGAR FRACTION ONE HALF; onehalf

15394 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
15395 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
15396 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
15397 % U+00BF INVERTED QUESTION MARK; questiondown
15398 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
15399 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
15400 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
15401 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
15402 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
15403 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
15404 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
15405 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
15406 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
15407 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
15408 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4
15409 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
15410 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
15411 % U+00C6 LATIN CAPITAL LETTER AE; AE
15412 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
15413 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
15414 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
15415 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
15416 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
15417 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
15418 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
15419 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
15420 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
15421 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
15422 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
15423 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
15424 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
15425 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
15426 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
15427 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
15428 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
15429 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
15430 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF
15431 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
15432 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
15433 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
15434 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
15435 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
15436 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
15437 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
15438 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
15439 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
15440 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4
15441 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
15442 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
15443 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
15444 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6
15445 % U+00D7 MULTIPLICATION SIGN; multiply
15446 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
15447 %* \textmultiply -> \vartimes (stmaryrd)

15448 %* \textmultiply -> \MVMultiplication (marvosym)
15449 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
15450 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
15451 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
15452 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
15453 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
15454 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
15455 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
15456 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB
15457 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
15458 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC
15459 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
15460 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
15461 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)
15462 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
15463 \DeclareTextCommand{\textThorn}{PU}{\80\336}%* U+00DE
15464 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
15465 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
15466 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
15467 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
15468 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
15469 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
15470 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
15471 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2
15472 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
15473 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
15474 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
15475 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4
15476 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
15477 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
15478 % U+00E6 LATIN SMALL LETTER AE; ae
15479 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
15480 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
15481 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
15482 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
15483 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
15484 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
15485 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
15486 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
15487 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA
15488 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
15489 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB
15490 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
15491 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
15492 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\354}% U+00EC
15493 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
15494 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
15495 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\355}% U+00ED
15496 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
15497 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
15498 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
15499 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
15500 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF
15501 \DeclareTextCompositeCommand{\"}{PU}{i}{\80\357}% U+00EF

15502 % U+00F0 LATIN SMALL LETTER ETH; eth
 15503 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
 15504 %* \dh -> \eth (wsuipa, phonetic)
 15505 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntild
 15506 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1
 15507 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
 15508 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2
 15509 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
 15510 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
 15511 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
 15512 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4
 15513 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otild
 15514 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
 15515 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
 15516 \DeclareTextCompositeCommand{\"}{PU}{o}{\80\366}% U+00F6
 15517 % U+00F7 DIVISION SIGN; divide
 15518 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
 15519 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
 15520 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
 15521 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
 15522 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9
 15523 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
 15524 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
 15525 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 15526 \DeclareTextCompositeCommand{\^}{PU}{u}{\80\373}% U+00FB
 15527 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 15528 \DeclareTextCompositeCommand{\"}{PU}{u}{\80\374}% U+00FC
 15529 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 15530 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
 15531 % U+00FE LATIN SMALL LETTER THORN; thorn;
 15532 % \th, \thorn (wasysym), \textthorn (tipa)
 15533 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
 15534 \DeclareTextCommand{\textthorn}{PU}{\80\376}%* U+00FE
 15535 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 15536 \DeclareTextCompositeCommand{\"}{PU}{y}{\80\377}% U+00FF

47.2.4 Latin Extended-A: U+0080 to U+017F

15537 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
 15538 \DeclareTextCompositeCommand{=} {PU}{A}{\81\000}% U+0100
 15539 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
 15540 \DeclareTextCompositeCommand{=} {PU}{a}{\81\001}% U+0101
 15541 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
 15542 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
 15543 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
 15544 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
 15545 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
 15546 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
 15547 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
 15548 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
 15549 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
 15550 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
 15551 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
 15552 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107

15553 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
15554 \DeclareTextCompositeCommand{\~}{PU}{C}{\81\010}% U+0108
15555 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
15556 \DeclareTextCompositeCommand{\~}{PU}{c}{\81\011}% U+0109
15557 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotaccent
cent
15558 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
15559 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
15560 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
15561 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
15562 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
15563 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
15564 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
15565 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
15566 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
15567 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
15568 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
15569 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
15570 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
15571 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron;
15572 % \textcrd (tipa)
15573 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
15574 \DeclareTextCommand{\textcrd}{PU}{\81\021}% U+0111
15575 %* \textcrd -> \crossd (wsuipa)
15576 % An alternate glyph with the stroke through the bowl:
15577 %* \textcrd -> \textbard (tipa)
15578 %* \textcrd -> \bard (wsuipa)
15579 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
15580 \DeclareTextCompositeCommand{=}{PU}{E}{\81\022}% U+0112
15581 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
15582 \DeclareTextCompositeCommand{=}{PU}{e}{\81\023}% U+0113
15583 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
15584 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
15585 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
15586 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
15587 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
15588 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
15589 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
15590 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
15591 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
15592 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
15593 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
15594 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
15595 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
15596 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
15597 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
15598 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
15599 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
15600 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
15601 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
15602 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
15603 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
15604 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
15605 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve

15606 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
15607 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
15608 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
15609 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
15610 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
15611 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent
15612 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
15613 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
15614 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
15615 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
15616 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
15617 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
15618 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
15619 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
15620 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
15621 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar; \hbar (Ams)
15622 \DeclareTextCommand{\textthbar}{PU}{\81\047}%* U+0127
15623 %* \textthbar -> \textcrh (tipa)
15624 %* \textthbar -> \crossh (wsuipa)
15625 %* \textthbar -> \planck (phonetic)
15626 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
15627 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
15628 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
15629 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
15630 \DeclareTextCompositeCommand{\~}{PU}{\i}{\81\051}% U+0129
15631 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
15632 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
15633 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
15634 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
15635 \DeclareTextCompositeCommand{\=}{PU}{\i}{\81\053}% U+012B
15636 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
15637 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
15638 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
15639 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
15640 \DeclareTextCompositeCommand{\u}{PU}{\i}{\81\055}% U+012D
15641 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
15642 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
15643 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
15644 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
15645 \DeclareTextCompositeCommand{\k}{PU}{\i}{\81\057}% U+012F
15646 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
15647 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
15648 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
15649 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
15650 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
15651 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
15652 % U+0133 LATIN SMALL LIGATURE IJ; ij
15653 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
15654 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
15655 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
15656 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
15657 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135

15658 \DeclareTextCompositeCommand{\~}{PU}{j}{\81\065}% U+0135
15659 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent
cent
15660 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
15661 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
15662 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067}% U+0137

The canonical name of U+0138, small letter kra, would be `\textkgreenlandic`, following the glyph naming convention. However `latex/base/inputenc.dtx` has chosen `\textkra`.

15663 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
15664 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
15665 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
15666 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
15667 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
15668 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
15669 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent
cent
15670 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
15671 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
15672 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
15673 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
15674 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
15675 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
15676 \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`.

15677 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotaccent
cent
15678 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
15679 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
15680 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
15681 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
15682 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
15683 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
15684 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
15685 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
15686 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
15687 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
15688 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
15689 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaaccent
cent
15690 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
15691 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
15692 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
15693 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
15694 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
15695 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
15696 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
15697 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napostrophe, quoterightn
15698 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
15699 % U+014A LATIN CAPITAL LETTER ENG; Eng

15700 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
15701 % U+014B LATIN SMALL LETTER ENG; eng
15702 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
15703 %* \ng -> \eng (wsuipa)
15704 %* \ng -> \engma (phonetic)
15705 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
15706 \DeclareTextCompositeCommand{=} {PU}{O}{\81\114}% U+014C
15707 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
15708 \DeclareTextCompositeCommand{=} {PU}{o}{\81\115}% U+014D
15709 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
15710 \DeclareTextCompositeCommand{\u} {PU}{O}{\81\116}% U+014E
15711 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
15712 \DeclareTextCompositeCommand{\u} {PU}{o}{\81\117}% U+014F
15713 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odblacute, Ohungarumlaut
15714 \DeclareTextCompositeCommand{\H} {PU}{O}{\81\120}% U+0150
15715 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odblacute, ohungarumlaut
15716 \DeclareTextCompositeCommand{\H} {PU}{o}{\81\121}% U+0151
15717 % U+0152 LATIN CAPITAL LIGATURE OE; OE
15718 \DeclareTextCommand{\OE} {PU}{\81\122}% U+0152
15719 % U+0153 LATIN SMALL LIGATURE OE; oe
15720 \DeclareTextCommand{\oe} {PU}{\81\123}% U+0153
15721 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
15722 \DeclareTextCompositeCommand{' } {PU}{R}{\81\124}% U+0154
15723 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
15724 \DeclareTextCompositeCommand{' } {PU}{r}{\81\125}% U+0155
15725 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaaccent
15726 \DeclareTextCompositeCommand{\c} {PU}{R}{\81\126}% U+0156
15727 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
15728 \DeclareTextCompositeCommand{\c} {PU}{r}{\81\127}% U+0157
15729 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
15730 \DeclareTextCompositeCommand{\v} {PU}{R}{\81\130}% U+0158
15731 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
15732 \DeclareTextCompositeCommand{\v} {PU}{r}{\81\131}% U+0159
15733 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
15734 \DeclareTextCompositeCommand{' } {PU}{S}{\81\132}% U+015A
15735 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
15736 \DeclareTextCompositeCommand{' } {PU}{s}{\81\133}% U+015B
15737 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
15738 \DeclareTextCompositeCommand{\^} {PU}{S}{\81\134}% U+015C
15739 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
15740 \DeclareTextCompositeCommand{\^} {PU}{s}{\81\135}% U+015D
15741 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
15742 \DeclareTextCompositeCommand{\c} {PU}{S}{\81\136}% U+015E
15743 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
15744 \DeclareTextCompositeCommand{\c} {PU}{s}{\81\137}% U+015F
15745 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
15746 \DeclareTextCompositeCommand{\v} {PU}{S}{\81\140}% U+0160
15747 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
15748 \DeclareTextCompositeCommand{\v} {PU}{s}{\81\141}% U+0161
15749 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent

15750 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
15751 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
15752 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
15753 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
15754 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
15755 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
15756 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
15757 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
15758 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
15759 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
15760 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
15761 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
15762 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
15763 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
15764 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
15765 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
15766 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
15767 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
15768 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
15769 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
15770 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
15771 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
15772 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
15773 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
15774 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
15775 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
15776 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
15777 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut
15778 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
15779 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut
15780 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
15781 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
15782 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
15783 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
15784 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
15785 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
15786 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
15787 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
15788 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
15789 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
15790 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
15791 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
15792 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
15793 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
15794 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
15795 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
15796 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
15797 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
15798 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A
15799 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
15800 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
15801 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent

15802 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
 15803 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 15804 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
 15805 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 15806 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
 15807 % U+017F LATIN SMALL LETTER LONG S; longs, slong
 15808 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

47.2.5 Latin Extended-B: U+0180 to U+024F

15809 % U+0180 LATIN SMALL LETTER B WITH STROKE; bstroke; \textcrb (tipa)
 15810 \DeclareTextCommand{\textcrb}{PU}{\81\200}% U+0180
 15811 %* \textcrb -> \crossb (wsuipa)
 15812 % An alternate glyph with the stroke through the bowl:
 15813 %* \textcrb -> \textbarb (tipa)
 15814 %* \textcrb -> \barb (wsuipa)
 15815 % U+0181 LATIN CAPITAL LETTER B WITH HOOK; Bhook; \hausaB (pho-
 netic)
 15816 \DeclareTextCommand{\texthausaB}{PU}{\81\201}%* U+0181
 15817 % U+0188 LATIN SMALL LETTER C WITH HOOK; chook; \texthtc (tipa)
 15818 \DeclareTextCommand{\texthtc}{PU}{\81\210}% U+0188
 15819 % U+018A LATIN CAPITAL LETTER D WITH HOOK; Dhook; \hausaD (pho-
 netic)
 15820 \DeclareTextCommand{\texthausaD}{PU}{\81\212}%* U+018A
 15821 % U+018E LATIN CAPITAL LETTER REVERSED E; Eversed
 15822 \DeclareTextCommand{\textEversed}{PU}{\81\216}% U+018E
 15823 \DeclareTextCommand{\textrevE}{PU}{\81\216}% U+018E
 15824 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 15825 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
 15826 %* \textflorin -> \Florin (marvosym)
 15827 % U+0195 LATIN SMALL LETTER HV; hv; \texthvlig (tipa)
 15828 \DeclareTextCommand{\texthvlig}{PU}{\81\225}% U+0195
 15829 %* \texthvlig -> \hv (wsuipa)
 15830 % U+0198 LATIN CAPITAL LETTER K WITH HOOK; Khook; \hausaK (pho-
 netic)
 15831 \DeclareTextCommand{\texthausaK}{PU}{\81\230}%* U+0198
 15832 % U+0199 LATIN SMALL LETTER K WITH HOOK; khook; \texthtk (tipa)
 15833 \DeclareTextCommand{\texthtk}{PU}{\81\231}% U+0199
 15834 %* \texthtk -> \hausak (phonetic)
 15835 % U+019A LATIN SMALL LETTER L WITH BAR; lbar;
 15836 % \textbarl (tipa), \barl (wsuipa)
 15837 \DeclareTextCommand{\textbarl}{PU}{\81\232}%* U+019A
 15838 % U+019B LATIN SMALL LETTER LAMBDA WITH STROKE/
 15839 % LATIN SMALL LETTER BARRED LAMBDA; lambdastroke;
 15840 % \textcrlambda (tipa)
 15841 \DeclareTextCommand{\textcrlambda}{PU}{\81\233}% U+019B
 15842 %* \textcrlambda -> \crossnilambda (wsuipa)
 15843 %* \textcrlambda -> \barlambd (phonetic)
 15844 %* \textcrlambda -> \lambdabar (txfonts/pxfonts)
 15845 %* \textcrlambda -> \lambdash (txfonts/pxfonts)
 15846 % U+019E LATIN SMALL LETTER N WITH LONG RIGHT LEG; nlegright-
 long;
 15847 % \textnrleg (tipx)
 15848 \DeclareTextCommand{\textPUnrleg}{PU}{\81\236}% U+019E
 15849 %* \textPUnrleg -> \textnrleg (tipx)

15850 % U+01A5 LATIN SMALL LETTER P WITH HOOK; phook; \texthpt (tipa)
 15851 \DeclareTextCommand{\texthpt}{PU}{\81\245}% U+01A5
 15852 % U+01AB LATIN SMALL LETTER T WITH PALATAL HOOK; tpalatalhook;
 15853 % \textlhookt (tipa)
 15854 \DeclareTextCommand{\textlhookt}{PU}{\81\253}% U+01AB
 15855 % U+01AD LATIN SMALL LETTER T WITH HOOK; thook; \texthtt (tipa)
 15856 \DeclareTextCommand{\texthtt}{PU}{\81\255}% U+01AD
 15857 % U+01B9 LATIN SMALL LETTER EZH REVERSED/
 15858 % LATIN SMALL LETTER REVERSED YOGH; \textrevyogh (tipa)
 15859 \DeclareTextCommand{\textrevyogh}{PU}{\81\271}% U+01B9
 15860 % U+01BB LATIN LETTER TWO WITH STROKE; twostroke; \textcrtwo (tipa)
 15861 \DeclareTextCommand{\textcrtwo}{PU}{\81\273}% U+01BB
 15862 % U+01BE LATIN LETTER INVERTED GLOTTAL STOP WITH STROKE;
 15863 % glottalinvertedstroke; \textcrinvglotstop (tipa)
 15864 \DeclareTextCommand{\textcrinvglotstop}{PU}{\81\276}% U+01BE
 15865 % U+01BF LATIN LETTER WYNN; wynn; \textwynn (tipa)
 15866 \DeclareTextCommand{\textwynn}{PU}{\81\277}% U+01BF
 15867 % U+01C0 LATIN LETTER DENTAL CLICK/LATIN LETTER PIPE; clickden-
 tal;
 15868 % \textpipe (tipa)
 15869 \DeclareTextCommand{\textpipe}{PU}{\81\300}% U+01C0
 15870 %* \textpipe -> \textpipevar (tipx)
 15871 % U+01C1 LATIN LETTER LATERAL CLICK/LATIN LETTER
 15872 % DOUBLE PIPE; clicklateral; \textdoublepipe (tipa)
 15873 \DeclareTextCommand{\textdoublepipe}{PU}{\81\301}% U+01C1
 15874 %* \textdoublepipe -> \textdoublepipevar (tipx)
 15875 % U+01C2 LATIN LETTER ALVEOLAR CLICK/LATIN LETTER PIPE DOU-
 BLE BAR;
 15876 % clickalveolar; \textdoublebarpipe (tipa)
 15877 \DeclareTextCommand{\textdoublebarpipe}{PU}{\81\302}% U+01C2
 15878 %* \textdoublebarpipe -> \textdoublebarpipevar (tipx)
 15879 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
 15880 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
 15881 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
 15882 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
 15883 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
 15884 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
 15885 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
 15886 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 15887 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
 15888 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
 15889 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
 15890 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
 15891 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
 15892 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
 15893 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
 15894 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
 15895 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
 15896 % U+01DD LATIN SMALL LETTER TURNED E; eturned; \inve (wasysym)
 15897 \DeclareTextCommand{\textinve}{PU}{\81\335}%* U+01DD
 15898 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
 15899 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
 15900 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
 15901 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5

15902 %* \textgslash -> \textcrg (tipa)
15903 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
15904 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
15905 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
15906 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
15907 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
15908 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
15909 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
15910 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
15911 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
15912 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
15913 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
15914 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
15915 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
15916 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
15917 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
15918 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
15919 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
15920 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
15921 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
15922 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
15923 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8
15924 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
15925 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9
15926 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
15927 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC
15928 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
15929 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD
15930 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE;
15931 % *Oslashacute, Ostrokeacut
15932 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE
15933 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE;
15934 % *oslashacute, ostrokeacute
15935 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF
15936 </puenc>
15937 <*puextra>
15938 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
15939 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
15940 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
15941 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
15942 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
15943 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
15944 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
15945 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
15946 </puextra>
15947 <*puenc>
15948 % U+0206 LATIN CAPITAL LETTER E WITH INVERTED BREVE; Einvert-
edbreve
15949 \DeclareTextCompositeCommand{\textinvbreve}{PU}{E}{\82\006}% U+0206
15950 % U+0207 LATIN SMALL LETTER E WITH INVERTED BREVE; einvert-
breve
15951 \DeclareTextCompositeCommand{\textinvbreve}{PU}{e}{\82\007}% U+0207
15952 </puenc>
15953 <*puextra>

15954 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
15955 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
15956 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
15957 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
15958 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
15959 </puextra>
15960 <*puenc>
15961 % U+020A LATIN CAPITAL LETTER I WITH INVERTED BREVE; Iinverted-
breve
15962 \DeclareTextCompositeCommand{\textinvbreve}{PU}{I}{\82\012}% U+020A
15963 % U+020B LATIN SMALL LETTER I WITH INVERTED BREVE; iinverted-
breve
15964 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B
15965 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B
15966 </puenc>
15967 <*puextra>
15968 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
15969 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
15970 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
15971 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
15972 </puextra>
15973 <*puenc>
15974 % U+020E LATIN CAPITAL LETTER O WITH INVERTED BREVE; Oinvert-
edbreve
15975 \DeclareTextCompositeCommand{\textinvbreve}{PU}{O}{\82\016}% U+020E
15976 % U+020F LATIN SMALL LETTER O WITH INVERTED BREVE; oinverted-
breve
15977 \DeclareTextCompositeCommand{\textinvbreve}{PU}{o}{\82\017}% U+020F
15978 </puenc>
15979 <*puextra>
15980 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
15981 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
15982 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
15983 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
15984 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
15985 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
15986 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
15987 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
15988 </puextra>
15989 <*puenc>
15990 % U+0216 LATIN CAPITAL LETTER U WITH INVERTED BREVE; Uinvert-
edbreve
15991 \DeclareTextCompositeCommand{\textinvbreve}{PU}{U}{\82\026}% U+0216
15992 % U+0217 LATIN SMALL LETTER U WITH INVERTED BREVE; uinverted-
breve
15993 \DeclareTextCompositeCommand{\textinvbreve}{PU}{u}{\82\027}% U+0217
15994 % U+021E LATIN CAPITAL LETTER H WITH CARON
15995 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
15996 % U+021F LATIN SMALL LETTER H WITH CARON
15997 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
15998 % U+0221 LATIN SMALL LETTER D WITH CURL; \textctd (tipa)
15999 \DeclareTextCommand{\textctd}{PU}{\82\041}% U+0221
16000 % U+0225 LATIN SMALL LETTER Z WITH HOOK; \textcommatailz (tipa)
16001 \DeclareTextCommand{\textcommatailz}{PU}{\82\045}% U+0225

16002 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
 16003 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
 16004 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
 16005 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
 16006 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
 16007 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
 16008 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
 16009 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
 16010 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
 16011 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
 16012 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 16013 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 16014 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 16015 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232
 16016 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 16017 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233
 16018 % U+0235 LATIN SMALL LETTER N WITH CURL; \textctn (tipa)
 16019 \DeclareTextCommand{\textctn}{PU}{\82\065}% U+0235
 16020 % U+0236 LATIN SMALL LETTER T WITH CURL; \textctt (tipa)
 16021 \DeclareTextCommand{\textctt}{PU}{\82\066}% U+0236
 16022 % U+0237 LATIN SMALL LETTER DOTLESS J
 16023 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237
 16024 % U+0238 LATIN SMALL LETTER DB DIGRAPH; \textdblig (tipx)
 16025 \DeclareTextCommand{\textPDbliɡ}{PU}{\82\070}% U+0238
 16026 %* \textPDbliɡ -> \textdbliɡ (tipx)
 16027 % U+0239 LATIN SMALL LETTER QP DIGRAPH; \textqplig (tipx)
 16028 \DeclareTextCommand{\textPUqpliɡ}{PU}{\82\071}% U+0239
 16029 %* \textPUqpliɡ -> \textqpliɡ (tipx)
 16030 % U+023C LATIN SMALL LETTER C WITH STROKE; \slashc (wsuipa)
 16031 \DeclareTextCommand{\textslashc}{PU}{\82\074}%* U+023C
 16032 %* \textslashc -> \textcentoldstyle (textcomp)
 16033 % With bar instead of stroke:
 16034 %* \textslashc -> \textbarc (tipa)

47.2.6 IPA Extensions: U+0250 to U+02AF

16035 % U+0250 LATIN SMALL LETTER TURNED A; aturned; \textturna (tipa)
 16036 \DeclareTextCommand{\textturna}{PU}{\82\120}% U+0250
 16037 %* \textturna -> \inva (wasysym)
 16038 % U+0251 LATIN SMALL LETTER ALPHA/LATIN SMALL LETTER
 16039 % SCRIPT A; ascript; \textscripta (tipa), \scripta (wsuipa)
 16040 \DeclareTextCommand{\textscripta}{PU}{\82\121}%* U+0251
 16041 %* \textscripta -> \vara (phonetic)
 16042 % U+0252 LATIN SMALL LETTER TURNED ALPHA; ascriptturned;
 16043 % \textturnscripta (tipa)
 16044 \DeclareTextCommand{\textturnscripta}{PU}{\82\122}% U+0252
 16045 %* \textturnscripta -> \invscripta (wsuipa)
 16046 %* \textturnscripta -> \rotvara (phonetic)
 16047 % U+0253 LATIN CAPITAL LETTER B WITH HOOK; bhook; \texthtb (tipa)
 16048 \DeclareTextCommand{\texthtb}{PU}{\82\123}% U+0253
 16049 %* \texthtb -> \hookb (wsuipa)
 16050 %* \texthtb -> \hausab (phonetic)
 16051 % U+0254 LATIN SMALL LETTER OPEN O; oopen;
 16052 % \textopeno (tipa), \openo (wasysym)
 16053 \DeclareTextCommand{\textopeno}{PU}{\82\124}%* U+0254

16054 %* \textopeno -> \varopeno (phonetic)
 16055 % U+0255 LATIN SMALL LETTER C WITH CURL; ccurl; \textctc (tipa)
 16056 \DeclareTextCommand{\textctc}{PU}{\82\125}% U+0255
 16057 %* \textctc -> \curlyc (wsuipa)
 16058 % U+0256 LATIN SMALL LETTER D WITH TAIL; dtail; \textrtaild (tipa)
 16059 \DeclareTextCommand{\textrtaild}{PU}{\82\126}% U+0256
 16060 %* \textrtaild -> \taild (wsuipa)
 16061 % U+0257 LATIN SMALL LETTER D WITH HOOK; dhook; \texthtd (tipa)
 16062 \DeclareTextCommand{\texthtd}{PU}{\82\127}% U+0257
 16063 %* \texthtd -> \hookd (wsuipa)
 16064 %* \texthtd -> \hausad (phonetic)
 16065 % U+0258 LATIN SMALL LETTER REVERSED E; ereversed;
 16066 % \textreve (tipa), \reve (wsuipa)
 16067 \DeclareTextCommand{\textreve}{PU}{\82\130}% U+0258
 16068 % U+0259 LATIN SMALL LETTER SCHWA; schwa;
 16069 % \textschwa (tipa), \schwa (wsuipa, phonetic)
 16070 \DeclareTextCommand{\textschwa}{PU}{\82\131}% U+0259
 16071 % U+025A LATIN SMALL LETTER SCHWA WITH HOOK; schwahook;
 16072 % \textrhookschwa (tipa)
 16073 \DeclareTextCommand{\textrhookschwa}{PU}{\82\132}% U+025A
 16074 %* \textrhookschwa -> \er (wsuipa)
 16075 % U+025B LATIN SMALL LETTER OPEN E/LATIN SMALL LETTER EP-
 SILON; eopen;
 16076 % \niepsilon (wsuipa)
 16077 \DeclareTextCommand{\textniepsilon}{PU}{\82\133}% U+025B
 16078 %* \textniepsilon -> \epsi (phonetic)
 16079 % U+025C LATIN SMALL LETTER REVERSED OPEN E; eopenreversed;
 16080 % \textrevepsilon (tipa), \revepsilon (wsuipa)
 16081 \DeclareTextCommand{\textrevepsilon}{PU}{\82\134}% U+025C
 16082 % U+025D LATIN SMALL LETTER REVERSED OPEN E WITH HOOK; eopen-
 reversedhook;
 16083 % \textrhookrevepsilon (tipa)
 16084 \DeclareTextCommand{\textrhookrevepsilon}{PU}{\82\135}% U+025D
 16085 %* \textrhookrevepsilon -> \hookrevepsilon (wsuipa)
 16086 % U+025E LATIN SMALL LETTER CLOSED REVERSED OPEN E; eopenre-
 versedclosed;
 16087 % \textcloserevepsilon (tipa)
 16088 \DeclareTextCommand{\textcloserevepsilon}{PU}{\82\136}% U+025E
 16089 %* \textcloserevepsilon -> \closedrevepsilon (wsuipa)
 16090 % U+025F LATIN SMALL LETTER DOTLESS J WITH STROKE; jdot-
 lessstroke;
 16091 % \textbardotlessj (tipa)
 16092 \DeclareTextCommand{\textbardotlessj}{PU}{\82\137}% U+025F
 16093 %* \textbardotlessj -> \barj (phonetic)
 16094 % U+0260 LATIN SMALL LETTER G WITH HOOK; ghook; \texthtg (tipa)
 16095 \DeclareTextCommand{\texthtg}{PU}{\82\140}% U+0260
 16096 %* \texthtg -> \hookg (wsuipa)
 16097 % U+0261 LATIN SMALL LETTER SCRIPT G; gscript;
 16098 % \textscriptg (tipa), \scriptg (wsuipa)
 16099 \DeclareTextCommand{\textscriptg}{PU}{\82\141}% U+0261
 16100 %* \textscriptg -> \varg (phonetic)
 16101 % U+0262 LATIN LETTER SMALL CAPITAL G; \textscg (tipa), \scg (wsuipa)
 16102 \DeclareTextCommand{\textscg}{PU}{\82\142}% U+0262
 16103 % U+0263 LATIN SMALL LETTER GAMMA; gammalatinsmall;

16104 % \ipagamma (wsuipa), \vod (phonetic)
16105 \DeclareTextCommand{\textipagamma}{PU}{\82\143}%* U+0263
16106 %* \textipagamma -> \vod (pnonetic)
16107 % U+0264 LATIN SMALL LETTER RAMS HORN; ramshorn;
16108 % \babygamma (wsuipa)
16109 \DeclareTextCommand{\textbabygamma}{PU}{\82\144}%* U+0264
16110 % U+0265 LATIN SMALL LETTER TURNED H; hturned; \textturnh (tipa)
16111 \DeclareTextCommand{\textturnh}{PU}{\82\145}% U+0265
16112 %* \textturnh -> \invh (wsuipa)
16113 %* \textturnh -> \udesc (phonetic)
16114 % U+0266 LATIN SMALL LETTER H WITH HOOK; hhook; \texthth (tipa)
16115 \DeclareTextCommand{\texthth}{PU}{\82\146}% U+0266
16116 %* \texthth -> \hookh (wsuipa)
16117 %* \texthth -> \voicedh (phonetic)
16118 % U+0267 LATIN SMALL LETTER HENG WITH HOOK; henghook; \tex-
ththeng (tipa)
16119 \DeclareTextCommand{\texththeng}{PU}{\82\147}% U+0267
16120 %* \texththeng -> \hookheng (wsuipa)
16121 % U+0268 LATIN SMALL LETTER I WITH STROKE;
16122 % \textbari (tipa), \bari (wsuipa)
16123 \DeclareTextCommand{\textbari}{PU}{\82\150}%* U+0268
16124 %* \textbari -> \ibar (phonetic)
16125 % U+0269 LATIN SMALL LETTER IOTA; iotalatin; \niiota (wsuipa)
16126 \DeclareTextCommand{\textniiota}{PU}{\82\151}%* U+0269
16127 %* \textniiota -> \vari (phonetic)
16128 % U+026A LATIN LETTER SMALL CAPITAL I; \textsci (tipa), \sci (wsuipa)
16129 \DeclareTextCommand{\textsci}{PU}{\82\152}%* U+026A
16130 % U+026B LATIN SMALL LETTER L WITH MIDDLE TILDE; lmiddletilde;
16131 % \textltilde (tipa)
16132 \DeclareTextCommand{\textltilde}{PU}{\82\153}% U+026B
16133 %* \textltilde -> \tildel (wsuipa)
16134 % U+026C LATIN SMALL LETTER L WITH BELT; lbelt; \textbeltl (tipa)
16135 \DeclareTextCommand{\textbeltl}{PU}{\82\154}% U+026C
16136 %* \textbeltl -> \latfric (wsuipa)
16137 % U+026D LATIN SMALL LETTER L WITH RETROFLEX HOOK;
16138 % lhookretroflex; \textrtaill (tipa)
16139 \DeclareTextCommand{\textrtaill}{PU}{\82\155}% U+026D
16140 %* \textrtaill -> \taill (wsuipa)
16141 % U+026E LATIN SMALL LETTER LEZH; lezh; \textlyoghlig (tipa)
16142 \DeclareTextCommand{\textlyoghlig}{PU}{\82\156}% U+026E
16143 %* \textlyoghlig -> \lz (wsuipa)
16144 % U+026F LATIN SMALL LETTER TURNED M; mturned; \textturnm (tipa)
16145 \DeclareTextCommand{\textturnm}{PU}{\82\157}% U+026F
16146 %* \textturnm -> \invm (wsuipa)
16147 %* \textturnm -> \rotm (phonetic)
16148 % U+0270 LATIN SMALL LETTER TURNED M WITH LONG LEG; mlongleg-
turned;
16149 % \textturnmrleg (tipa)
16150 \DeclareTextCommand{\textturnmrleg}{PU}{\82\160}% U+0270
16151 %* \textturnmrleg -> \legm (wsuipa)
16152 % U+0271 LATIN SMALL LETTER M WITH HOOK; mhook; \textltailm (tipa)
16153 \DeclareTextCommand{\textltailm}{PU}{\82\161}% U+0271
16154 %* \textltailm -> \labdentalnas (wsuipa)
16155 %* \textltailm -> \emgma (phonetic)

16156 % U+0272 LATIN SMALL LETTER N WITH LEFT HOOK; nhookleft; \textl-
 tailn (tipa)
 16157 \DeclareTextCommand{\textltailn}{PU}{\82\162}% U+0272
 16158 %* \textltailn -> \nj (wsuipa)
 16159 %* \textltailn -> \enya (phonetic)
 16160 % U+0273 LATIN SMALL LETTER N WITH RETROFLEX HOOK;
 16161 % nhookretroflex; \textrtailn (tipa)
 16162 \DeclareTextCommand{\textrtailn}{PU}{\82\163}% U+0273
 16163 %* \textrtailn -> \tailn (wsuipa)
 16164 % U+0274 LATIN LETTER SMALL CAPITAL N; \textscn (tipa), \scn (wsuipa)
 16165 \DeclareTextCommand{\textscn}{PU}{\82\164}%* U+0274
 16166 % U+0275 LATIN CAPITAL LETTER O WITH MIDDLE TILDE/
 16167 % LATIN CAPITAL LETTER BARRED O; obarred;
 16168 % \textbaro (tipa), \baro (wsuipa)
 16169 % But \baro from stmaryrd is different!
 16170 \DeclareTextCommand{\textbaro}{PU}{\82\165}% U+0275
 16171 % U+0276 LATIN LETTER SMALL CAPITAL OE; \textscelig (tipa)
 16172 \DeclareTextCommand{\textscelig}{PU}{\82\166}% U+0276
 16173 % U+0277 LATIN SMALL LETTER CLOSED OMEGA; omegalatinclosed;
 16174 % \textcloseomega (tipa)
 16175 \DeclareTextCommand{\textcloseomega}{PU}{\82\167}% U+0277
 16176 %* \textcloseomega -> \closedniomega (wsuipa)
 16177 %* \textcloseomega -> \varomega (phonetic)
 16178 % U+0278 LATIN SMALL LETTER PHI; philatin; \nphi (wsuipa)
 16179 \DeclareTextCommand{\textnphi}{PU}{\82\170}%* U+0278
 16180 % U+0279 LATIN SMALL LETTER TURNED R; rturned; \textturnr (tipa)
 16181 \DeclareTextCommand{\textturnr}{PU}{\82\171}% U+0279
 16182 %* \textturnr -> \invr (wsuipa)
 16183 %* \textturnr -> \rotr (phonetic)
 16184 % U+027A LATIN SMALL LETTER TURNED R WITH LONG LEG;
 16185 % rlonglegturned; \textturnlongleg (tipa)
 16186 \DeclareTextCommand{\textturnlongleg}{PU}{\82\172}% U+027A
 16187 %* \textturnlongleg -> \invleg (wsuipa)
 16188 % U+027B LATIN SMALL LETTER TURNED R WITH HOOK; rhookturned;
 16189 % \textturnrrtail (tipa)
 16190 \DeclareTextCommand{\textturnrrtail}{PU}{\82\173}% U+027B
 16191 %* \textturnrrtail -> \tailinvr (wsuipa)
 16192 % U+027C LATIN SMALL LETTER R WITH LONG LEG; rlongleg; \textlon-
 glegr (tipa)
 16193 \DeclareTextCommand{\textlongleg}{PU}{\82\174}%* U+027C
 16194 %* \textlongleg -> \leg (wsuipa)
 16195 % U+027D LATIN SMALL LETTER R WITH TAIL; rhook; \textrtailr (tipa)
 16196 \DeclareTextCommand{\textrtailr}{PU}{\82\175}% U+027D
 16197 %* \textrtailr -> \tailr (wsuipa)
 16198 % U+027E LATIN SMALL LETTER R WITH FISHHOOK; rfishhook;
 16199 % \textfishhookr (tipa)
 16200 \DeclareTextCommand{\textfishhookr}{PU}{\82\176}% U+027E
 16201 %* \textfishhookr -> \flapr (wsuipa)
 16202 %* \textfishhookr -> \flap (phonetic)
 16203 % U+027F LATIN SMALL LETTER REVERSED R WITH FISHHOOK; rfish-
 hookreversed;
 16204 % \textlhtlongi (tipa)
 16205 \DeclareTextCommand{\textlhtlongi}{PU}{\82\177}% U+027F
 16206 % U+0280 LATIN LETTER SMALL CAPITAL R; \textscr (tipa), \scr (wsuipa)

16207 \DeclareTextCommand{\textscr}{PU}{\82\200}%* U+0280
16208 % U+0281 LATIN LETTER SMALL CAPITAL INVERTED R; Rsmallinverted;
16209 % \textinvscr (tipa), \invscr (wsuipa)
16210 \DeclareTextCommand{\textinvscr}{PU}{\82\201}%* U+0281
16211 % U+0282 LATIN SMALL LETTER S WITH HOOK; shook; \textrtails (tipa)
16212 \DeclareTextCommand{\textrtails}{PU}{\82\202}% U+0282
16213 %* \textrtails -> \tails (wsuipa)
16214 % U+0283 LATIN SMALL LETTER ESH; esh; \textesh (tipa), \esh (wsuipa)
16215 \DeclareTextCommand{\textesh}{PU}{\82\203}%* U+0283
16216 % U+0284 LATIN SMALL LETTER DOTLESS J WITH STROKE AND HOOK;
16217 % dotlessjstrokehook; \texthtbardotlessj (tipa)
16218 \DeclareTextCommand{\texthtbardotlessj}{PU}{\82\204}% U+0284
16219 % U+0285 LATIN SMALL LETTER SQUAT REVERSED ESH; eshsquatre-
versed;
16220 % \textvibyi (tipa)
16221 \DeclareTextCommand{\textvibyi}{PU}{\82\205}% U+0285
16222 % U+0286 LATIN SMALL LETTER ESH WITH CURL; eshcurl; \textctesh (tipa)
16223 \DeclareTextCommand{\textctesh}{PU}{\82\206}% U+0286
16224 %* \textctesh -> \curlyesh (wsuipa)
16225 % U+0287 LATIN SMALL LETTER TURNED T; tturned; \textturnt (tipa)
16226 \DeclareTextCommand{\textturnt}{PU}{\82\207}% U+0287
16227 %* \textturnt -> \clickt (wsuipa)
16228 % U+0288 LATIN SMALL LETTER T WITH RETROFLEX HOOK; retroflex-
hook;
16229 % \textrtailt (tipa)
16230 \DeclareTextCommand{\textrtailt}{PU}{\82\210}% U+0288
16231 %* \textrtailt -> \tailt (wsuipa)
16232 % U+0289 LATIN SMALL LETTER U BAR; ubar;
16233 % \textbaru (tipa), \baru (wsuipa)
16234 \DeclareTextCommand{\textbaru}{PU}{\82\211}%* U+0289
16235 %* \textbaru -> \ubar (phonetic)
16236 % U+028A LATIN SMALL LETTER UPSILON; \niupsilon (wsuipa)
16237 \DeclareTextCommand{\textniupsilon}{PU}{\82\212}%* U+028A
16238 %* \textniupsilon -> \rotOmega (phonetic)
16239 % U+028B LATIN SMALL LETTER V WITH HOOK/LATIN SMALL LET-
TER SCRIPT V;
16240 % vhook; \textscriptv (tipa), \scriptv (wsuipa)
16241 \DeclareTextCommand{\textscriptv}{PU}{\82\213}%* U+028B
16242 % U+028C LATIN SMALL LETTER TURNED V; vturned; \textturnv (tipa)
16243 \DeclareTextCommand{\textturnv}{PU}{\82\214}%* U+028C
16244 %* \textturnv -> \invv (wsuipa)
16245 %* \textturnv -> \pwedge (phonetic)
16246 % U+028D LATIN SMALL LETTER TURNED W; wturned; \textturnw (tipa)
16247 \DeclareTextCommand{\textturnw}{PU}{\82\215}%* U+028D
16248 %* \textturnw -> \invw (wsuipa)
16249 %* \textturnw -> \rotw (phonetic)
16250 % U+028E LATIN SMALL LETTER TURNED Y; yturned; \textturny (tipa)
16251 \DeclareTextCommand{\textturny}{PU}{\82\216}%* U+028E
16252 %* \textturny -> \invy (wsuipa)
16253 %* \textturny -> \roty (phonetic)
16254 % U+028F LATIN LETTER SMALL CAPITAL Y; \textscy (tipa), \scy (wsuipa)
16255 \DeclareTextCommand{\textscy}{PU}{\82\217}%* U+028F
16256 % U+0290 LATIN SMALL LETTER Z WITH RETROFLEX HOOK; zretroflex-
hook;

16257 % \texttrtailz (tipa)
 16258 \DeclareTextCommand{\texttrtailz}{PU}{\82\220}% U+0290
 16259 %* \texttrtailz -> \tailz (wsuipa)
 16260 % U+0291 LATIN SMALL LETTER Z WITH CURL; zcurl; \textctz (tipa)
 16261 \DeclareTextCommand{\textctz}{PU}{\82\221}% U+0291
 16262 %* \textctz -> \curlyz (wsuipa)
 16263 % U+0292 LATIN SMALL LETTER EZH/LATIN SMALL LETTER YOGH; ezh;
 16264 % \textyogh (tipa), \yogh (wsuipa)
 16265 \DeclareTextCommand{\textyogh}{PU}{\82\222}%* U+0292
 16266 % U+0293 LATIN SMALL LETTER EZH WITH CURL/LATIN SMALL LETTER YOGH CURL;
 16267 % ezhcurl; \textctyogh (tipa)
 16268 \DeclareTextCommand{\textctyogh}{PU}{\82\223}% U+0293
 16269 %* \textctyogh -> \curlyyogh (wsuipa)
 16270 % U+0294 LATIN LETTER GLOTTAL STOP; glottalstop;
 16271 % \textglotstop (tipa), \glotstop (wsuipa)
 16272 \DeclareTextCommand{\textglotstop}{PU}{\82\224}%* U+0294
 16273 %* \textglotstop -> \ejective (wsuipa)
 16274 %* \textglotstop -> \glottal (phonetic)
 16275 % U+0295 LATIN LETTER PHARYNGEAL VOICED FRICATIVE/
 16276 % LATIN LETTER REVERSED GLOTTAL STOP; glottalstopreversed;
 16277 % \textrevglotstop (tipa), \revglotstop (wsuipa)
 16278 \DeclareTextCommand{\textrevglotstop}{PU}{\82\225}%* U+0295
 16279 %* \textrevglotstop -> \reveject (wsuipa)
 16280 % U+0296 LATIN LETTER INVERTED GLOTTAL STOP; glottalstopinverted;
 16281 % \textinvglotstop (tipa), \invglotstop (wsuipa)
 16282 \DeclareTextCommand{\textinvglotstop}{PU}{\82\226}%* U+0296
 16283 % U+0297 LATIN LETTER STRETCHED C; cstretched; \textstretchc (tipa)
 16284 \DeclareTextCommand{\textstretchc}{PU}{\82\227}% U+0297
 16285 %* \textstretchc -> \clickc (wsuipa)
 16286 %* \textstretchc -> \textstretchcvar (tipx)
 16287 % U+0298 LATIN LETTER BILABIAL CLICK; bilabialclick;
 16288 % \textbullseye (tipa)
 16289 \DeclareTextCommand{\textbullseye}{PU}{\82\230}% U+0298
 16290 %* \textbullseye -> \clickb (wsuipa)
 16291 %* \textbullseye -> \textObullseye (tipx)
 16292 % U+0299 LATIN LETTER SMALL CAPITAL B; \textscb (tipa)
 16293 \DeclareTextCommand{\textscb}{PU}{\82\231}% U+0299
 16294 % U+029A LATIN SMALL LETTER CLOSED OPEN E; eopenclosed;
 16295 % \textcloseepsilon (tipa)
 16296 \DeclareTextCommand{\textcloseepsilon}{PU}{\82\232}% U+029A
 16297 % U+029B LATIN LETTER SMALL CAPITAL G WITH HOOK; Gsmallhook;
 16298 % \texthtscg (tipa)
 16299 \DeclareTextCommand{\texthtscg}{PU}{\82\233}% U+029B
 16300 % U+029C LATIN LETTER SMALL CAPITAL H; \textsch (tipa)
 16301 \DeclareTextCommand{\textsch}{PU}{\82\234}% U+029C
 16302 % U+029D LATIN SMALL LETTER J WITH CROSSED-TAIL; jcrossetail;
 16303 \DeclareTextCommand{\textctj}{PU}{\82\235}% U+029D
 16304 %* \textctj -> \textctjvar (tipx)
 16305 % U+029E LATIN SMALL LETTER TURNED K; kturned; \textturnk (tipa)
 16306 \DeclareTextCommand{\textturnk}{PU}{\82\236}% U+029E
 16307 %* \textturnk -> \textturnsck (tipx)
 16308 % U+029F LATIN LETTER SMALL CAPITAL L; \textscL (tipa)

16309 \DeclareTextCommand{\textscsl}{PU}{\82\237}% U+029F
 16310 % U+02A0 LATIN SMALL LETTER Q WITH HOOK; qhook; \texthtq (tipa)
 16311 \DeclareTextCommand{\texthtq}{PU}{\82\240}% U+02A0
 16312 % U+02A1 LATIN LETTER GLOTTAL STOP WITH STROKE; glottalstop-
 stroke;
 16313 % \textbarglotstop (tipa)
 16314 \DeclareTextCommand{\textbarglotstop}{PU}{\82\241}% U+02A1
 16315 % U+02A2 LATIN LETTER REVERSED GLOTTAL STOP WITH STROKE/
 16316 % LATIN LETTER REVERSED GLOTTAL STOP BAR; glottalstopstrokere-
 versed;
 16317 % \textbarrevglotstop (tipa)
 16318 \DeclareTextCommand{\textbarrevglotstop}{PU}{\82\242}% U+02A2
 16319 % U+02A3 LATIN SMALL LETTER DZ DIGRAPH; dzaltone; \textdzlig (tipa)
 16320 \DeclareTextCommand{\textdzlig}{PU}{\82\243}% U+02A3
 16321 %* \textdzlig -> \dz (wsupipa)
 16322 % U+02A4 LATIN SMALL LETTER DEZH DIGRAPH; dezh; \textdyogh-
 lig (tipa)
 16323 \DeclareTextCommand{\textdyoghlig}{PU}{\82\244}% U+02A4
 16324 % U+02A5 LATIN SMALL LETTER DZ DIGRAPH WITH CURL; dzcurl;
 16325 % \textdctzlig (tipa)
 16326 \DeclareTextCommand{\textdctzlig}{PU}{\82\245}% U+02A5
 16327 % U+02A6 LATIN SMALL LETTER TS DIGRAPH; ts; \texttslig (tipa)
 16328 \DeclareTextCommand{\texttslig}{PU}{\82\246}% U+02A6
 16329 % U+02A7 LATIN SMALL LETTER TESH DIGRAPH; tesh; \texttshlig (tipa)
 16330 \DeclareTextCommand{\texttshlig}{PU}{\82\247}% U+02A7
 16331 %* \texttshlig -> \tesh (wsuipa)
 16332 % U+02A8 LATIN SMALL LETTER TC DIGRAPH WITH CURL; tccurl;
 16333 % \texttctclig (tipa)
 16334 \DeclareTextCommand{\texttctclig}{PU}{\82\250}% U+02A8
 16335 % U+02AE LATIN SMALL LETTER TURNED H WITH FISHHOOK;
 16336 % \textlhtlongy (tipa)
 16337 \DeclareTextCommand{\textlhtlongy}{PU}{\82\256}% U+02AE
 16338 % U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;
 16339 % \textvibyy (tipa)
 16340 \DeclareTextCommand{\textvibyy}{PU}{\82\257}% U+02AF

47.2.7 Spacing Modifier Letters: U+02B0 to U+02FF

16341 % U+02BD MODIFIER LETTER REVERSED COMMA;
 16342 % commareversedmod, afii64937; \textrevapostrophe (tipa)
 16343 \DeclareTextCommand{\textrevapostrophe}{PU}{\82\275}% U+02BD
 16344 % U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;
 16345 % \textraiseglotstop (tipa)
 16346 \DeclareTextCommand{\textraiseglotstop}{PU}{\82\300}% U+02C0
 16347 % U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;
 16348 % \textlptr (tipa)
 16349 \DeclareTextCommand{\textlptr}{PU}{\82\302}% U+02C2
 16350 % U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;
 16351 % \textrptr (tipa)
 16352 \DeclareTextCommand{\textrptr}{PU}{\82\303}% U+02C3
 16353 % U+02C7 CARON; caron
 16354 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 16355 % U+02C8 MODIFIER LETTER VERTICAL LINE; verticallinemod;
 16356 % \textprimstress (tipa)
 16357 \DeclareTextCommand{\textprimstress}{PU}{\82\310}% U+02C8

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16358 % U+02CC MODIFIER LETTER LOW VERTICAL LINE; verticallinelowmod;
16359 % \textsecstress (tipa)
16360 \DeclareTextCommand{\textsecstress}{PU}{\82\314}% U+02CC
16361 % U+02D0 MODIFIER LETTER TRIANGULAR COLON; colontriangularmod;
16362 % \textlengthmark (tipa)
16363 \DeclareTextCommand{\textlengthmark}{PU}{\82\320}% U+02D0
16364 % U+02D1 MODIFIER LETTER HALF TRIANGULAR COLON; colontriangularhalfmod;
16365 % \texthalflength (tipa)
16366 \DeclareTextCommand{\texthalflength}{PU}{\82\321}% U+02D1
16367 % U+02D8 BREVE; breve
16368 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
16369 % U+02D9 DOT ABOVE; dotaccent
16370 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
16371 % U+02DA RING ABOVE; ring
16372 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
16373 % U+02DB OGONEK; ogonek
16374 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
16375 % U+02DC SMALL TILDE; ilde, *tilde
16376 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
16377 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
16378 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
16379 \DeclareTextCommand{\textacutedbl}{PU}{\82\335}% U+02DD
16380 % U+02F3 MODIFIER LETTER LOW RING
16381 \DeclareTextCommand{\textringlow}{PU}{\82\363}% U+02F3
16382 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
16383 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
16384 % U+02F7 MODIFIER LETTER LOW TILDE
16385 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7
16386 % U+02F9 MODIFIER LETTER BEGIN HIGH TONE; \textopencorner (tipa)
16387 \DeclareTextCommand{\textopencorner}{PU}{\82\371}% U+02F9
16388 % U+02FA MODIFIER LETTER END HIGH TONE; \textcorner (tipa)
16389 \DeclareTextCommand{\textcorner}{PU}{\82\372}% U+02FA

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47.2.8 Combining Diacritical Marks: U+0300 to U+036F

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16390 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
16391 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
16392 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
16393 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
16394 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
16395 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
16396 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
16397 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
16398 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
16399 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

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47.2.9 Greek and Coptic: U+0370 to U+03FF

Greek is only loaded if \textBeta is defined.

```

16400 \ifx\textBeta\@undefined \else
16401 \input{puenc-greek.def}
16402 \fi
16403 </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.

```
16404 (*puenc)
16405 \ifx\CYRDZE\@undefined \else
16406 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
16407 \DeclareTextCompositeCommand{\`}{PU}{\CYRE}{\84\000}% U+0400
16408 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrrilic, *afii10023
16409 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
16410 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% U+0401
16411 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
16412 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
16413 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
16414 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
16415 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrrilic, *afii10053
16416 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
16417 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
16418 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
16419 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I;
16420 % Icyrrilic, *afii10055
16421 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
16422 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrrilic, *afii10056
16423 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
16424 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407
16425 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
16426 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
16427 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
16428 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
16429 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
16430 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
16431 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
16432 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
16433 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
16434 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
16435 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
16436 \DeclareTextCompositeCommand{\`}{PU}{\CYRI}{\84\015}% U+040D
16437 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrrilic, *afii10062
16438 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
16439 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
16440 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrrilic, *afii10145
16441 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
16442 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
16443 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
16444 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
16445 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
16446 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
16447 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
16448 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
16449 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
16450 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
16451 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
16452 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
16453 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
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16454 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
 16455 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
 16456 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
 16457 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
 16458 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
 16459 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
 16460 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
 16461 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
 16462 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
 16463 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
 16464 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
 16465 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
 16466 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
 16467 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
 16468 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
 16469 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
 16470 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
 16471 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
 16472 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
 16473 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
 16474 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
 16475 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
 16476 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
 16477 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
 16478 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
 16479 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
 16480 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
 16481 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
 16482 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
 16483 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
 16484 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
 16485 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
 16486 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
 16487 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
 16488 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
 16489 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
 16490 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
 16491 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
 16492 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
 16493 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
 16494 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
 16495 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN;
 16496 % Hardsigncyrillic, *afii10044
 16497 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
 16498 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
 16499 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
 16500 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN;
 16501 % Softsigncyrillic, *afii10046
 16502 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
 16503 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047
 16504 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
 16505 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
 16506 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
 16507 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049

16508 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
16509 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
16510 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
16511 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
16512 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
16513 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
16514 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
16515 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
16516 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433
16517 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
16518 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
16519 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
16520 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
16521 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhecyrillic
16522 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436
16523 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
16524 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
16525 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic
16526 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
16527 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
16528 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
16529 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
16530 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
16531 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
16532 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
16533 \DeclareTextCommand{\cyl}{PU}{\84\073}% U+043B
16534 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
16535 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C
16536 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
16537 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
16538 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
16539 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
16540 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
16541 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
16542 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
16543 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440
16544 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
16545 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441
16546 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
16547 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442
16548 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
16549 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443
16550 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
16551 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444
16552 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
16553 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445
16554 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
16555 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446
16556 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
16557 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447
16558 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
16559 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448
16560 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic
16561 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449

16562 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyril-
 lic
 16563 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A
 16564 %* \cyrhrdsn -> \hardsign (tipa)
 16565 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
 16566 \DeclareTextCommand{\cyrery}{PU}{\84\113}% U+044B
 16567 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
 16568 \DeclareTextCommand{\cyrstsn}{PU}{\84\114}% U+044C
 16569 %* \cyrstsn -> \softsign (tipa)
 16570 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
 16571 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D
 16572 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
 16573 \DeclareTextCommand{\cyrYu}{PU}{\84\116}% U+044E
 16574 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
 16575 \DeclareTextCommand{\cyrYa}{PU}{\84\117}% U+044F
 16576 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
 16577 \DeclareTextCompositeCommand{\`}{PU}{\cyr}{\84\120}% U+0450
 16578 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic
 16579 \DeclareTextCommand{\cyrIo}{PU}{\84\121}% U+0451
 16580 \DeclareTextCompositeCommand{\"}{PU}{\cyr}{\84\121}% U+0451
 16581 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
 16582 \DeclareTextCommand{\cyrDje}{PU}{\84\122}% U+0452
 16583 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
 16584 \DeclareTextCompositeCommand{\'}{PU}{\cyr}{\84\123}% U+0453
 16585 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
 16586 \DeclareTextCommand{\cyrIe}{PU}{\84\124}% U+0454
 16587 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
 16588 \DeclareTextCommand{\cyrDze}{PU}{\84\125}% U+0455
 16589 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I;
 16590 % *afii10103, icyrillic
 16591 \DeclareTextCommand{\cyrIi}{PU}{\84\126}% U+0456
 16592 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic
 16593 \DeclareTextCommand{\cyrYi}{PU}{\84\127}% U+0457
 16594 \DeclareTextCompositeCommand{\"}{PU}{\cyrIi}{\84\127}% U+0457
 16595 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
 16596 \DeclareTextCommand{\cyrJe}{PU}{\84\130}% U+0458
 16597 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
 16598 \DeclareTextCommand{\cyrLje}{PU}{\84\131}% U+0459
 16599 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
 16600 \DeclareTextCommand{\cyrNje}{PU}{\84\132}% U+045A
 16601 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
 16602 \DeclareTextCommand{\cyrTshe}{PU}{\84\133}% U+045B
 16603 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
 16604 \DeclareTextCompositeCommand{\'}{PU}{\cyrK}{\84\134}% U+045C
 16605 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
 16606 \DeclareTextCompositeCommand{\`}{PU}{\cyrI}{\84\135}% U+045D
 16607 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
 16608 \DeclareTextCommand{\cyrUshrt}{PU}{\84\136}% U+045E
 16609 \DeclareTextCompositeCommand{\U}{PU}{\cyrU}{\84\136}% U+045E
 16610 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
 16611 \DeclareTextCommand{\cyrDzhe}{PU}{\84\137}% U+045F
 16612 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
 16613 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
 16614 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic

16615 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
16616 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
16617 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
16618 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
16619 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463
16620 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic
16621 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
16622 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic
16623 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
16624 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic
16625 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
16626 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic
16627 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
16628 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittlei-
otifiedcyrillic
16629 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
16630 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittlei-
fiedcyrillic
16631 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
16632 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
16633 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
16634 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
16635 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
16636 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-
cyrillic
16637 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
16638 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-
cyrillic
16639 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
16640 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
16641 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
16642 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
16643 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
16644 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
16645 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
16646 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
16647 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
16648 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
16649 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
16650 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
16651 \DeclareTextCommand{\cyrfta}{PU}{\84\163}% U+0473
16652 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
16653 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
16654 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
16655 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
16656 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE
16657 % GRAVE ACCENT; Izhitsadblgravecyrillic
16658 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
16659 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE
16660 % GRAVE ACCENT; izhitsadblgravecyrillic
16661 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
16662 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
16663 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
16664 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic

16665 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
 16666 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic
 16667 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
 16668 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
 16669 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
 16670 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic
 16671 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
 16672 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic
 16673 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
 16674 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
 16675 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
 16676 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
 16677 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
 16678 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
 16679 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
 16680 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
 16681 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
 16682 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic
 16683 \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
 16684 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 16685 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 16686 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 16687 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 16688 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
 16689 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
 16690 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
 16691 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
 16692 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
 16693 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
 16694 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
 16695 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
 16696 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturncyrillic, *afii10050
 16697 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
 16698 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, gheupturncyrillic
 16699 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
 16700 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestrokecyrillic
 16701 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492

16702 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
 16703 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
 16704 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK;
 16705 % Ghemiddlehookcyrillic
 16706 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
 16707 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK;
 16708 % ghemiddlehookcyrillic
 16709 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
 16710 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER;
 16711 % Zhedescendercyrillic
 16712 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
 16713 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER;
 16714 % zhedescendercyrillic
 16715 \DeclareTextCommand{\cyrzhds}{PU}{\84\227}% U+0497
 16716 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-
 dercyrillic
 16717 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
 16718 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
 16719 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-
 cyrillic
 16720 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499
 16721 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
 16722 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-
 dercyrillic
 16723 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
 16724 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescen-
 dercyrillic
 16725 \DeclareTextCommand{\cyrkds}{PU}{\84\233}% U+049B
 16726 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE;
 16727 % Kavertikalstrokecyrillic
 16728 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
 16729 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE;
 16730 % kavertikalstrokecyrillic
 16731 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
 16732 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
 16733 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
 16734 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
 16735 \DeclareTextCommand{\cyrkcrs}{PU}{\84\237}% U+049F
 16736 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
 16737 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
 16738 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
 16739 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
 16740 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescen-
 dercyrillic
 16741 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
 16742 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-
 cyrillic
 16743 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
 16744 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
 16745 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
 16746 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
 16747 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
 16748 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemid-
 dlehookcyrillic

16749 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
 16750 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic
 16751 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
 16752 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic
 16753 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
 16754 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
 16755 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
 16756 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic
 16757 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
 16758 \DeclareTextCompositeCommand{\k}{PU}{\CYRS}{\84\252}% U+04AA
 16759 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic
 16760 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
 16761 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB
 16762 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic
 16763 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
 16764 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic
 16765 \DeclareTextCommand{\cyrtasc}{PU}{\84\255}% U+04AD
 16766 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
 16767 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
 16768 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
 16769 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF
 16770 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic
 16771 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
 16772 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; usstraightstrokecyrillic
 16773 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1
 16774 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesdescendercyrillic
 16775 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
 16776 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic
 16777 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3
 16778 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
 16779 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
 16780 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
 16781 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5
 16782 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER;
 16783 % Chedescendercyrillic
 16784 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
 16785 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic
 16786 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7
 16787 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE;
 16788 % Cheverticalstrokecyrillic
 16789 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
 16790 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE;
 16791 % cheverticalstrokecyrillic

16792 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
 16793 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
 16794 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
 16795 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
 16796 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
 16797 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-cyrillic
 16798 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
 16799 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic
 16800 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
 16801 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic
 16802 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
 16803 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
 16804 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic
 16805 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF
 16806 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
 16807 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
 16808 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
 16809 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
 16810 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
 16811 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
 16812 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2
 16813 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
 16814 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
 16815 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
 16816 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
 16817 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
 16818 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
 16819 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
 16820 \DeclareTextCommand{\cyrldsc}{PU}{\84\306}% U+04C6
 16821 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
 16822 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
 16823 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
 16824 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
 16825 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakassiancyrillic
 16826 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
 16827 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassiancyrillic
 16828 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
 16829 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
 16830 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
 16831 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
 16832 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
 \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
 16833 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic
 16834 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
 16835 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic
 16836 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
 16837 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyrillic

16838 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2
16839 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresis Cyrillic
16840 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3
16841 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aie Cyrillic
16842 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
16843 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aie Cyrillic
16844 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
16845 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrev Cyrillic
16846 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
16847 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrev Cyrillic
16848 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
16849 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwac Cyrillic
16850 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
16851 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwac Cyrillic
16852 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9
16853 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS;
16854 % Schwadie Cyrillic
16855 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA
16856 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS;
16857 % schwadie Cyrillic
16858 \DeclareTextCompositeCommand{"}{PU}{\cyrschwa}{\84\333}% U+04DB
16859 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhedie-
siscyrillic
16860 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC
16861 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedie-
siscyrillic
16862 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% U+04DD
16863 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedie-
siscyrillic
16864 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE
16865 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedie-
siscyrillic
16866 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF
16867 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-
cyrillic
16868 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
16869 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasian-
cyrillic
16870 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
16871 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacron Cyrillic
16872 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% U+04E2
16873 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacron Cyrillic
16874 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% U+04E3
16875 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idie Cyrillic
16876 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4
16877 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idie Cyrillic
16878 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5
16879 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odie Cyrillic
16880 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6
16881 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odie Cyrillic
16882 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7
16883 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarred Cyrillic
16884 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8

16885 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic
 16886 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
 16887 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS;
 16888 % Obarreddieresiscyrillic
 16889 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA
 16890 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS;
 16891 % obarreddieresiscyrillic
 16892 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB
 16893 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
 16894 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC
 16895 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
 16896 \DeclareTextCompositeCommand{"}{PU}{\cyrerev}{\84\355}% U+04ED
 16897 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
 16898 \DeclareTextCompositeCommand{=}{PU}{\CYRU}{\84\356}% U+04EE
 16899 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
 16900 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% U+04EF
 16901 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyrillic
 16902 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0
 16903 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic
 16904 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1
 16905 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic
 16906 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2
 16907 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhungarumlautcyrillic
 16908 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3
 16909 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chedieresiscyrillic
 16910 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4
 16911 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieresiscyrillic
 16912 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5
 16913 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
 16914 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
 16915 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
 16916 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
 16917 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudieresiscyrillic
 16918 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8
 16919 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudieresiscyrillic
 16920 \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
 16921 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
 16922 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
 16923 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
 16924 \DeclareTextCommand{\cyrrhk}{PU}{\84\375}% U+04FD
 16925 \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

```
16926 \ifx\hebdalet\@undefined\else
16927 % U+05C3 HEBREW PUNCTUATION SOF PASUQ
16928 \DeclareTextCommand{\sofpasuq}{PU}{\85\303}% U+05C3
16929 % U+05D0 HEBREW LETTER ALEF
16930 \DeclareTextCommand{\hebalef}{PU}{\85\320}% U+05D0
16931 % U+05D1 HEBREW LETTER BET
16932 \DeclareTextCommand{\hebbet}{PU}{\85\321}% U+05D1
16933 % U+05D2 HEBREW LETTER GIMEL
16934 \DeclareTextCommand{\hebgimel}{PU}{\85\322}% U+05D2
16935 % U+05D3 HEBREW LETTER DALET
16936 \DeclareTextCommand{\hebdalet}{PU}{\85\323}% U+05D3
16937 % U+05D4 HEBREW LETTER HE
16938 \DeclareTextCommand{\hebhe}{PU}{\85\324}% U+05D4
16939 % U+05D5 HEBREW LETTER VAV
16940 \DeclareTextCommand{\hebvav}{PU}{\85\325}% U+05D5
16941 % U+05D6 HEBREW LETTER ZAYIN
16942 \DeclareTextCommand{\hebzayin}{PU}{\85\326}% U+05D6
16943 % U+05D7 HEBREW LETTER HET
16944 \DeclareTextCommand{\hebbet}{PU}{\85\327}% U+05D7
16945 % U+05D8 HEBREW LETTER TET
16946 \DeclareTextCommand{\hebtet}{PU}{\85\330}% U+05D8
16947 % U+05D9 HEBREW LETTER YOD
16948 \DeclareTextCommand{\hebyod}{PU}{\85\331}% U+05D9
16949 % U+05DA HEBREW LETTER FINAL KAF
16950 \DeclareTextCommand{\hebfinalkaf}{PU}{\85\332}% U+05DA
16951 % U+05DB HEBREW LETTER KAF
16952 \DeclareTextCommand{\hebkaf}{PU}{\85\333}% U+05DB
16953 % U+05DC HEBREW LETTER LAMED
16954 \DeclareTextCommand{\heblamed}{PU}{\85\334}% U+05DC
16955 % U+05DD HEBREW LETTER FINAL MEM
16956 \DeclareTextCommand{\hebfinalmem}{PU}{\85\335}% U+05DD
16957 % U+05DE HEBREW LETTER MEM
16958 \DeclareTextCommand{\hebmeme}{PU}{\85\336}% U+05DE
16959 % U+05DF HEBREW LETTER FINAL NUN
16960 \DeclareTextCommand{\hebfinalnun}{PU}{\85\337}% U+05DF
16961 % U+05E0 HEBREW LETTER NUN
16962 \DeclareTextCommand{\hebnun}{PU}{\85\340}% U+05E0
16963 % U+05E1 HEBREW LETTER SAMEKH
16964 \DeclareTextCommand{\hebsamekh}{PU}{\85\341}% U+05E1
16965 % U+05E2 HEBREW LETTER AYIN
16966 \DeclareTextCommand{\hebayin}{PU}{\85\342}% U+05E2
16967 % U+05E3 HEBREW LETTER FINAL PE
16968 \DeclareTextCommand{\hebfinalpe}{PU}{\85\343}% U+05E3
16969 % U+05E4 HEBREW LETTER PE
16970 \DeclareTextCommand{\hebpe}{PU}{\85\344}% U+05E4
16971 % U+05E5 HEBREW LETTER FINAL TSADI
16972 \DeclareTextCommand{\hebfinaltsadi}{PU}{\85\345}% U+05E5
16973 % U+05E6 HEBREW LETTER TSADI
```

16974 \DeclareTextCommand{\hebtsadi}{PU}{\85\346}% U+05E6
 16975 % U+05E7 HEBREW LETTER QOF
 16976 \DeclareTextCommand{\hebqof}{PU}{\85\347}% U+05E7
 16977 % U+05E8 HEBREW LETTER RESH
 16978 \DeclareTextCommand{\hebresh}{PU}{\85\350}% U+05E8
 16979 % U+05E9 HEBREW LETTER SHIN
 16980 \DeclareTextCommand{\hebshin}{PU}{\85\351}% U+05E9
 16981 %* \hebshin -> \hebsin (he8)
 16982 % U+05EA HEBREW LETTER TAV
 16983 \DeclareTextCommand{\hebtav}{PU}{\85\352}% U+05EA
 16984 % U+05F0 HEBREW LIGATURE YIDDISH DOUBLE VAV
 16985 \DeclareTextCommand{\doublevav}{PU}{\85\360}% U+05F0
 16986 % U+05F1 HEBREW LIGATURE YIDDISH VAV YOD
 16987 \DeclareTextCommand{\vavyod}{PU}{\85\361}% U+05F1
 16988 % U+05F2 HEBREW LIGATURE YIDDISH DOUBLE YOD
 16989 \DeclareTextCommand{\doubleyod}{PU}{\85\362}% U+05F2
 16990 \fi

47.2.12 Thai: U+0E00 to U+0E7F

16991 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
 16992 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

47.2.13 Phonetic Extensions: U+1D00 to U+1D7F

16993 % U+1D00 LATIN LETTER SMALL CAPITAL A; \textscA (tipa)
 16994 \DeclareTextCommand{\textscA}{PU}{\9035\000}% U+1D00
 16995 % U+1D05 LATIN LETTER SMALL CAPITAL D; \scd (wsuipa)
 16996 \DeclareTextCommand{\textscD}{PU}{\9035\005}% U+1D05
 16997 % U+1D07 LATIN LETTER SMALL CAPITAL E; \textscE (tipa)
 16998 \DeclareTextCommand{\textscE}{PU}{\9035\007}% U+1D07
 16999 % U+1D0A LATIN LETTER SMALL CAPITAL J; \textscJ (tipa)
 17000 \DeclareTextCommand{\textscJ}{PU}{\9035\012}% U+1D0A
 17001 % U+1D0B LATIN LETTER SMALL CAPITAL K; \textscK (tipx)
 17002 \DeclareTextCommand{\textPUscK}{PU}{\9035\013}% U+1D0B
 17003 %* \textPUscK -> \textscK (tipx)
 17004 % U+1D0D LATIN LETTER SMALL CAPITAL M; \textscM (tipx)
 17005 \DeclareTextCommand{\textPUscM}{PU}{\9035\015}% U+1D0D
 17006 %* \textPUscM -> \textscM (tipx)
 17007 % U+1D18 LATIN LETTER SMALL CAPITAL P; \textscP (tipx)
 17008 \DeclareTextCommand{\textPUscP}{PU}{\9035\030}% U+1D18
 17009 %* \textPUscP -> \textscP (tipx)
 17010 % U+1D19 LATIN LETTER SMALL CAPITAL REVERSED R; \textrevscr (tipx)
 17011 \DeclareTextCommand{\textPUrevscr}{PU}{\9035\031}% U+1D19
 17012 %* \textPUrevscr -> \textrevscr (tipx)
 17013 % U+1D1C LATIN LETTER SMALL CAPITAL U; \textscU (tipa), \scU (wsuipa)
 17014 \DeclareTextCommand{\textscU}{PU}{\9035\034}% U+1D1C
 17015 % U+1D62 LATIN SUBSCRIPT SMALL LETTER I
 17016 \DeclareTextCommand{\textiinferior}{PU}{\9035\142}% U+1D62
 17017 % U+1D63 LATIN SUBSCRIPT SMALL LETTER R
 17018 \DeclareTextCommand{\textrinferior}{PU}{\9035\143}% U+1D63
 17019 % U+1D64 LATIN SUBSCRIPT SMALL LETTER U
 17020 \DeclareTextCommand{\textuinferior}{PU}{\9035\144}% U+1D64
 17021 % U+1D65 LATIN SUBSCRIPT SMALL LETTER V
 17022 \DeclareTextCommand{\textvinferior}{PU}{\9035\145}% U+1D65

17023 % U+1D66 GREEK SUBSCRIPT SMALL LETTER BETA
 17024 \DeclareTextCommand{\textbetainferior}{PU}{\9035\146}%* U+1D66
 17025 % U+1D67 GREEK SUBSCRIPT SMALL LETTER GAMMA
 17026 \DeclareTextCommand{\textgammainferior}{PU}{\9035\147}%* U+1D67
 17027 % U+1D68 GREEK SUBSCRIPT SMALL LETTER RHO
 17028 \DeclareTextCommand{\textrhoinferior}{PU}{\9035\150}%* U+1D68
 17029 % U+1D69 GREEK SUBSCRIPT SMALL LETTER PHI
 17030 \DeclareTextCommand{\textphiinferior}{PU}{\9035\151}%* U+1D69
 17031 % U+1D6A GREEK SUBSCRIPT SMALL LETTER CHI
 17032 \DeclareTextCommand{\textchiinferior}{PU}{\9035\152}%* U+1D6A
 17033 % U+1D7B LATIN SMALL CAPITAL LETTER I WITH STROKE;
 17034 % \barsci (wsuipa)
 17035 \DeclareTextCommand{\textbarsci}{PU}{\9035\173}%* U+1D7B
 17036 % U+1D7D LATIN SMALL LETTER P WITH STROKE; \barp (wsuipa)
 17037 \DeclareTextCommand{\textbarp}{PU}{\9035\175}%* U+1D7D
 17038 % U+1D7E LATIN SMALL CAPITAL LETTER U WITH STROKE;
 17039 % \barscu (wsuipa)
 17040 \DeclareTextCommand{\textbarscu}{PU}{\9035\176}%* U+1D7E

47.2.14 Phonetic Extensions Supplement: U+1D80 to U+1DBF

17041 % U+1D8F LATIN SMALL LETTER A WITH RETROFLEX HOOK; \tex-
 trhooka (tipx)
 17042 \DeclareTextCommand{\textPURhooka}{PU}{\9035\217}% U+1D8F
 17043 %* \textPURhooka -> \textrhooka (tipx)
 17044 % U+1D91 LATIN SMALL LETTER D WITH HOOK AND TAIL; \texthtr-
 taild (tipa)
 17045 \DeclareTextCommand{\texthtrtaild}{PU}{\9035\221}%* U+1D91
 17046 % U+1D92 LATIN SMALL LETTER E WITH RETROFLEX HOOK; \tex-
 trhooke (tipx)
 17047 \DeclareTextCommand{\textPURhooke}{PU}{\9035\222}% U+1D92
 17048 %* \textPURhooke -> \textrhooke (tipx)
 17049 % U+1D93 LATIN SMALL LETTER OPEN E WITH RETROFLEX HOOK;
 17050 % \textrhookepsilon (tipx)
 17051 \DeclareTextCommand{\textPURhookepsilon}{PU}{\9035\223}% U+1D93
 17052 %* \textPURhookepsilon -> \textrhookepsilon (tipx)
 17053 % U+1D97 LATIN SMALL LETTER OPEN O WITH RETROFLEX HOOK;
 17054 % \textrhookopeno (tipx)
 17055 \DeclareTextCommand{\textPURhookopeno}{PU}{\9035\227}% U+1D97
 17056 %* \textPURhookopeno -> \textrhookopeno (tipx)

47.2.15 Latin Extended Additional: U+1E00 to U+1EFF

17057 % U+1E00 LATIN CAPITAL LETTER A WITH RING BELOW; Aringbelow
 17058 \DeclareTextCompositeCommand{\textsubring}{PU}{A}{\9036\000}% U+1E00
 17059 % U+1E01 LATIN SMALL LETTER A WITH RING BELOW; aringbelow
 17060 \DeclareTextCompositeCommand{\textsubring}{PU}{a}{\9036\001}% U+1E01
 17061 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
 17062 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02
 17063 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
 17064 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03
 17065 % U+1E04 LATIN CAPITAL LETTER B WITH DOT BELOW; Bdotbelow
 17066 \DeclareTextCompositeCommand{\d}{PU}{B}{\9036\004}% U+1E04
 17067 % U+1E05 LATIN SMALL LETTER B WITH DOT BELOW; bdotbelow
 17068 \DeclareTextCompositeCommand{\d}{PU}{b}{\9036\005}% U+1E05
 17069 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow

17070 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
17071 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
17072 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
17073 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
17074 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A
17075 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
17076 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B
17077 % U+1E0C LATIN CAPITAL LETTER D WITH DOT BELOW; Ddotbelow
17078 \DeclareTextCompositeCommand{\d}{PU}{D}{\9036\014}% U+1E0C
17079 % U+1E0D LATIN SMALL LETTER D WITH DOT BELOW; ddotbelow
17080 \DeclareTextCompositeCommand{\d}{PU}{d}{\9036\015}% U+1E0D
17081 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
17082 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
17083 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
17084 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
17085 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
17086 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
17087 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
17088 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
17089 % U+1E12 LATIN CAPITAL LETTER D WITH CIRCUMFLEX BELOW; Dcir-
cumflexbelow
17090 \DeclareTextCompositeCommand{\textsubcircum}{PU}{D}{\9036\022}% U+1E12
17091 % U+1E13 LATIN SMALL LETTER D WITH CIRCUMFLEX BELOW; dcir-
cumflexbelow
17092 \DeclareTextCompositeCommand{\textsubcircum}{PU}{d}{\9036\023}% U+1E13
17093 % U+1E14 LATIN CAPITAL LETTER E WITH MACRON AND GRAVE;
17094 % Emacrongrave
17095 \DeclareTextCompositeCommand{\textgravemacron}{PU}{E}{\9036\024}% U+1E14
17096 % U+1E15 LATIN SMALL LETTER E WITH MACRON AND GRAVE;
17097 % emacrongrave
17098 \DeclareTextCompositeCommand{\textgravemacron}{PU}{e}{\9036\025}% U+1E15
17099 % U+1E16 LATIN CAPITAL LETTER E WITH MACRON AND ACUTE;
17100 % Emacronacute
17101 \DeclareTextCompositeCommand{\textacutemacron}{PU}{E}{\9036\026}% U+1E16
17102 % U+1E17 LATIN SMALL LETTER E WITH MACRON AND ACUTE;
17103 % emacronacute
17104 \DeclareTextCompositeCommand{\textacutemacron}{PU}{e}{\9036\027}% U+1E17
17105 % U+1E18 LATIN CAPITAL LETTER E WITH CIRCUMFLEX BELOW; Ecir-
cumflexbelow
17106 \DeclareTextCompositeCommand{\textsubcircum}{PU}{E}{\9036\030}% U+1E18
17107 % U+1E19 LATIN SMALL LETTER E WITH CIRCUMFLEX BELOW; ecir-
cumflexbelow
17108 \DeclareTextCompositeCommand{\textsubcircum}{PU}{e}{\9036\031}% U+1E19
17109 % U+1E1A LATIN CAPITAL LETTER E WITH TILDE BELOW; Etildebelow
17110 \DeclareTextCompositeCommand{\textsubtilde}{PU}{E}{\9036\032}% U+1E1A
17111 % U+1E1B LATIN SMALL LETTER E WITH TILDE BELOW; etildebelow
17112 \DeclareTextCompositeCommand{\textsubtilde}{PU}{e}{\9036\033}% U+1E1B
17113 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
17114 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E
17115 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
17116 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F
17117 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
17118 \DeclareTextCompositeCommand{=} {PU}{G}{\9036\040}% U+1E20
17119 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron

17120 \DeclareTextCompositeCommand{=} {PU}{g}{\9036\041}% U+1E21
17121 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
17122 \DeclareTextCompositeCommand{.} {PU}{H}{\9036\042}% U+1E22
17123 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
17124 \DeclareTextCompositeCommand{.} {PU}{h}{\9036\043}% U+1E23
17125 % U+1E24 LATIN CAPITAL LETTER H WITH DOT BELOW; Hdotbelow
17126 \DeclareTextCompositeCommand{d} {PU}{H}{\9036\044}% U+1E24
17127 % U+1E25 LATIN SMALL LETTER H WITH DOT BELOW; hdotbelow
17128 \DeclareTextCompositeCommand{d} {PU}{h}{\9036\045}% U+1E25
17129 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
17130 \DeclareTextCompositeCommand{"} {PU}{H}{\9036\046}% U+1E26
17131 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
17132 \DeclareTextCompositeCommand{"} {PU}{h}{\9036\047}% U+1E27
17133 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
17134 \DeclareTextCompositeCommand{c} {PU}{H}{\9036\050}% U+1E28
17135 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
17136 \DeclareTextCompositeCommand{c} {PU}{h}{\9036\051}% U+1E29
17137 % U+1E2A LATIN CAPITAL LETTER H WITH BREVE BELOW; Hbrevebelow
17138 \DeclareTextCompositeCommand{\textsubbreve} {PU}{H}{\9036\052}% U+1E2A
17139 % U+1E2B LATIN SMALL LETTER H WITH BREVE BELOW; hbrevebelow
17140 \DeclareTextCompositeCommand{\textsubbreve} {PU}{h}{\9036\053}% U+1E2B
17141 % U+1E2C LATIN CAPITAL LETTER I WITH TILDE BELOW; Itildebelow
17142 \DeclareTextCompositeCommand{\textsubtilde} {PU}{I}{\9036\054}% U+1E2C
17143 % U+1E2D LATIN SMALL LETTER I WITH TILDE BELOW; itildebelow
17144 \DeclareTextCompositeCommand{\textsubtilde} {PU}{i}{\9036\055}% U+1E2D
17145 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
17146 \DeclareTextCompositeCommand{'} {PU}{K}{\9036\060}% U+1E30
17147 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
17148 \DeclareTextCompositeCommand{'} {PU}{k}{\9036\061}% U+1E31
17149 % U+1E32 LATIN CAPITAL LETTER K WITH DOT BELOW; Kdotbelow
17150 \DeclareTextCompositeCommand{d} {PU}{K}{\9036\062}% U+1E32
17151 % U+1E33 LATIN SMALL LETTER K WITH DOT BELOW; kdotbelow
17152 \DeclareTextCompositeCommand{d} {PU}{k}{\9036\063}% U+1E33
17153 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
17154 \DeclareTextCompositeCommand{b} {PU}{K}{\9036\064}% U+1E34
17155 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
17156 \DeclareTextCompositeCommand{b} {PU}{k}{\9036\065}% U+1E35
17157 % U+1E36 LATIN CAPITAL LETTER L WITH DOT BELOW; Ldotbelow
17158 \DeclareTextCompositeCommand{d} {PU}{L}{\9036\066}% U+1E36
17159 % U+1E37 LATIN SMALL LETTER L WITH DOT BELOW; ldotbelow
17160 \DeclareTextCompositeCommand{d} {PU}{l}{\9036\067}% U+1E37
17161 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
17162 \DeclareTextCompositeCommand{b} {PU}{L}{\9036\072}% U+1E3A
17163 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
17164 \DeclareTextCompositeCommand{b} {PU}{l}{\9036\073}% U+1E3B
17165 % U+1E3C LATIN CAPITAL LETTER L WITH CIRCUMFLEX BELOW; Lcir-
cumflexbelow
17166 \DeclareTextCompositeCommand{\textsubcircum} {PU}{L}{\9036\074}% U+1E3C
17167 % U+1E3D LATIN SMALL LETTER L WITH CIRCUMFLEX BELOW; lcir-
cumflexbelow
17168 \DeclareTextCompositeCommand{\textsubcircum} {PU}{l}{\9036\075}% U+1E3D
17169 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
17170 \DeclareTextCompositeCommand{'} {PU}{M}{\9036\076}% U+1E3E
17171 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute

17172 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F
17173 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
17174 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40
17175 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
17176 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41
17177 % U+1E42 LATIN CAPITAL LETTER M WITH DOT BELOW; Mdotbelow
17178 \DeclareTextCompositeCommand{\d}{PU}{M}{\9036\102}% U+1E42
17179 % U+1E43 LATIN SMALL LETTER M WITH DOT BELOW; mdotbelow
17180 \DeclareTextCompositeCommand{\d}{PU}{m}{\9036\103}% U+1E43
17181 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
17182 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44
17183 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
17184 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45
17185 % U+1E46 LATIN CAPITAL LETTER N WITH DOT BELOW; Ndotbelow
17186 \DeclareTextCompositeCommand{\d}{PU}{N}{\9036\106}% U+1E46
17187 % U+1E47 LATIN SMALL LETTER N WITH DOT BELOW; ndotbelow
17188 \DeclareTextCompositeCommand{\d}{PU}{n}{\9036\107}% U+1E47
17189 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
17190 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48
17191 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
17192 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49
17193 % U+1E4A LATIN CAPITAL LETTER N WITH CIRCUMFLEX BELOW; Ncir-
cumflexbelow
17194 \DeclareTextCompositeCommand{\textsubcircum}{PU}{N}{\9036\112}% U+1E4A
17195 % U+1E4B LATIN SMALL LETTER N WITH CIRCUMFLEX BELOW; ncir-
cumflexbelow
17196 \DeclareTextCompositeCommand{\textsubcircum}{PU}{n}{\9036\113}% U+1E4B
17197 % U+1E50 LATIN CAPITAL LETTER O WITH MACRON AND GRAVE;
17198 % Omacrongrave
17199 \DeclareTextCompositeCommand{\textgravemacron}{PU}{O}{\9036\120}% U+1E50
17200 % U+1E51 LATIN SMALL LETTER O WITH MACRON AND GRAVE;
17201 % omacrongrave
17202 \DeclareTextCompositeCommand{\textgravemacron}{PU}{o}{\9036\121}% U+1E51
17203 % U+1E52 LATIN CAPITAL LETTER O WITH MACRON AND ACUTE;
17204 % Omacronacute
17205 \DeclareTextCompositeCommand{\textacutemacron}{PU}{O}{\9036\122}% U+1E52
17206 % U+1E53 LATIN SMALL LETTER O WITH MACRON AND ACUTE;
17207 % omacronacute
17208 \DeclareTextCompositeCommand{\textacutemacron}{PU}{o}{\9036\123}% U+1E53
17209 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
17210 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54
17211 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
17212 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55
17213 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
17214 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56
17215 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
17216 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57
17217 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
17218 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58
17219 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent
17220 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59
17221 % U+1E5A LATIN CAPITAL LETTER R WITH DOT BELOW; Rdotbelow
17222 \DeclareTextCompositeCommand{\d}{PU}{R}{\9036\132}% U+1E5A
17223 % U+1E5B LATIN SMALL LETTER R WITH DOT BELOW; rdotbelow

17224 \DeclareTextCompositeCommand{\d}{PU}{r}{\9036\133}% U+1E5B
 17225 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
 17226 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E
 17227 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
 17228 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F
 17229 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
 17230 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60
 17231 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
 17232 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61
 17233 % U+1E62 LATIN CAPITAL LETTER S WITH DOT BELOW; Sdotbelow
 17234 \DeclareTextCompositeCommand{\d}{PU}{S}{\9036\142}% U+1E62
 17235 % U+1E63 LATIN SMALL LETTER S WITH DOT BELOW; sdotbelow
 17236 \DeclareTextCompositeCommand{\d}{PU}{s}{\9036\143}% U+1E63
 17237 % U+1E6A LATIN CAPITAL LETTER T WITH DOT ABOVE; Tdotaccent
 17238 \DeclareTextCompositeCommand{\.}{PU}{T}{\9036\152}% U+1E6A
 17239 % U+1E6B LATIN SMALL LETTER T WITH DOT ABOVE; tdotaccent
 17240 \DeclareTextCompositeCommand{\.}{PU}{t}{\9036\153}% U+1E6B
 17241 % U+1E6C LATIN CAPITAL LETTER T WITH DOT BELOW; Tdotbelow
 17242 \DeclareTextCompositeCommand{\d}{PU}{T}{\9036\154}% U+1E6C
 17243 % U+1E6D LATIN SMALL LETTER T WITH DOT BELOW; tdotbelow
 17244 \DeclareTextCompositeCommand{\d}{PU}{t}{\9036\155}% U+1E6D
 17245 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
 17246 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
 17247 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
 17248 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
 17249 % U+1E70 LATIN CAPITAL LETTER T WITH CIRCUMFLEX BELOW; Tcir-
 cumflexbelow
 17250 \DeclareTextCompositeCommand{\textsubcircum}{PU}{T}{\9036\160}% U+1E70
 17251 % U+1E71 LATIN SMALL LETTER T WITH CIRCUMFLEX BELOW; tcir-
 cumflexbelow
 17252 \DeclareTextCompositeCommand{\textsubcircum}{PU}{t}{\9036\161}% U+1E71
 17253 % U+1E72 LATIN CAPITAL LETTER U WITH DIAERESIS BELOW; Udiere-
 sisbelow
 17254 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{U}{\9036\162}% U+1E72
 17255 % U+1E73 LATIN SMALL LETTER U WITH DIAERESIS BELOW; udiere-
 sisbelow
 17256 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{u}{\9036\163}% U+1E73
 17257 % U+1E74 LATIN CAPITAL LETTER U WITH TILDE BELOW; Utildebelow
 17258 \DeclareTextCompositeCommand{\textsubtilde}{PU}{U}{\9036\164}% U+1E74
 17259 % U+1E75 LATIN SMALL LETTER U WITH TILDE BELOW; utildebelow
 17260 \DeclareTextCompositeCommand{\textsubtilde}{PU}{u}{\9036\165}% U+1E75
 17261 % U+1E76 LATIN CAPITAL LETTER U WITH CIRCUMFLEX BELOW; Ucir-
 cumflexbelow
 17262 \DeclareTextCompositeCommand{\textsubcircum}{PU}{U}{\9036\166}% U+1E76
 17263 % U+1E77 LATIN SMALL LETTER U WITH CIRCUMFLEX BELOW; ucir-
 cumflexbelow
 17264 \DeclareTextCompositeCommand{\textsubcircum}{PU}{u}{\9036\167}% U+1E77
 17265 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
 17266 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
 17267 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
 17268 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
 17269 % U+1E7E LATIN CAPITAL LETTER V WITH DOT BELOW; Vdotbelow
 17270 \DeclareTextCompositeCommand{\d}{PU}{V}{\9036\176}% U+1E7E
 17271 % U+1E7F LATIN SMALL LETTER V WITH DOT BELOW; vdotbelow

17272 \DeclareTextCompositeCommand{\d}{PU}{v}{\9036\177}% U+1E7F
17273 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
17274 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80
17275 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
17276 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81
17277 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
17278 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82
17279 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
17280 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83
17281 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
17282 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84
17283 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
17284 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85
17285 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
17286 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86
17287 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
17288 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87
17289 % U+1E88 LATIN CAPITAL LETTER W WITH DOT BELOW; wdotbelow
17290 \DeclareTextCompositeCommand{\d}{PU}{W}{\9036\210}% U+1E88
17291 % U+1E89 LATIN SMALL LETTER W WITH DOT BELOW; wdotbelow
17292 \DeclareTextCompositeCommand{\d}{PU}{w}{\9036\211}% U+1E89
17293 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
17294 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A
17295 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
17296 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B
17297 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
17298 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C
17299 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
17300 \DeclareTextCompositeCommand{\"}{PU}{x}{\9036\215}% U+1E8D
17301 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
17302 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E
17303 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
17304 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F
17305 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
17306 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90
17307 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
17308 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91
17309 % U+1E92 LATIN CAPITAL LETTER Z WITH DOT BELOW; Zdotbelow
17310 \DeclareTextCompositeCommand{\d}{PU}{Z}{\9036\222}% U+1E92
17311 % U+1E93 LATIN SMALL LETTER Z WITH DOT BELOW; zdotbelow
17312 \DeclareTextCompositeCommand{\d}{PU}{z}{\9036\223}% U+1E93
17313 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
17314 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
17315 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
17316 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
17317 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
17318 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
17319 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
17320 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97
17321 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
17322 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
17323 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
17324 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
17325 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdo-

taccent

17326 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B

17327 % U+1EA0 LATIN CAPITAL LETTER A WITH DOT BELOW; Adotbelow

17328 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0

17329 % U+1EA1 LATIN SMALL LETTER A WITH DOT BELOW; adotbelow

17330 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1

17331 % U+1EB8 LATIN CAPITAL LETTER E WITH DOT BELOW; Edotbelow

17332 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8

17333 % U+1EB9 LATIN SMALL LETTER E WITH DOT BELOW; edotbelow

17334 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9

17335 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde

17336 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC

17337 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde

17338 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD

17339 % U+1ECA LATIN CAPITAL LETTER I WITH DOT BELOW; Idotbelow

17340 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA

17341 % U+1ECB LATIN SMALL LETTER I WITH DOT BELOW; idotbelow

17342 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB

17343 % U+1ECC LATIN CAPITAL LETTER O WITH DOT BELOW; Odotbelow

17344 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC

17345 % U+1ECD LATIN SMALL LETTER O WITH DOT BELOW; odotbelow

17346 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD

17347 % U+1EE4 LATIN CAPITAL LETTER U WITH DOT BELOW; Udotbelow

17348 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4

17349 % U+1EE5 LATIN SMALL LETTER U WITH DOT BELOW; udotbelow

17350 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5

17351 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave

17352 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2

17353 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave

17354 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3

17355 % U+1EF4 LATIN CAPITAL LETTER Y WITH DOT BELOW; Ydotbelow

17356 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4

17357 % U+1EF5 LATIN SMALL LETTER Y WITH DOT BELOW; ydotbelow

17358 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5

17359 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde

17360 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8

17361 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde

17362 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

47.2.16 General Punctuation: U+2000 to U+206F

17363 % U+200C ZERO WIDTH NON-JOINER; *afii61664, zerowidthnonjoiner

17364 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C

17365 % U+2013 EN DASH; endash

17366 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013

17367 % U+2014 EM DASH; emdash

17368 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014

17369 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar

17370 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016

17371 %* \textbardbl -> \textdoublevertline (tipa)

17372 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft

17373 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018

17374 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright

17375 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019

17376 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase

17377 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
17378 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
17379 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
17380 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
17381 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
17382 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
17383 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
17384 % U+2020 DAGGER; dagger
17385 \DeclareTextCommand{\textdagger}{PU}{\9040\040}%* U+2020
17386 %* \textdagger -> \dag (LaTeX)
17387 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)
17388 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
17389 %* \textdaggerdbl -> \ddagger (LaTeX)
17390 %* \textdaggerdbl -> \ddag (LaTeX)
17391 % U+2022 BULLET; bullet
17392 \DeclareTextCommand{\textbullet}{PU}{\9040\042}%* U+2022
17393 % U+2025 TWO DOT LEADER; \hdotfor (MnSymbol)
17394 \DeclareTextCommand{\texthdotfor}{PU}{\9040\045}%* U+2025
17395 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
17396 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
17397 %* \textellipsis -> \mathellipsis
17398 % U+2030 PER MILLE SIGN; perthousand
17399 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
17400 % U+2031 PER TEN THOUSAND SIGN
17401 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
17402 % U+2032 PRIME; minute; \prime (MnSymbol)
17403 \DeclareTextCommand{\textprime}{PU}{\9040\062}%* U+2032
17404 % U+2033 DOUBLE PRIME; \second (mathabx)
17405 \DeclareTextCommand{\textsecond}{PU}{\9040\063}%* U+2033
17406 % U+2034 TRIPLE PRIME; \third (mathabx)
17407 \DeclareTextCommand{\textthird}{PU}{\9040\064}%* U+2034
17408 % U+2035 REVERSED PRIME; \backprime (AmS)
17409 \DeclareTextCommand{\textbackprime}{PU}{\9040\065}%* U+2035
17410 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
inglleft
17411 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039
17412 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
inglright
17413 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A
17414 % U+203B REFERENCE MARK; referencemark
17415 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
17416 % U+203D INTERROBANG
17417 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
17418 % U+2044 FRACTION SLASH; fraction
17419 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
17420 % U+2045 LEFT SQUARE BRACKET WITH QUILL
17421 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
17422 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
17423 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
17424 % U+2052 COMMERCIAL MINUS SIGN
17425 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052
17426 % U+2056 THREE DOT PUNCTUATION; \lefttherefore (MnSymbol)
17427 \DeclareTextCommand{\textlefttherefore}{PU}{\9040\126}%* U+2056
17428 % U+2057 QUADRUPLE PRIME; \fourth (mathabx)

17429 \DeclareTextCommand{\textfourth}{PU}{\9040\127}%* U+2057
 17430 % U+2058 FOUR DOT PUNCTUATION; \diamonddots (MnSymbol)
 17431 \DeclareTextCommand{\textdiamonddots}{PU}{\9040\130}%* U+2058

47.2.17 Superscripts and Subscripts: U+2070 to U+209F

17432 % U+2070 SUPERSCRIPT ZERO; zerosuperior
 17433 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}%* U+2070
 17434 % U+2071 SUPERSCRIPT LATIN SMALL LETTER I
 17435 \DeclareTextCommand{\textisuperior}{PU}{\9040\161}%* U+2071
 17436 % U+2074 SUPERSCRIPT FOUR; foursuperior
 17437 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}%* U+2074
 17438 % U+2075 SUPERSCRIPT FIVE; fivesuperior
 17439 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}%* U+2075
 17440 % U+2076 SUPERSCRIPT SIX; sixsuperior
 17441 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}%* U+2076
 17442 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
 17443 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}%* U+2077
 17444 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
 17445 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}%* U+2078
 17446 % U+2079 SUPERSCRIPT NINE; ninesuperior
 17447 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}%* U+2079
 17448 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
 17449 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}%* U+207A
 17450 % U+207B SUPERSCRIPT MINUS
 17451 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}%* U+207B
 17452 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
 17453 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}%* U+207C
 17454 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
 17455 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}%* U+207D
 17456 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
 17457 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}%* U+207E
 17458 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
 17459 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}%* U+207F
 17460 % U+2080 SUBSCRIPT ZERO; zeroinferior
 17461 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}%* U+2080
 17462 % U+2081 SUBSCRIPT ONE; oneinferior
 17463 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}%* U+2081
 17464 % U+2082 SUBSCRIPT TWO; twoinferior
 17465 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}%* U+2082
 17466 % U+2083 SUBSCRIPT THREE; threeinferior
 17467 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}%* U+2083
 17468 % U+2084 SUBSCRIPT FOUR; fourinferior
 17469 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}%* U+2084
 17470 % U+2085 SUBSCRIPT FIVE; fiveinferior
 17471 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}%* U+2085
 17472 % U+2086 SUBSCRIPT SIX; sixinferior
 17473 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}%* U+2086
 17474 % U+2087 SUBSCRIPT SEVEN; seveninferior
 17475 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}%* U+2087
 17476 % U+2088 SUBSCRIPT EIGHT; eightinferior
 17477 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}%* U+2088
 17478 % U+2089 SUBSCRIPT NINE; nineinferior
 17479 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}%* U+2089
 17480 % U+208A SUBSCRIPT PLUS SIGN

17481 \DeclareTextCommand{\textplusinferior}{PU}{\9040\212}%* U+208A
 17482 % U+208B SUBSCRIPT MINUS
 17483 \DeclareTextCommand{\textminusinferior}{PU}{\9040\213}%* U+208B
 17484 % U+208C SUBSCRIPT EQUALS SIGN
 17485 \DeclareTextCommand{\textequalsinferior}{PU}{\9040\214}%* U+208C
 17486 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
 17487 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}%* U+208D
 17488 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
 17489 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}%* U+208E
 17490 % U+2090 LATIN SUBSCRIPT SMALL LETTER A
 17491 \DeclareTextCommand{\textainferior}{PU}{\9040\220}%* U+2090
 17492 % U+2091 LATIN SUBSCRIPT SMALL LETTER E
 17493 \DeclareTextCommand{\texteinferior}{PU}{\9040\221}%* U+2091
 17494 % U+2092 LATIN SUBSCRIPT SMALL LETTER O
 17495 \DeclareTextCommand{\textoinferior}{PU}{\9040\222}%* U+2092
 17496 % U+2093 LATIN SUBSCRIPT SMALL LETTER X
 17497 \DeclareTextCommand{\textxinferior}{PU}{\9040\223}%* U+2093
 17498 % U+2094 LATIN SUBSCRIPT SMALL LETTER SCHWA
 17499 \DeclareTextCommand{\textschwainferior}{PU}{\9040\224}%* U+2094
 17500 % U+2095 LATIN SUBSCRIPT SMALL LETTER H
 17501 \DeclareTextCommand{\texthinferior}{PU}{\9040\225}%* U+2095
 17502 % U+2096 LATIN SUBSCRIPT SMALL LETTER K
 17503 \DeclareTextCommand{\textkinferior}{PU}{\9040\226}%* U+2096
 17504 % U+2097 LATIN SUBSCRIPT SMALL LETTER L
 17505 \DeclareTextCommand{\textlinferior}{PU}{\9040\227}%* U+2097
 17506 % U+2098 LATIN SUBSCRIPT SMALL LETTER M
 17507 \DeclareTextCommand{\textminferior}{PU}{\9040\230}%* U+2098
 17508 % U+2099 LATIN SUBSCRIPT SMALL LETTER N
 17509 \DeclareTextCommand{\textninferior}{PU}{\9040\231}%* U+2099
 17510 % U+209A LATIN SUBSCRIPT SMALL LETTER P
 17511 \DeclareTextCommand{\textpinferior}{PU}{\9040\232}%* U+209A
 17512 % U+209B LATIN SUBSCRIPT SMALL LETTER S
 17513 \DeclareTextCommand{\textsinferior}{PU}{\9040\233}%* U+209B
 17514 % U+209C LATIN SUBSCRIPT SMALL LETTER T
 17515 \DeclareTextCommand{\texttinferior}{PU}{\9040\234}%* U+209C

47.2.18 Currency Symbols: U+20A0 to U+20CF

17516 % U+20A1 COLON SIGN; *colonmonetary, colonsign
 17517 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
 17518 % U+20A4 LIRA SIGN; afii08941, *lira
 17519 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
 17520 % U+20A6 NAIRA SIGN
 17521 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
 17522 % U+20A7 PESETA SIGN; peseta
 17523 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
 17524 % U+20A9 WON SIGN; won
 17525 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
 17526 % U+20AB DONG SIGN; dong
 17527 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
 17528 % U+20AC EURO SIGN; *Euro, euro
 17529 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
 17530 %* \texteuro -> \EurDig (marvosym)
 17531 %* \texteuro -> \EURdig (marvosym)
 17532 %* \texteuro -> \EurHv (marvosym)

17533 %* \texteuro -> \EURhv (marvosym)
 17534 %* \texteuro -> \EurCr (marvosym)
 17535 %* \texteuro -> \EURcr (marvosym)
 17536 %* \texteuro -> \EurTm (marvosym)
 17537 %* \texteuro -> \EURtm (marvosym)
 17538 %* \texteuro -> \Eur (marvosym)
 17539 % U+20B0 GERMAN PENNY SIGN; \Deleatur (marvosym)
 17540 \DeclareTextCommand{\textDeleatur}{PU}{\9040\260}%* U+20B0
 17541 %* \textDeleatur -> \Denarius (marvosym)
 17542 % U+20B1 PESO SIGN
 17543 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
 17544 % U+20B2 GUARANI SIGN
 17545 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

47.2.19 Letterlike Symbols: U+2100 to U+214F

17546 % U+2103 DEGREE CELSIUS; centigrade
 17547 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
 17548 % U+210F PLANCK CONSTANT OVER TWO PI; \hslash (AmS)
 17549 \DeclareTextCommand{\texthslash}{PU}{\9041\017}%* U+210F
 17550 % U+2111 BLACK-LETTER CAPITAL I (=imaginary part); Ifraktur; \Im (LaTeX)
 17551 \DeclareTextCommand{\textIm}{PU}{\9041\021}%* U+2111
 17552 % U+2113 SCRIPT SMALL L (=ell, liter); affi61289, lsquare; \ell (LaTeX)
 17553 \DeclareTextCommand{\textell}{PU}{\9041\023}%* U+2113
 17554 % U+2116 NUMERO SIGN; *affi61352, numero
 17555 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
 17556 % U+2117 SOUND RECORDING COPYRIGHT
 17557 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
 17558 % U+2118 SCRIPT CAPITAL P (=Weierstrass elliptic function);
 17559 % weierstrass; \wp (LaTeX)
 17560 \DeclareTextCommand{\textwp}{PU}{\9041\030}%* U+2118
 17561 % U+211C BLACK-LETTER CAPITAL R (=real part); Rfraktur; \Re (LaTeX)
 17562 \DeclareTextCommand{\textRe}{PU}{\9041\034}%* U+211C
 17563 % U+211E PRESCRIPTION TAKE; prescription
 17564 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
 17565 % U+2120 SERVICE MARK
 17566 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
 17567 % U+2122 TRADE MARK SIGN; trademark
 17568 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
 17569 % U+2126 OHM SIGN; Ohm, Omega
 17570 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
 17571 % U+2127 INVERTED OHM SIGN
 17572 \DeclareTextCommand{\textmho}{PU}{\9041\047}%* U+2127
 17573 %* \textmho -> \agemO (wasysym)
 17574 % U+2129 TURNED GREEK SMALL LETTER IOTA; \riota (phonetic)
 17575 \DeclareTextCommand{\textriota}{PU}{\9041\051}%* U+2129
 17576 % U+212B ANGSTROM SIGN; angstrom
 17577 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
 17578 % U+212E ESTIMATED SYMBOL; estimated
 17579 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
 17580 %* \textestimated -> \EstimatedSign (marvosym)
 17581 %* \textestimated -> \Ecommerce (marvosym)
 17582 % U+2132 TURNED CAPITAL F; \Finv (AmS)
 17583 \DeclareTextCommand{\textFinv}{PU}{\9041\062}%* U+2132

17584 % U+2135 ALEF SYMBOL; aleph; \aleph (LaTeX)
 17585 \DeclareTextCommand{\textaleph}{PU}{\9041\065}%* U+2135
 17586 % U+2136 BET SYMBOL; \beth (AmS, MnSymbol)
 17587 \DeclareTextCommand{\textbeth}{PU}{\9041\066}%* U+2136
 17588 % U+2137 GIMEL SYMBOL; \gimel (AmS, MnSymbol)
 17589 \DeclareTextCommand{\textgimel}{PU}{\9041\067}%* U+2137
 17590 % U+2138 DALET SYMBOL; \daleth (AmS, MnSymbol)
 17591 \DeclareTextCommand{\textdaleth}{PU}{\9041\070}%* U+2138
 17592 % U+213B FACSIMILE SIGN; \fax (marvosym)
 17593 \DeclareTextCommand{\textfax}{PU}{\9041\073}%* U+213B
 17594 % U+2141 TURNED SANS-SERIF CAPITAL G (=game); \Game
 17595 \DeclareTextCommand{\textGame}{PU}{\9041\101}%* U+2141
 17596 % U+214B TURNED AMPERSAND; \invamp (txfonts/pxfonts)
 17597 \DeclareTextCommand{\textinvamp}{PU}{\9041\113}% U+214B
 17598 %* \textinvamp -> \bindnasrepma (stmaryrd)
 17599 %* \textinvamp -> \parr (cml)

47.2.20 Number Forms: U+2150 to U+218F

17600 % U+2150 VULGAR FRACTION ONE SEVENTH
 17601 \DeclareTextCommand{\textoneseventh}{PU}{\9041\120}% U+2150
 17602 % U+2151 VULGAR FRACTION ONE NINTH
 17603 \DeclareTextCommand{\textoneninth}{PU}{\9041\121}% U+2151
 17604 % U+2152 VULGAR FRACTION ONE TENTH
 17605 \DeclareTextCommand{\textonetenth}{PU}{\9041\122}% U+2152
 17606 % U+2153 VULGAR FRACTION ONE THIRD; onethird
 17607 \DeclareTextCommand{\textonethird}{PU}{\9041\123}% U+2153
 17608 % U+2154 VULGAR FRACTION TWO THIRDS; twothirds
 17609 \DeclareTextCommand{\texttwothirds}{PU}{\9041\124}% U+2154
 17610 % U+2155 VULGAR FRACTION ONE FIFTH
 17611 \DeclareTextCommand{\textonefifth}{PU}{\9041\125}% U+2155
 17612 % U+2156 VULGAR FRACTION TWO FIFTHS
 17613 \DeclareTextCommand{\texttwofifths}{PU}{\9041\126}% U+2156
 17614 % U+2157 VULGAR FRACTION THREE FIFTHS
 17615 \DeclareTextCommand{\textthreefifths}{PU}{\9041\127}% U+2157
 17616 % U+2158 VULGAR FRACTION FOUR FIFTHS
 17617 \DeclareTextCommand{\textfourfifths}{PU}{\9041\130}% U+2158
 17618 % U+2159 VULGAR FRACTION ONE SIXTH
 17619 \DeclareTextCommand{\textonesixth}{PU}{\9041\131}% U+2159
 17620 % U+215A VULGAR FRACTION FIVE SIXTHS
 17621 \DeclareTextCommand{\textfivesixths}{PU}{\9041\132}% U+215A
 17622 % U+215B VULGAR FRACTION ONE EIGHTH; oneeighth
 17623 \DeclareTextCommand{\textoneeighth}{PU}{\9041\133}% U+215B
 17624 % U+215C VULGAR FRACTION THREE EIGHTHS; threeeighths
 17625 \DeclareTextCommand{\textthreeeighths}{PU}{\9041\134}% U+215C
 17626 % U+215D VULGAR FRACTION FIVE EIGHTHS; fiveeighths
 17627 \DeclareTextCommand{\textfiveeighths}{PU}{\9041\135}% U+215D
 17628 % U+215E VULGAR FRACTION SEVEN EIGHTHS; seveneighths
 17629 \DeclareTextCommand{\textseveneighths}{PU}{\9041\136}% U+215E
 17630 % U+2184 LATIN SMALL LETTER REVERSED C
 17631 \DeclareTextCommand{\textrevc}{PU}{\9041\204}% U+2184
 17632 % U+2189 VULGAR FRACTION ZERO THIRDS
 17633 \DeclareTextCommand{\textzerthirds}{PU}{\9041\211}% U+2189

47.2.21 Arrows: U+2190 to U+21FF

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17634 % U+2190 LEFTWARDS ARROW; arrowleft
17635 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}%* U+2190
17636 % U+2191 UPWARDS ARROW; arrowup
17637 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}%* U+2191
17638 % U+2192 RIGHTWARDS ARROW; arrowright
17639 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}%* U+2192
17640 %* \textrightarrow -> \MVRightArrow (marvosym)
17641 %* \textrightarrow -> \MVRightarrow (marvosym)
17642 % U+2193 DOWNWARDS ARROW; arrowdown
17643 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}%* U+2193
17644 %* \textdownarrow -> \MVArrowDown (marvosym)
17645 %* \textdownarrow -> \Force (marvosym)
17646 % U+2194 LEFT RIGHT ARROW; arrowboth; \leftrightharrow (LaTeX)
17647 \DeclareTextCommand{\textleftrightharrow}{PU}{\9041\224}%* U+2194
17648 % U+2195 UP DOWN ARROW; arrowupdn; \updownarrow (LaTeX)
17649 \DeclareTextCommand{\textupdownarrow}{PU}{\9041\225}%* U+2195
17650 % U+2196 NORTH WEST ARROW; arrowupleft; \nwarrow (LaTeX)
17651 \DeclareTextCommand{\textnwarrow}{PU}{\9041\226}%* U+2196
17652 % U+2197 NORTH EAST ARROW; arrowupright; \nearrow (LaTeX)
17653 \DeclareTextCommand{\textnearrow}{PU}{\9041\227}%* U+2197
17654 %* \textnearrow -> \textglobrise (tipa)
17655 % U+2198 SOUTH EAST ARROW; arrowdownright; \searrow (LaTeX)
17656 \DeclareTextCommand{\textsearrow}{PU}{\9041\230}%* U+2198
17657 %* \textsearrow -> \textglobfall (tipa)
17658 % U+2199 SOUTH WEST ARROW; arrowdownleft; \swarrow (LaTeX)
17659 \DeclareTextCommand{\textswarrow}{PU}{\9041\231}%* U+2199
17660 % U+219A LEFTWARDS ARROW WITH STROKE; \leftarrow (AmS)
17661 \DeclareTextCommand{\textnleftarrow}{PU}{\9041\232}%* U+219A
17662 % U+219B RIGHTWARDS ARROW WITH STROKE; \rightarrow (AmS)
17663 \DeclareTextCommand{\textnrightarrow}{PU}{\9041\233}%* U+219B
17664 % U+219E LEFTWARDS TWO HEADED ARROW; \twoheadleftarrow (AmS)
17665 \DeclareTextCommand{\texttwoheadleftarrow}{PU}{\9041\236}%* U+219E
17666 % \ntwoheadleftarrow (txfonts/pxfonts)
17667 \DeclareTextCommand{\textntwoheadleftarrow}{PU}{\9041\236\83\070}%* U+219E U+0338
17668 % U+219F UPWARDS TWO HEADED ARROW; \twoheaduparrow (MnSymbol)
17669 \DeclareTextCommand{\texttwoheaduparrow}{PU}{\9041\237}%* U+219F
17670 % U+21A0 RIGHTWARDS TWO HEADED ARROW;
17671 % \twoheadrightarrow (AmS)
17672 \DeclareTextCommand{\texttwoheadrightarrow}{PU}{\9041\240}%* U+21A0
17673 % \ntwoheadrightarrow (txfonts/pxfonts)
17674 \DeclareTextCommand{\textntwoheadrightarrow}{PU}{\9041\240\83\070}%* U+21A0 U+0338
17675 % U+21A1 DOWNWARDS TWO HEADED ARROW; \twoheaddownarrow (Mn-
Symbol)
17676 \DeclareTextCommand{\texttwoheaddownarrow}{PU}{\9041\241}%* U+21A1
17677 % U+21A2 LEFTWARDS ARROW WITH TAIL; \leftarrowtail (AmS)
17678 \DeclareTextCommand{\textleftarrowtail}{PU}{\9041\242}%* U+21A2
17679 % U+21A3 RIGHTWARDS ARROW WITH TAIL; \rightarrowtail (AmS)
17680 \DeclareTextCommand{\textrightarrowtail}{PU}{\9041\243}%* U+21A3
17681 % U+21A6 RIGHTWARDS ARROW FROM BAR; \mapsto (LaTeX)
17682 \DeclareTextCommand{\textmapsto}{PU}{\9041\246}%* U+21A6
17683 % U+21A9 LEFTWARDS ARROW WITH HOOK; \hookleftarrow (LaTeX)
17684 \DeclareTextCommand{\texthookleftarrow}{PU}{\9041\251}%* U+21A9
17685 % U+21AA RIGHTWARDS ARROW WITH HOOK; \hookrightarrow (LaTeX)
17686 \DeclareTextCommand{\texthookrightarrow}{PU}{\9041\252}%* U+21AA

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17687 % U+21AB LEFTWARDS ARROW WITH LOOP; \looparrowleft (AmS)
17688 \DeclareTextCommand{\textlooparrowleft}{PU}{\9041\253}%* U+21AB
17689 % U+21AC RIGHTWARDS ARROW WITH LOOP; \looparrowright (AmS)
17690 \DeclareTextCommand{\textlooparrowright}{PU}{\9041\254}%* U+21AC
17691 % U+21AE LEFT RIGHT ARROW WITH STROKE; \leftrightharpoonup (AmS)
17692 \DeclareTextCommand{\textnleftrightharpoonup}{PU}{\9041\256}%* U+21AE
17693 % U+21AF DOWNWARDS ZIGZAG ARROW; \lightning (stmaryrd)
17694 \DeclareTextCommand{\textlightning}{PU}{\9041\257}%* U+21AF
17695 %* \textlightning -> \Lightning (marvosym)
17696 % U+21B5 DOWNWARDS ARROW WITH CORNER LEFTWARDS;
17697 % \dlsh (mathabx)
17698 \DeclareTextCommand{\textdlsh}{PU}{\9041\265}%* U+21B5
17699 % U+21B6 ANTICLOCKWISE TOP SEMICIRCLE ARROW;
17700 % \curvearrowleft (AmS)
17701 \DeclareTextCommand{\textcurvearrowleft}{PU}{\9041\266}%* U+21B6
17702 % U+21B7 CLOCKWISE TOP SEMICIRCLE ARROW; \curvearrowright (AmS)
17703 \DeclareTextCommand{\textcurvearrowright}{PU}{\9041\267}%* U+21B7
17704 % U+21BC LEFTWARDS HARPOON WITH BARB UPWARDS; harpoonleft-
    barbup;
17705 % \leftharpoonup (LaTeX)
17706 \DeclareTextCommand{\textleftharpoonup}{PU}{\9041\274}%* U+21BC
17707 % U+21BD LEFTWARDS HARPOON WITH BARB DOWNWARDS;
17708 % \leftharpoondown (LaTeX)
17709 \DeclareTextCommand{\textleftharpoondown}{PU}{\9041\275}%* U+21BD
17710 % U+21BE UPWARDS HARPOON WITH BARB RIGHTWARDS;
17711 % \upharpoonright (AmS)
17712 \DeclareTextCommand{\textupharpoonright}{PU}{\9041\276}%* U+21BE
17713 % U+21BF UPWARDS HARPOON WITH BARB LEFTWARDS;
17714 % \upharpoonleft (AmS)
17715 \DeclareTextCommand{\textupharpoonleft}{PU}{\9041\277}%* U+21BF
17716 % U+21C0 RIGHTWARDS HARPOON WITH BARB UPWARDS; harpoonright-
    barbup
17717 % \rightharpoonup (LaTeX)
17718 \DeclareTextCommand{\textrightharpoonup}{PU}{\9041\300}%* U+21C0
17719 % U+21C1 RIGHTWARDS HARPOON WITH BARB DOWNWARDS;
17720 % \rightharpoondown (LaTeX)
17721 \DeclareTextCommand{\textrightharpoondown}{PU}{\9041\301}%* U+21C1
17722 % U+21C2 DOWNWARDS HARPOON WITH BARB RIGHTWARDS;
17723 % \downharpoonright (AmS)
17724 \DeclareTextCommand{\textdownharpoonright}{PU}{\9041\302}%* U+21C2
17725 % U+21C3 DOWNWARDS HARPOON WITH BARB LEFTWARDS;
17726 % \downharpoonleft (AmS)
17727 \DeclareTextCommand{\textdownharpoonleft}{PU}{\9041\303}%* U+21C3
17728 % U+21C4 RIGHTWARDS ARROW OVER LEFTWARDS ARROW;
17729 % \rightarrowoverleft; \rightleftarrows (MnSymbol)
17730 \DeclareTextCommand{\textrightleftarrows}{PU}{\9041\304}%* U+21C4
17731 % U+21C5 UPWARDS ARROW LEFTWARDS OF DOWNWARDS ARROW; ar-
    rowupleftofdown;
17732 % \updownarrows (MnSymbol)
17733 \DeclareTextCommand{\textupdownarrows}{PU}{\9041\305}%* U+21C5
17734 % U+21C6 LEFTWARDS ARROW OVER RIGHTWARDS ARROW; \arrowleft-
    overright;
17735 % \leftrightarrows (AmS)
17736 \DeclareTextCommand{\textleftrightarrows}{PU}{\9041\306}%* U+21C6

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17737 % U+21C7 LEFTWARDS PAIRED ARROWS; \leftleftarrows (AmS)
17738 \DeclareTextCommand{\textleftleftarrows}{PU}{\9041\307}%* U+21C7
17739 % U+21C8 UPWARDS PAIRED ARROWS; \upuparrows (AmS)
17740 \DeclareTextCommand{\textupuparrows}{PU}{\9041\310}%* U+21C8
17741 % U+21C9 RIGHTWARDS PAIRED ARROWS; \rightrightarrows (AmS)
17742 \DeclareTextCommand{\textrightarrows}{PU}{\9041\311}%* U+21C9
17743 % U+21CA DOWNWARDS PAIRED ARROWS; \downdownarrows (AmS)
17744 \DeclareTextCommand{\textdowndownarrows}{PU}{\9041\312}%* U+21CA
17745 % U+21CB LEFTWARDS HARPOON OVER RIGHTWARDS HARPOON;
17746 % \leftrightharpoons (AmS);
17747 \DeclareTextCommand{\textleftrightharpoons}{PU}{\9041\313}%* U+21CB
17748 % U+21CC RIGHTWARDS HARPOON OVER LEFTWARDS HARPOON;
17749 % \rightleftharpoons (LaTeX, AmS)
17750 \DeclareTextCommand{\textrightleftharpoons}{PU}{\9041\314}%* U+21CC
17751 % U+21CD LEFTWARDS DOUBLE ARROW WITH STROKE; arrowleftd-
    blstroke;
17752 % \nLeftarrow (AmS)
17753 \DeclareTextCommand{\textnLeftarrow}{PU}{\9041\315}%* U+21CD
17754 % U+21CE LEFT RIGHT DOUBLE ARROW WITH STROKE; \nLeftrightarrow (AmS)
17755 \DeclareTextCommand{\textnLeftrightarrow}{PU}{\9041\316}%* U+21CE
17756 % U+21CF RIGHTWARDS DOUBLE ARROW WITH STROKE; arrowrightd-
    blstroke;
17757 % \rightarrow (AmS)
17758 \DeclareTextCommand{\textrightarrow}{PU}{\9041\317}%* U+21CF
17759 % U+21D0 LEFTWARDS DOUBLE ARROW; arrowdblleft, arrowleftdbl;
17760 % \Leftarrow (LaTeX)
17761 \DeclareTextCommand{\textLeftarrow}{PU}{\9041\320}%* U+21D0
17762 % U+21D1 UPWARDS DOUBLE ARROW; arrowdblup; \Uparrow (LaTeX)
17763 \DeclareTextCommand{\textUparrow}{PU}{\9041\321}%* U+21D1
17764 % U+21D2 RIGHTWARDS DOUBLE ARROW; arrowdblright, dblarrowright;
17765 % \Rightarrow (LaTeX)
17766 \DeclareTextCommand{\textRightarrow}{PU}{\9041\322}%* U+21D2
17767 %* \textRightarrow -> \Conclusion (marvosym)
17768 % U+21D3 DOWNWARDS DOUBLE ARROW; arrowdbldown; \Downarrow (La-
    TeX)
17769 \DeclareTextCommand{\textDownarrow}{PU}{\9041\323}%* U+21D3
17770 % U+21D4 LEFT RIGHT DOUBLE ARROW; arrowdblboth;
17771 % \Leftrightarrow (LaTeX)
17772 \DeclareTextCommand{\textLeftrightarrow}{PU}{\9041\324}%* U+21D4
17773 %* \textLeftrightarrow -> \Equivalence (marvosym)
17774 % U+21D5 UP DOWN DOUBLE ARROW; \Updownarrow (LaTeX)
17775 \DeclareTextCommand{\textUpdownarrow}{PU}{\9041\325}%* U+21D5
17776 % U+21D6 NORTH WEST DOUBLE ARROW; \Nwarrow (MnSymbol)
17777 \DeclareTextCommand{\textNwarrow}{PU}{\9041\326}%* U+21D6
17778 % U+21D7 NORTH EAST DOUBLE ARROW; \Nearrow (MnSymbol)
17779 \DeclareTextCommand{\textNearrow}{PU}{\9041\327}%* U+21D7
17780 % U+21D8 SOUTH EAST DOUBLE ARROW; \Searrow (MnSymbol)
17781 \DeclareTextCommand{\textSearrow}{PU}{\9041\330}%* U+21D8
17782 % U+21D9 SOUTH WEST DOUBLE ARROW; \Svarrow (MnSymbol)
17783 \DeclareTextCommand{\textSvarrow}{PU}{\9041\331}%* U+21D9
17784 % U+21DA LEFTWARDS TRIPLE ARROW; \Lleftarrow (AmS)
17785 \DeclareTextCommand{\textLleftarrow}{PU}{\9041\332}%* U+21DA
17786 % U+21DB RIGHTWARDS TRIPLE ARROW; \Rrightarrow (MnSymbol)

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17787 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\333}%* U+21DB
17788 % U+21DC LEFTWARDS SQUIGGLE ARROW; \leftsquigarrow (mathabx)
17789 \DeclareTextCommand{\textleftsquigarrow}{PU}{\9041\334}%* U+21DC
17790 % U+21DD RIGHTWARDS SQUIGGLE ARROW; \rightsquigarrow (mathabx)
17791 \DeclareTextCommand{\textrightsquigarrow}{PU}{\9041\335}%* U+21DD
17792 % U+21E0 LEFTWARDS DASHED ARROW; arrowdashleft;
17793 % \dashleftarrow (AmS)
17794 \DeclareTextCommand{\textdashleftarrow}{PU}{\9041\340}%* U+21E0
17795 %* \textdashleftarrow -> \dashedleftarrow (MnSymbol)
17796 % U+21E1 UPWARDS DASHED ARROW; arrowdashup; \dasheduparrow (Mn-
Symbol)
17797 \DeclareTextCommand{\textdasheduparrow}{PU}{\9041\341}%* U+21E1
17798 % U+21E2 RIGHTWARDS DASHED ARROW; arrowdashright; \dashrightarrow
(AmS)
17799 \DeclareTextCommand{\textdashrightarrow}{PU}{\9041\342}%* U+21E2
17800 %* \textdashrightarrow -> \dashedrightarrow (MnSymbol)
17801 % U+21E3 DOWNWARDS DASHED ARROW; arrowdashdown; \dasheddownarrow
(MnSymbol)
17802 \DeclareTextCommand{\textdasheddownarrow}{PU}{\9041\343}%* U+21E3
17803 % U+21E8 RIGHTWARDS WHITE ARROW; \pointer (wasysym)
17804 \DeclareTextCommand{\textpointer}{PU}{\9041\350}%* U+21E8
17805 % U+21F5 DOWNWARDS ARROW LEFTWARDS OF UPWARDS ARROW;
17806 % \downuparrows (MnSymbol)
17807 \DeclareTextCommand{\textdownuparrows}{PU}{\9041\365}%* U+21F5
17808 % U+21FD LEFTWARDS OPEN-HEADED ARROW; \leftarrowtriangle (stmaryrd)
17809 \DeclareTextCommand{\textleftarrowtriangle}{PU}{\9041\375}%* U+21FD
17810 % U+21FE RIGHTWARDS OPEN-HEADED ARROW; \rightarrowtriangle (stmaryrd)
17811 \DeclareTextCommand{\textrightarrowtriangle}{PU}{\9041\376}%* U+21FE
17812 % U+21FF LEFT RIGHT OPEN-HEADED ARROW; \leftrightarrowtriangle
(stmaryrd)
17813 \DeclareTextCommand{\textleftrightarrowtriangle}{PU}{\9041\377}%* U+21FF

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47.2.22 Mathematical Operators: U+2200 to U+22FF

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17814 % U+2200 FOR ALL; forall; \forall (LaTeX)
17815 \DeclareTextCommand{\textforall}{PU}{\9042\000}%* U+2200
17816 % U+2201 COMPLEMENT; \complement (AmS)
17817 \DeclareTextCommand{\textcomplement}{PU}{\9042\001}%* U+2201
17818 % U+2202 PARTIAL DIFFERENTIAL; partialdiff; \partial (LaTeX)
17819 \DeclareTextCommand{\textpartial}{PU}{\9042\002}%* U+2202
17820 % U+2203 THERE EXISTS; existential; \exists (LaTeX)
17821 \DeclareTextCommand{\textexists}{PU}{\9042\003}%* U+2203
17822 % U+2204 THERE DOES NOT EXIST; \nexists (AmS)
17823 \DeclareTextCommand{\textnexists}{PU}{\9042\004}%* U+2204
17824 % U+2205 EMPTY SET; emptyset; \emptyset (LaTeX), \varnothing (AmS)
17825 \DeclareTextCommand{\textemptyset}{PU}{\9042\005}%* U+2205
17826 %* \textemptyset -> \varnothing (AmS)
17827 % U+2206 INCREMENT; increment, Delta; \triangle (LaTeX)
17828 \DeclareTextCommand{\texttriangle}{PU}{\9042\006}%* U+2206
17829 % U+2207 NABLA; nabla, gradient; \nabla (LaTeX)
17830 \DeclareTextCommand{\textnabla}{PU}{\9042\007}%* U+2207
17831 % U+2208 ELEMENT OF; element; \in (LaTeX)
17832 \DeclareTextCommand{\textinsymbol}{PU}{\9042\010}%* U+2208
17833 % U+2209 NOT AN ELEMENT OF; notelement, notelementof; \notin (LaTeX)
17834 \DeclareTextCommand{\textnotin}{PU}{\9042\011}%* U+2209

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17835 % U+220A SMALL ELEMENT OF; \smallin (mathdesign)
17836 \DeclareTextCommand{\textsmallin}{PU}{\9042\012}%* U+220A
17837 % U+220B CONTAINS AS MEMBER; suchthat; \ni (LaTeX)
17838 \DeclareTextCommand{\textni}{PU}{\9042\013}%* U+220B
17839 %* \textni -> \owns (mathabx)
17840 % U+220C DOES NOT CONTAIN AS MEMBER; \notowner (mathabx)
17841 \DeclareTextCommand{\textnotowner}{PU}{\9042\014}%* U+220C
17842 %* \textnotowner -> \notni (txfonts/pxfonts)
17843 % U+220D SMALL CONTAINS AS MEMBER; \smallowns (mathdesign)
17844 \DeclareTextCommand{\textsmallowns}{PU}{\9042\015}%* U+220D
17845 % U+220F N-ARY PRODUCT; \prod (LaTeX)
17846 \DeclareTextCommand{\textprod}{PU}{\9042\017}%* U+220F
17847 % U+2210 N-ARY COPRODUCT; \amalg (LaTeX)
17848 \DeclareTextCommand{\textamalg}{PU}{\9042\020}%* U+2210
17849 % U+2211 N-ARY SUMMATION; summation; \sum (LaTeX)
17850 \DeclareTextCommand{\textsum}{PU}{\9042\021}%* U+2211
17851 % U+2212 MINUS SIGN; minus
17852 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
17853 % U+2213 MINUS-OR-PLUS SIGN; minusplus; \mp (LaTeX)
17854 \DeclareTextCommand{\textmp}{PU}{\9042\023}%* U+2213
17855 % U+2214 DOT PLUS; \dotplus (AmS)
17856 \DeclareTextCommand{\textdotplus}{PU}{\9042\024}%* U+2214
17857 % U+2215 DIVISION SLASH; divisionslash; \Divides (marvosym)
17858 \DeclareTextCommand{\textDivides}{PU}{\9042\025}%* U+2215
17859 % \DividesNot (marvosym)
17860 \DeclareTextCommand{\textDividesNot}{PU}{\9042\025\9040\322}%* U+2215 U+20D2
17861 % U+2216 SET MINUS; \setminus (LaTeX)
17862 \DeclareTextCommand{\textsetminus}{PU}{\9042\026}%* U+2216
17863 % U+2217 ASTERISK OPERATOR; asteriskmath; \ast (LaTeX)
17864 \DeclareTextCommand{\textast}{PU}{\9042\027}%* U+2217
17865 % U+2218 RING OPERATOR; \circ (LaTeX)
17866 \DeclareTextCommand{\textcirc}{PU}{\9042\030}%* U+2218
17867 % U+2219 BULLET OPERATOR; bulletoperator; \bullet (LaTeX)
17868 \DeclareTextCommand{\textbulletoperator}{PU}{\9042\031}% U+2219
17869 % U+221A SQUARE ROOT; radical
17870 \DeclareTextCommand{\textsqrt}{PU}{\9042\032}%* U+221A
17871 % U+221D PROPORTIONAL TO; proportional; \propto (LaTeX)
17872 \DeclareTextCommand{\textpropto}{PU}{\9042\035}%* U+221D
17873 %* \textpropto -> \varprop (wasysym)
17874 % U+221E INFINITY; infinity; \infty (LaTeX)
17875 \DeclareTextCommand{\textinfty}{PU}{\9042\036}%* U+221E
17876 % U+2220 ANGLE; angle; \angle (LaTeX)
17877 \DeclareTextCommand{\textangle}{PU}{\9042\040}%* U+2220
17878 % U+2221 MEASURED ANGLE; \measuredangle (mathabx, MnSymbol)
17879 \DeclareTextCommand{\textmeasuredangle}{PU}{\9042\041}%* U+2221
17880 % U+2222 SPHERICAL ANGLE; \sphericalangle (AmS)
17881 \DeclareTextCommand{\textsphericalangle}{PU}{\9042\042}%* U+2222
17882 %* \textsphericalangle -> \varangle (wasysym)
17883 %* \textsphericalangle -> \Anglesign (marvosym)
17884 %* \textsphericalangle -> \AngleSign (marvosym)
17885 % U+2223 DIVIDES; divides; \mid (LaTeX)
17886 \DeclareTextCommand{\textmid}{PU}{\9042\043}%* U+2223
17887 % U+2224 DOES NOT DIVIDE; \nmid (AmS)
17888 \DeclareTextCommand{\textnmid}{PU}{\9042\044}%* U+2224

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17889 %* \textnmid -> \notdivides (mathabx)
17890 % U+2225 PARALLEL TO; parallel; \parallel (LaTeX)
17891 \DeclareTextCommand{\textparallel}{PU}{\9042\045}%* U+2225
17892 % U+2226 NOT PARALLEL TO; notparallel; \nparallel (AmS)
17893 \DeclareTextCommand{\textnparallel}{PU}{\9042\046}%* U+2226
17894 %* \textnparallel -> nUpdownline (MnSymbol)
17895 % U+2227 LOGICAL AND; logicaland; \wedge (LaTeX)
17896 \DeclareTextCommand{\textwedge}{PU}{\9042\047}%* U+2227
17897 % \owedge (stmaryrd)
17898 \DeclareTextCommand{\textowedge}{PU}{\9042\047\9040\335}%* U+2227 U+20DD
17899 %* \textowedge -> \varowedge (stmaryrd)
17900 % U+2228 LOGICAL OR; logicalor; \vee (LaTeX)
17901 \DeclareTextCommand{\textvee}{PU}{\9042\050}%* U+2228
17902 % \ovee (stmaryrd)
17903 \DeclareTextCommand{\textovee}{PU}{\9042\050\9040\335}%* U+2228 U+20DD
17904 %* \textovee -> \varovee (stmaryrd)
17905 % U+2229 INTERSECTION; intersection; \cap (LaTeX)
17906 \DeclareTextCommand{\textcap}{PU}{\9042\051}%* U+2229
17907 % U+222A UNION; union; \cup (LaTeX)
17908 \DeclareTextCommand{\textcup}{PU}{\9042\052}%* U+222A
17909 % U+222B INTEGRAL; integral; \int (LaTeX)
17910 \DeclareTextCommand{\textint}{PU}{\9042\053}%* U+222B
17911 %* \textint -> \varint (wasysym)
17912 % U+222C DOUBLE INTEGRAL; dblintegral; \iint (AmS)
17913 \DeclareTextCommand{\textiint}{PU}{\9042\054}%* U+222C
17914 % U+222D TRIPLE INTEGRAL; \iiint (AmS)
17915 \DeclareTextCommand{\textiiint}{PU}{\9042\055}%* U+222D
17916 % U+222E CONTOUR INTEGRAL; contourintegral; \oint (LaTeX)
17917 \DeclareTextCommand{\textoint}{PU}{\9042\056}%* U+222E
17918 %* \textoint -> \varoint (wasysym)
17919 % U+222F SURFACE INTEGRAL; \oiint (wasysym)
17920 \DeclareTextCommand{\textoiint}{PU}{\9042\057}%* U+222F
17921 % U+2232 CLOCKWISE CONTOUR INTEGRAL;
17922 % \ointclockwise (txfonts/pxfonts)
17923 \DeclareTextCommand{\textointclockwise}{PU}{\9042\062}%* U+2232
17924 % U+2233 ANTICLOCKWISE CONTOUR INTEGRAL; \ointctrackwise (tx-
    fonts/pxfonts)
17925 \DeclareTextCommand{\textointctrackwise}{PU}{\9042\063}%* U+2233
17926 % U+2234 THEREFORE; therefore; \therefore (AmS)
17927 \DeclareTextCommand{\texttherefore}{PU}{\9042\064}%* U+2234
17928 %* \texttherefore -> uptherefore (MnSymbol)
17929 % U+2235 BECAUSE; because; \because (AmS)
17930 \DeclareTextCommand{\textbecause}{PU}{\9042\065}%* U+2235
17931 %* \textbecause -> \downtherefore (MnSymbol)
17932 % U+2236 RATIO; \vdotdot (MnSymbol)
17933 \DeclareTextCommand{\textvdotdot}{PU}{\9042\066}%* U+2236
17934 % U+2237 PROPORTION; \squaredots (MnSymbol)
17935 \DeclareTextCommand{\textsquaredots}{PU}{\9042\067}%* U+2237
17936 % U+2238 DOT MINUS; \dotminus (MnSymbol)
17937 \DeclareTextCommand{\textdotminus}{PU}{\9042\070}%* U+2238
17938 %* \textdotminus -> \textdotdiv (mathabx)
17939 % U+2239 EXCESS; \eqcolon (txfonts/pxfonts)
17940 \DeclareTextCommand{\texteqcolon}{PU}{\9042\071}%* U+2239
17941 % U+223C TILDE OPERATOR; similar; \sim (LaTeX)

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17942 \DeclareTextCommand{\textsim}{PU}{\9042\074}%* U+223C
17943 %* \textsim -> \AC (wasysym)
17944 % U+223D REVERSED TILDE; reversedtilde; \backsim (AmS)
17945 \DeclareTextCommand{\textbacksim}{PU}{\9042\075}%* U+223D
17946 % \nbacksim (txfonts/pxfonts)
17947 \DeclareTextCommand{\textnbacksim}{PU}{\9042\075\83\070}%* U+223D U+0338
17948 % U+2240 WREATH PRODUCT; \wr (LaTeX)
17949 \DeclareTextCommand{\textwr}{PU}{\9042\100}%* U+2240
17950 %* \textwr -> \wreath (MnSymbol)
17951 % U+2241 NOT TILDE; \nsim (AmS)
17952 \DeclareTextCommand{\textnsim}{PU}{\9042\101}%* U+2241
17953 % U+2242 MINUS TILDE; \eqsim (MnSymbol)
17954 \DeclareTextCommand{\texteqsim}{PU}{\9042\102}%* U+2242
17955 % \neqsim (MnSymbol)
17956 \DeclareTextCommand{\textneqsim}{PU}{\9042\102\83\070}%* U+2242 U+0338
17957 % U+2243 ASYMPTOTICALLY EQUAL TO; asymptoticallyequal; \simeq (La-
      TeX)
17958 \DeclareTextCommand{\textsimeq}{PU}{\9042\103}%* U+2243
17959 % U+2244 NOT ASYMPTOTICALLY EQUAL TO; \nsimeq (txfonts/pxfonts)
17960 \DeclareTextCommand{\textnsimeq}{PU}{\9042\104}%* U+2244
17961 % U+2245 APPROXIMATELY EQUAL TO; approximatelyequal; \cong (LaTeX)
17962 \DeclareTextCommand{\textcong}{PU}{\9042\105}%* U+2245
17963 % U+2247 NEITHER APPROXIMATELY NOR ACTUALLY EQUAL TO;
17964 % \ncong (AmS)
17965 \DeclareTextCommand{\textncong}{PU}{\9042\107}%* U+2247
17966 % U+2248 ALMOST EQUAL TO; approxequal; \approx (LaTeX)
17967 \DeclareTextCommand{\textapprox}{PU}{\9042\110}%* U+2248
17968 % U+2249 NOT ALMOST EQUAL TO; \napprox (txfonts/pxfonts0
17969 \DeclareTextCommand{\textnapprox}{PU}{\9042\111}%* U+2249
17970 %* \textnapprox -> \nthickapprox (txfonts/pxfonts)
17971 % U+224A ALMOST EQUAL OR EQUAL TO; \approxeq (AmS)
17972 \DeclareTextCommand{\textapproxeq}{PU}{\9042\112}%* U+224A
17973 % \napproxeq (txfonts/pxfonts)
17974 \DeclareTextCommand{\textnapproxeq}{PU}{\9042\112\83\070}%* U+224A U+0338
17975 % U+224B TRIPLE TILDE; \triple sim (MnSymbol)
17976 \DeclareTextCommand{\texttriple sim}{PU}{\9042\113}%* U+224B
17977 %* \texttriple sim -> \VHF (wasysym)
17978 % \ntriple sim (MnSymbol)
17979 \DeclareTextCommand{\textntriple sim}{PU}{\9042\113\83\070}%* U+224B U+0338
17980 % U+224C ALL EQUAL TO; allequal; \backcong (MnSymbol)
17981 \DeclareTextCommand{\textbackcong}{PU}{\9042\114}%* U+224C
17982 % \nbackcong (MnSymbol)
17983 \DeclareTextCommand{\textnbackcong}{PU}{\9042\114\83\070}%* U+224C U+0338
17984 % U+224D EQUIVALENT TO; \asymp (LaTeX)
17985 \DeclareTextCommand{\textasymp}{PU}{\9042\115}%* U+224D
17986 % \nasymp (txfonts/pxfonts)
17987 \DeclareTextCommand{\textnasymp}{PU}{\9042\115\83\070}%* U+224D U+0338
17988 %* \textnasymp -> \notasym (mathabx)
17989 % U+224E GEOMETRICALLY EQUIVALENT TO; \Bumpeq (AmS)
17990 \DeclareTextCommand{\textBumpeq}{PU}{\9042\116}%* U+224E
17991 % \nBumpeq (txfonts/pxfonts)
17992 \DeclareTextCommand{\textnBumpeq}{PU}{\9042\116\83\070}%* U+224E U+0338
17993 % U+224F DIFFERENCE BETWEEN; \bumpeq (AmS)
17994 \DeclareTextCommand{\textbumpeq}{PU}{\9042\117}%* U+224F

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17995 % \nbumpeq (txfonts/pxfonts)
17996 \DeclareTextCommand{\textnbumpeq}{PU}{\9042\117\83\070}%* U+224F U+0338
17997 % U+2250 APPROACHES THE LIMIT; approaches; \doteq (LaTeX)
17998 \DeclareTextCommand{\textdoteq}{PU}{\9042\120}%* U+2250
17999 % \ndoteq (MnSymbol)
18000 \DeclareTextCommand{\textndoteq}{PU}{\9042\120\83\070}%* U+2250 U+0338
18001 % U+2251 GEOMETRICALLY EQUAL TO; geometricallyequal;
18002 % \doteqdot (AmS)
18003 \DeclareTextCommand{\textdoteqdot}{PU}{\9042\121}%* U+2251
18004 %* \textdoteqdot -> \Doteq (MnSymbol)
18005 % \nDoteq (MnSymbol)
18006 \DeclareTextCommand{\textnDoteq}{PU}{\9042\121\83\070}%* U+2251 U+0338
18007 % U+2252 APPROXIMATELY EQUAL TO OR THE IMAGE OF; approx-
qualorimage;
18008 % \fallingdotseq (AmS)
18009 \DeclareTextCommand{\textfallingdoteq}{PU}{\9042\122}%* U+2252
18010 % \nfallingdotseq (MnSymbol)
18011 \DeclareTextCommand{\textnfallingdoteq}{PU}{\9042\122\83\070}%* U+2252 U+0338
18012 % U+2253 IMAGE OF OR APPROXIMATELY EQUAL TO; imageorapproxi-
matelyequal;
18013 % \risingdotseq (AmS)
18014 \DeclareTextCommand{\textrisingdoteq}{PU}{\9042\123}%* U+2253
18015 % \nrisingdoteq (MnSymbol)
18016 \DeclareTextCommand{\textnrisingdoteq}{PU}{\9042\123\83\070}%* U+2253 U+0338
18017 % U+2254 COLON EQUALS; \colonequals (colonequals)
18018 \DeclareTextCommand{\textcolonequals}{PU}{\9042\124}%* U+2254
18019 % U+2255 EQUALS COLON; \equalscolon (colonequals)
18020 \DeclareTextCommand{\textequalscolon}{PU}{\9042\125}%* U+2255
18021 % U+2256 RING IN EQUAL TO; \eqcirc (AmS)
18022 \DeclareTextCommand{\texteqcirc}{PU}{\9042\126}%* U+2256
18023 % \neqcirc (MnSymbol)
18024 \DeclareTextCommand{\textneqcirc}{PU}{\9042\126\83\070}%* U+2256 U+0338
18025 % U+2257 RING EQUAL TO; \circeq (AmS)
18026 \DeclareTextCommand{\textcirceq}{PU}{\9042\127}%* U+2257
18027 % \ncirceq (MnSymbol)
18028 \DeclareTextCommand{\textncirceq}{PU}{\9042\127\83\070}%* U+2257 U+0338
18029 % U+2259 ESTIMATES; \hateq (MnSymbol)
18030 \DeclareTextCommand{\texthateq}{PU}{\9042\131}%* U+2259
18031 %* \texthateq -> \corresponds (mathabx)
18032 %* \texthateq -> \Corresponds (marvosym)
18033 % \nhateq (MnSymbol)
18034 \DeclareTextCommand{\textnhateq}{PU}{\9042\131\83\070}%* U+2259 U+0338
18035 % U+225C DELTA EQUAL TO; \triangleeq (AmS)
18036 \DeclareTextCommand{\texttriangleeq}{PU}{\9042\134}%* U+225C
18037 % U+2260 NOT EQUAL TO; notequal; \ne (LaTeX), \neq (LaTeX)
18038 \DeclareTextCommand{\textneq}{PU}{\9042\140}%* U+2260
18039 \DeclareTextCommand{\textne}{PU}{\9042\140}%* U+2260
18040 %* \textneq -> \nequal (MnSymbol)
18041 % U+2261 IDENTICAL TO; equivalence; \equiv (LaTeX)
18042 \DeclareTextCommand{\textequiv}{PU}{\9042\141}%* U+2261
18043 %* \textequiv -> \Congruent (marvosym)
18044 % U+2262 NOT IDENTICAL TO; notidentical; \nequiv (txfonts/pxfonts)
18045 \DeclareTextCommand{\textnequiv}{PU}{\9042\142}%* U+2262
18046 %* \textnequiv -> \NotCongruent (marvosym)

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18047 %* \textnequiv -> \notequiv (mathabx)
18048 % U+2264 LESS-THAN OR EQUAL TO; lessequal; \le (LaTeX), \leq (LaTeX)
18049 \DeclareTextCommand{\textleq}{PU}{\9042\144}%* U+2264
18050 \DeclareTextCommand{\textile}{PU}{\9042\144}%* U+2264
18051 %* \textleq -> \LessOrEqual (marvosym)
18052 % U+2265 GREATER-THAN OR EQUAL TO; greaterequal;
18053 % \ge (LaTeX), \geq (LaTeX)
18054 \DeclareTextCommand{\textgeq}{PU}{\9042\145}%* U+2265
18055 \DeclareTextCommand{\textge}{PU}{\9042\145}%* U+2265
18056 %* \textgeq -> \LargerOrEqual (marvosym)
18057 % U+2266 LESS-THAN OVER EQUAL TO; lessorequal; \leqq (AmS)
18058 \DeclareTextCommand{\textleqq}{PU}{\9042\146}%* U+2266
18059 % \nleqq (txfonts/pxfonts)
18060 \DeclareTextCommand{\textnleqq}{PU}{\9042\146\83\070}%* U+2266 U+0338
18061 % U+2267 GREATER-THAN OVER EQUAL TO; greaterorequal; \geqq (AmS)
18062 \DeclareTextCommand{\textgeqq}{PU}{\9042\147}%* U+2267
18063 % \ngeqq (txfonts/pxfonts)
18064 \DeclareTextCommand{\textngeqq}{PU}{\9042\147\83\070}%* U+2267 U+0338
18065 % U+2268 LESS-THAN BUT NOT EQUAL TO; \lneqq (AmS)
18066 \DeclareTextCommand{\textlneqq}{PU}{\9042\150}%* U+2268
18067 % U+2269 GREATER-THAN BUT NOT EQUAL TO; \gneqq (AmS)
18068 \DeclareTextCommand{\textgneqq}{PU}{\9042\151}%* U+2269
18069 % U+226A MUCH LESS-THAN; muchless; \ll (LaTeX)
18070 \DeclareTextCommand{\textll}{PU}{\9042\152}%* U+226A
18071 % \nll (txfonts/pxfonts)
18072 \DeclareTextCommand{\textnll}{PU}{\9042\152\83\070}%* U+226A U+0338
18073 % U+226B MUCH GREATER-THAN; muchgreater; \gg (LaTeX)
18074 \DeclareTextCommand{\textgg}{PU}{\9042\153}%* U+226B
18075 % \ngg (txfonts/pxfonts)
18076 \DeclareTextCommand{\textngg}{PU}{\9042\153\83\070}%* U+226B U+0338
18077 % U+226C BETWEEN; \between (AmS)
18078 \DeclareTextCommand{\textbetween}{PU}{\9042\154}%* U+226C
18079 % U+226E NOT LESS-THAN; notless; \nless (AmS)
18080 \DeclareTextCommand{\textnless}{PU}{\9042\156}%* U+226E
18081 % U+226F NOT GREATER-THAN; notgreater; \ngtr (AmS)
18082 \DeclareTextCommand{\textngtr}{PU}{\9042\157}%* U+226F
18083 % U+2270 NEITHER LESS-THAN NOR EQUAL TO; notlessnorequal;
18084 % \nleq (AmS)
18085 \DeclareTextCommand{\textnleq}{PU}{\9042\160}%* U+2270
18086 % U+2271 NEITHER GREATER-THAN NOR EQUAL TO; notgreaternorequal; \ngeq (AmS)
18087 \DeclareTextCommand{\textngeq}{PU}{\9042\161}%* U+2271
18088 % U+2272 LESS-THAN OR EQUIVALENT TO; lessorequivalent; \lessim (AmS)
18089 \DeclareTextCommand{\textlessim}{PU}{\9042\162}%* U+2272
18090 %* \textlessim -> \apprle (wasysym)
18091 % U+2273 GREATER-THAN OR EQUIVALENT TO; greaterorequivalent; \gtrsim (AmS)
18092 \DeclareTextCommand{\textgtrsim}{PU}{\9042\163}%* U+2273
18093 %* \textgtrsim -> \apprge (wasysym)
18094 % U+2274 NEITHER LESS-THAN NOR EQUIVALENT TO; \nlessim (txfonts/pxfonts)
18095 \DeclareTextCommand{\textnlessim}{PU}{\9042\164}%* U+2274
18096 % U+2275 NEITHER GREATER-THAN NOR EQUIVALENT TO; \ngtrsim (txfonts/pxfonts)

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18097 \DeclareTextCommand{\textngtrsim}{PU}{\9042\165}%* U+2275
18098 % U+2276 LESS-THAN OR GREATER-THAN; lessorgreater; \lessgtr (AmS)
18099 \DeclareTextCommand{\textlessgtr}{PU}{\9042\166}%* U+2276
18100 % U+2277 GREATER-THAN OR LESS-THAN; greaterorless; \gtrless (AmS)
18101 \DeclareTextCommand{\textgtrless}{PU}{\9042\167}%* U+2277
18102 % U+2278 NEITHER LESS-THAN NOR GREATER-THAN; \ngtrless (tx-
fonts/pxfonts)
18103 \DeclareTextCommand{\textngtrless}{PU}{\9042\170}%* U+2278
18104 % U+2279 NEITHER GREATER-THAN NOR LESS-THAN; \nlessgtr (tx-
fonts/pxfonts)
18105 \DeclareTextCommand{\textnlessgtr}{PU}{\9042\171}%* U+2279
18106 % U+227A PRECEDES; precedes; \prec (LaTeX)
18107 \DeclareTextCommand{\textprec}{PU}{\9042\172}%* U+227A
18108 % U+227B SUCCEEDS; succeeds; \succ (LaTeX)
18109 \DeclareTextCommand{\textsucc}{PU}{\9042\173}%* U+227B
18110 % U+227C PRECEDES OR EQUAL TO; \preccurlyeq (AmS)
18111 \DeclareTextCommand{\textpreccurlyeq}{PU}{\9042\174}%* U+227C
18112 % U+227D SUCCEEDS OR EQUAL TO; \succcurlyeq (AmS)
18113 \DeclareTextCommand{\textsucccurlyeq}{PU}{\9042\175}%* U+227D
18114 % U+227E PRECEDES OR EQUIVALENT TO; \precsim (AmS)
18115 \DeclareTextCommand{\textprecsim}{PU}{\9042\176}%* U+227E
18116 % \nprecsim (txfonts/pxfonts)
18117 \DeclareTextCommand{\textnprecsim}{PU}{\9042\176\83\070}%* U+227E U+0338
18118 % U+227F SUCCEEDS OR EQUIVALENT TO; \succsim (AmS)
18119 \DeclareTextCommand{\textsuccsim}{PU}{\9042\177}%* U+227F
18120 % \nsuccsim (txfonts/pxfonts)
18121 \DeclareTextCommand{\textnsuccsim}{PU}{\9042\177\83\070}%* U+227F U+0338
18122 % U+2280 DOES NOT PRECEDE; notprecedes; \nprec (AmS)
18123 \DeclareTextCommand{\textnprec}{PU}{\9042\200}%* U+2280
18124 % U+2281 DOES NOT SUCCEED; notsucceds; \nsucc (AmS)
18125 \DeclareTextCommand{\textnsucc}{PU}{\9042\201}%* U+2281
18126 % U+2282 SUBSET OF; propersubset; \subset (LaTeX)
18127 \DeclareTextCommand{\textsubset}{PU}{\9042\202}%* U+2282
18128 % U+2283 SUPERSET OF; propersuperset; \supset (LaTeX)
18129 \DeclareTextCommand{\textsupset}{PU}{\9042\203}%* U+2283
18130 % U+2284 NOT A SUBSET OF; notsubset; \nsubset (mathabx)
18131 \DeclareTextCommand{\textnsubset}{PU}{\9042\204}%* U+2284
18132 % U+2285 NOT A SUPERSET OF; notsuperset; \nsupset (mathabx)
18133 \DeclareTextCommand{\textnsupset}{PU}{\9042\205}%* U+2285
18134 % U+2286 SUBSET OF OR EQUAL TO; reflexsubset; \subseteq (LaTeX)
18135 \DeclareTextCommand{\textsubseteq}{PU}{\9042\206}%* U+2286
18136 % U+2287 SUPERSET OF OR EQUAL TO; reflexsuperset; \supseteq (LaTeX)
18137 \DeclareTextCommand{\textsupseteq}{PU}{\9042\207}%* U+2287
18138 % U+2288 NEITHER A SUBSET OF NOR EQUAL TO; \nsubseteq (AmS)
18139 \DeclareTextCommand{\textnsubseteq}{PU}{\9042\210}%* U+2288
18140 % U+2289 NEITHER A SUPERSET OF NOR EQUAL TO; \nsupseteq (AmS)
18141 \DeclareTextCommand{\textnsupseteq}{PU}{\9042\211}%* U+2289
18142 % U+228A SUBSET OF WITH NOT EQUAL TO; subsetnotequal; \subset-
neq (AmS)
18143 \DeclareTextCommand{\textsubsetneq}{PU}{\9042\212}%* U+228A
18144 % U+228B SUPERSET OF WITH NOT EQUAL TO; supersetnotequal; \supset-
neq (AmS)
18145 \DeclareTextCommand{\textsupsetneq}{PU}{\9042\213}%* U+228B
18146 % U+228D MULTISSET MULTIPLICATION; \cupdot (MnSymbol)

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18147 \DeclareTextCommand{\textcupdot}{PU}{\9042\215}%* U+228D
18148 % U+228E MULTISSET UNION; \cupplus (MnSymbol)
18149 \DeclareTextCommand{\textcupplus}{PU}{\9042\216}%* U+228E
18150 % U+228F SQUARE IMAGE OF; \sqsubset (latexsym, ...)
18151 \DeclareTextCommand{\textsqsubset}{PU}{\9042\217}%* U+228F
18152 % \nsqsubset (txfonts/pxfonts)
18153 \DeclareTextCommand{\textnsqsubset}{PU}{\9042\217\83\070}%* U+228F U+0338
18154 % U+2290 SQUARE ORIGINAL OF; \sqsupset (latexsym, ...)
18155 \DeclareTextCommand{\textsqsupset}{PU}{\9042\220}%* U+2290
18156 % \nsqsupset (txfonts/pxfonts)
18157 \DeclareTextCommand{\textnsqsupset}{PU}{\9042\220\83\070}%* U+2290 U+0338
18158 % U+2291 SQUARE IMAGE OF OR EQUAL TO; \sqsubseq (LaTeX)
18159 \DeclareTextCommand{\textsqsubseq}{PU}{\9042\221}%* U+2291
18160 % \nsqsubseq (txfonts/pxfonts)
18161 \DeclareTextCommand{\textnsqsubseq}{PU}{\9042\221\83\070}%* U+2291 U+0338
18162 % U+2292 SQUARE ORIGINAL OF OR EQUAL TO; \sqsupseq (LaTeX)
18163 \DeclareTextCommand{\textsqsupseq}{PU}{\9042\222}%* U+2292
18164 % \nsqsupseq (txfonts/pxfonts)
18165 \DeclareTextCommand{\textnsqsupseq}{PU}{\9042\222\83\070}%* U+2292 U+0338
18166 % U+2293 SQUARE CAP; \sqcap (LaTeX)
18167 \DeclareTextCommand{\textsqcap}{PU}{\9042\223}%* U+2293
18168 % U+2294 SQUARE CUP; \sqcup (LaTeX)
18169 \DeclareTextCommand{\textsqcup}{PU}{\9042\224}%* U+2294
18170 % U+2295 CIRCLED PLUS; circleplus; \oplus (LaTeX)
18171 \DeclareTextCommand{\textoplus}{PU}{\9042\225}%* U+2295
18172 %* \textoplus -> \varoplus (stmaryrd)
18173 % U+2296 CIRCLED MINUS; minuscircle; \ominus (LaTeX)
18174 \DeclareTextCommand{\textominus}{PU}{\9042\226}%* U+2296
18175 %* \textominus -> \varominus (stmaryrd)
18176 % U+2297 CIRCLED TIMES; circlemultiply; \otimes (LaTeX)
18177 \DeclareTextCommand{\textotimes}{PU}{\9042\227}%* U+2297
18178 %* \textotimes -> \varotimes (stmaryrd)
18179 % U+2298 CIRCLED DIVISION SLASH; \oslash (LaTeX)
18180 \DeclareTextCommand{\textoslash}{PU}{\9042\230}%* U+2298
18181 %* \textoslash -> \varoslash (stmaryrd)
18182 % U+2299 CIRCLED DOT OPERATOR; circle(d?)ot; \odot (LaTeX)
18183 \DeclareTextCommand{\textodot}{PU}{\9042\231}%* U+2299
18184 %* \textodot -> \varodot (stmaryrd)
18185 % U+229A CIRCLED RING OPERATOR; \circledcirc (AmS)
18186 \DeclareTextCommand{\textcircledcirc}{PU}{\9042\232}%* U+229A
18187 %* \textcircledcirc -> \ocirc (mathabx)
18188 %* \textcircledcirc -> \varocircle (stmaryrd)
18189 % U+229B CIRCLED ASTERISK OPERATOR; \circledast (AmS)
18190 \DeclareTextCommand{\textcircledast}{PU}{\9042\233}%* U+229B
18191 %* \textcircledast -> \varoast (stmaryrd)
18192 %* \textcircledast -> \oasterisk (mathabx)
18193 % U+229D CIRCLED DASH; \circleddash (AmS)
18194 \DeclareTextCommand{\textcircleddash}{PU}{\9042\235}%* U+229D
18195 % U+229E SQUARED PLUS; \boxplus (AmS)
18196 \DeclareTextCommand{\textboxplus}{PU}{\9042\236}%* U+229E
18197 % U+229F SQUARED MINUS; \boxminus (AmS)
18198 \DeclareTextCommand{\textboxminus}{PU}{\9042\237}%* U+229F
18199 % U+22A0 SQUARED TIMES; \boxtimes (AmS)
18200 \DeclareTextCommand{\textboxtimes}{PU}{\9042\240}%* U+22A0

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18201 % U+22A1 SQUARED DOT OPERATOR; \boxdot (AmS)
18202 \DeclareTextCommand{\textboxdot}{PU}{\9042\241}%* U+22A1
18203 % U+22A2 RIGHT TACK; \vdash (LaTeX)
18204 \DeclareTextCommand{\textvdash}{PU}{\9042\242}%* U+22A2
18205 %* \textvdash -> \rightvdash (MnSymbol)
18206 % U+22A3 LEFT TACK; \dashv (LaTeX)
18207 \DeclareTextCommand{\textdashv}{PU}{\9042\243}%* U+22A3
18208 %* \textdashv -> \leftvdash (MnSymbol)
18209 % \ndashv (mathabx)
18210 \DeclareTextCommand{\textndashv}{PU}{\9042\243\83\070}%* U+22A3 U+0338
18211 %* \textndashv -> \nleftvdash (MnSymbol)
18212 % U+22A4 DOWN TACK (=top); \tackdown; \top (LaTeX)
18213 \DeclareTextCommand{\texttop}{PU}{\9042\244}%* U+22A4
18214 %* \texttop -> \downvdash (MnSymbol)
18215 % \ndownvdash (MnSymbol)
18216 \DeclareTextCommand{\textndownvdash}{PU}{\9042\244\83\070}%* U+22A4 U+0338
18217 % U+22A5 UP TACK (=base, bottom); \bot (LaTeX)
18218 \DeclareTextCommand{\textbot}{PU}{\9042\245}%* U+22A5
18219 %* \textbot -> \upvdash (MnSymbol)
18220 % \nupvdash (MnSymbol)
18221 \DeclareTextCommand{\textnupvdash}{PU}{\9042\245\83\070}%* U+22A5 U+0338
18222 %* \textnupvdash -> \nperp (MnSymbol)
18223 % U+22A8 TRUE; \Vdash (AmS)
18224 \DeclareTextCommand{\textvDash}{PU}{\9042\250}%* U+22A8
18225 %* \textvDash -> \models (LaTeX)
18226 %* \textvDash -> \rightmodels (MnSymbol)
18227 % U+22A9 FORCES; \Vdash (AmS)
18228 \DeclareTextCommand{\textVdash}{PU}{\9042\251}%* U+22A9
18229 %* \textVdash -> \rightVdash (MnSymbol)
18230 % U+22AA TRIPLE VERTICAL BAR RIGHT TURNSTILE; \Vvdash (AmS)
18231 \DeclareTextCommand{\textVvdash}{PU}{\9042\252}%* U+22AA
18232 % \nVvdash (mathabx)
18233 \DeclareTextCommand{\textnVvdash}{PU}{\9042\252\83\070}%* U+22AA U+0338
18234 % U+22AB DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE;
18235 % \VDash (mathabx)
18236 \DeclareTextCommand{\textVDash}{PU}{\9042\253}%* U+22AB
18237 %* \textVDash -> \rightModels (MnSymbol)
18238 % U+22AC DOES NOT PROVE; \nvdash (AmS)
18239 \DeclareTextCommand{\textnvdash}{PU}{\9042\254}%* U+22AC
18240 %* \textnvdash -> \nrightvdash (MnSymbol)
18241 % U+22AD NOT TRUE; \nvDash (AmS)
18242 \DeclareTextCommand{\textnvDash}{PU}{\9042\255}%* U+22AD
18243 %* \textnvDash -> \nrightmodels (MnSymbol)
18244 %* \textnvDash -> \nmodels (MnSymbol)
18245 % U+22AE DOES NOT FORCE; \nVdash (txfonts/pxfonts)
18246 \DeclareTextCommand{\textnVdash}{PU}{\9042\256}%* U+22AE
18247 %* \textnVdash -> \nrightVdash (MnSymbol)
18248 % U+22AF NEGATED DOUBLE VERTICAL BAR DOUBLE RIGHT TURN-
      STILE; \nVDash (AmS)
18249 \DeclareTextCommand{\textnVDash}{PU}{\9042\257}%* U+22AF
18250 %* \textnVDash -> \nrightModels (MnSymbol)
18251 % U+22B2 NORMAL SUBGROUP OF; \lhd (latexsym, ...)
18252 \DeclareTextCommand{\textlhd}{PU}{\9042\262}%* U+22B2
18253 %* \textlhd -> \lessclosed (MnSymbol)

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18254 % U+22B3 CONTAINS AS NORMAL SUBGROUP; \rhd (latexsym, ...)
18255 \DeclareTextCommand{\textrhd}{PU}{\9042\263}%* U+22B3
18256 %* \textrhd -> \gtrclosed (MnSymbol)
18257 % U+22B4 NORMAL SUBGROUP OF OR EQUAL TO; \unlhd (latexsym, ...)
18258 \DeclareTextCommand{\textunlhd}{PU}{\9042\264}%* U+22B4
18259 %* \textunlhd -> \leqclosed (MnSymbol)
18260 %* \textunlhd -> \trianglelefteq (MnSymbol)
18261 % U+22B5 CONTAINS AS NORMAL SUBGROUP OR EQUAL TO; \unrhd (la-
texsym, ...)
18262 \DeclareTextCommand{\textunrhd}{PU}{\9042\265}%* U+22B5
18263 %* \textunrhd -> \geqclosed (MnSymbol)
18264 %* \textunrhd -> \trianglerighteq (MnSymbol)
18265 % U+22B6 ORIGINAL OF; \multimapdotbothA (txfonts/pxfonts)
18266 \DeclareTextCommand{\textmultimapdotbothA}{PU}{\9042\266}%* U+22B6
18267 % U+22B7 IMAGE OF; \multimapdotbothB (txfonts/pxfonts)
18268 \DeclareTextCommand{\textmultimapdotbothB}{PU}{\9042\267}%* U+22B7
18269 % U+22B8 MULTIMAP; \multimap (AmS, txfonts/pxfonts)
18270 \DeclareTextCommand{\textmultimap}{PU}{\9042\270}%* U+22B8
18271 % U+22BB XOR; \veebar (AmS)
18272 \DeclareTextCommand{\textveebar}{PU}{\9042\273}%* U+22BB
18273 % U+22BC NAND; \barwedge (mathabx)
18274 \DeclareTextCommand{\textbarwedge}{PU}{\9042\274}%* U+22BC
18275 % U+22C6 STAR OPERATOR; \star (LaTeX)
18276 \DeclareTextCommand{\textstar}{PU}{\9042\306}%* U+22C6
18277 % U+22C7 DIVISION TIMES; \divideontimes (AmS)
18278 \DeclareTextCommand{\textdivideontimes}{PU}{\9042\307}%* U+22C7
18279 % U+22C8 BOWTIE; \bowtie (LaTeX)
18280 \DeclareTextCommand{\textbowtie}{PU}{\9042\310}%* U+22C8
18281 %* \textbowtie -> \Bowtie (wasysym)
18282 % U+22C9 LEFT NORMAL FACTOR SEMIDIRECT PRODUCT; \ltimes (AmS)
18283 \DeclareTextCommand{\textltimes}{PU}{\9042\311}%* U+22C9
18284 % U+22CA RIGHT NORMAL FACTOR SEMIDIRECT PRODUCT;
18285 % \rtimes (AmS)
18286 \DeclareTextCommand{\textrtimes}{PU}{\9042\312}%* U+22CA
18287 % U+22CB LEFT SEMIDIRECT PRODUCT; \leftthreetimes (AmS)
18288 \DeclareTextCommand{\textleftthreetimes}{PU}{\9042\313}%* U+22CB
18289 % U+22CC RIGHT SEMIDIRECT PRODUCT; \rightthreetimes (AmS)
18290 \DeclareTextCommand{\textrightthreetimes}{PU}{\9042\314}%* U+22CC
18291 % U+22CD REVERSED TILDE EQUALS; \backsimeq (AmS)
18292 \DeclareTextCommand{\textbacksimeq}{PU}{\9042\315}%* U+22CD
18293 % \nbacksimeq (txfonts/pxfonts)
18294 \DeclareTextCommand{\textnbacksimeq}{PU}{\9042\315\83\070}%* U+22CD U+0338
18295 % U+22CE CURLY LOGICAL OR; curlyor; \curlyvee (AmS)
18296 \DeclareTextCommand{\textcurlyvee}{PU}{\9042\316}%* U+22CE
18297 %* \textcurlyvee -> \varcurlyvee (stmaryrd)
18298 % U+22CF CURLY LOGICAL AND; curlyand; \curlywedge (AmS)
18299 \DeclareTextCommand{\textcurlywedge}{PU}{\9042\317}%* U+22CF
18300 %* \textcurlywedge -> \varcurlywedge (stmaryrd)
18301 % U+22D0 DOUBLE SUBSET; \Subset (AmS)
18302 \DeclareTextCommand{\textSubset}{PU}{\9042\320}%* U+22D0
18303 % \nSubset (txfonts/pxfonts)
18304 \DeclareTextCommand{\textnSubset}{PU}{\9042\320\83\070}%* U+22D0 U+0338
18305 % U+22D1 DOUBLE SUPERSET; \Supset (AmS)
18306 \DeclareTextCommand{\textSupset}{PU}{\9042\321}%* U+22D1

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18307 % \nSupset (txfonts/pxfonts)
18308 \DeclareTextCommand{\textnSupset}{PU}{\9042\321\83\070}%* U+22D1 U+0338
18309 % U+22D2 DOUBLE INTERSECTION; \Cap (AmS)
18310 \DeclareTextCommand{\textCap}{PU}{\9042\322}%* U+22D2
18311 %* \textCap -> \doublecap (mathabx)
18312 % U+22D3 DOUBLE UNION; \Cup (AmS)
18313 \DeclareTextCommand{\textCup}{PU}{\9042\323}%* U+22D3
18314 %* \textCup -> \doublecup (mathabx)
18315 % U+22D4 PITCHFORK; \pitchfork (mathabx)
18316 \DeclareTextCommand{\textpitchfork}{PU}{\9042\324}%* U+22D4
18317 % U+22D6 LESS-THAN WITH DOT; \lessdot (AmS)
18318 \DeclareTextCommand{\textlessdot}{PU}{\9042\326}%* U+22D6
18319 % U+22D7 GREATER-THAN WITH DOT; \gtrdot (AmS)
18320 \DeclareTextCommand{\textgtrdot}{PU}{\9042\327}%* U+22D7
18321 % U+22D8 VERY MUCH LESS-THAN; \lll (AmS)
18322 \DeclareTextCommand{\textlll}{PU}{\9042\330}%* U+22D8
18323 % U+22D9 VERY MUCH GREATER-THAN; \ggg (AmS)
18324 \DeclareTextCommand{\textggg}{PU}{\9042\331}%* U+22D9
18325 % U+22DA LESS-THAN EQUAL TO OR GREATER-THAN; lessequalorgreater;
18326 % \lesseqgtr (AmS)
18327 \DeclareTextCommand{\textlesseqgtr}{PU}{\9042\332}%* U+22DA
18328 % U+22DB GREATER-THAN EQUAL TO OR LESS-THAN; greaterequalorless;
18329 % \gtreqless (AmS)
18330 \DeclareTextCommand{\textgtreqless}{PU}{\9042\333}%* U+22DB
18331 % U+22DE EQUAL TO OR PRECEDES; \curlyeqprec (MnSymbol)
18332 \DeclareTextCommand{\textcurlyeqprec}{PU}{\9042\336}%* U+22DE
18333 % \ncurlyeqprec (mathabx)
18334 \DeclareTextCommand{\textncurlyeqprec}{PU}{\9042\336\83\070}%* U+22DE U+0338
18335 % U+22DF EQUAL TO OR SUCCEEDS; \curlyeqsucc (MnSymbol)
18336 \DeclareTextCommand{\textcurlyeqsucc}{PU}{\9042\337}%* U+22DF
18337 % \ncurlyeqsucc (mathabx)
18338 \DeclareTextCommand{\textncurlyeqsucc}{PU}{\9042\337\83\070}%* U+22DF U+0338
18339 % U+22E0 DOES NOT PRECEDE OR EQUAL; \npreccurlyeq (txfonts/pxfonts)
18340 \DeclareTextCommand{\textnpreccurlyeq}{PU}{\9042\340}%* U+22E0
18341 % U+22E1 DOES NOT SUCCEED OR EQUAL; \nsucccurlyeq (txfonts/pxfonts)
18342 \DeclareTextCommand{\textnsucccurlyeq}{PU}{\9042\341}%* U+22E1
18343 % U+22E2 NOT SQUARE IMAGE OF OR EQUAL TO; \nsqsubseteq (tx-
    fonts/pxfonts)
18344 \DeclareTextCommand{\textnqsubseteq}{PU}{\9042\342}%* U+22E2
18345 % U+22E3 NOT SQUARE ORIGINAL OF OR EQUAL TO; \nsqsupseteq (tx-
    fonts/pxfonts)
18346 \DeclareTextCommand{\textnqsupseteq}{PU}{\9042\343}%* U+22E3
18347 % U+22E4 SQUARE IMAGE OF OR NOT EQUAL TO; \sqsubsetneq (mathabx)
18348 \DeclareTextCommand{\textsqsubsetneq}{PU}{\9042\344}%* U+22E4
18349 %* \textsqsubsetneq -> \varsqsubsetneq (mathabx)
18350 % U+22E5 SQUARE ORIGINAL OF OR NOT EQUAL TO; \sqsupsetneq (math-
    abx)
18351 \DeclareTextCommand{\textsqsupsetneq}{PU}{\9042\345}%* U+22E5
18352 %* \textsqsupsetneq -> \varsqsupsetneq (mathabx)
18353 % U+22E6 LESS-THAN BUT NOT EQUIVALENT TO; \lnsim (AmS)
18354 \DeclareTextCommand{\textlnsim}{PU}{\9042\346}%* U+22E6
18355 % U+22E7 GREATER-THAN BUT NOT EQUIVALENT TO; \gnsim (AmS)
18356 \DeclareTextCommand{\textgnsim}{PU}{\9042\347}%* U+22E7
18357 % U+22E8 PRECEDES BUT NOT EQUIVALENT TO; \precnsim (AmS)

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18358 \DeclareTextCommand{\textprecnsim}{PU}{\9042\350}%* U+22E8
 18359 % U+22E9 SUCCEEDS BUT NOT EQUIVALENT TO; \succnsim (AmS)
 18360 \DeclareTextCommand{\textsuccnsim}{PU}{\9042\351}%* U+22E9
 18361 % U+22EA NOT NORMAL SUBGROUP OF; \ntriangleleft (AmS)
 18362 \DeclareTextCommand{\textntriangleleft}{PU}{\9042\352}%* U+22EA
 18363 %* \textntriangleleft -> \nlessclosed (MnSymbol)
 18364 % U+22EB DOES NOT CONTAIN AS NORMAL SUBGROUP; \ntriangleright (AmS)
 18365 \DeclareTextCommand{\textntriangleright}{PU}{\9042\353}%* U+22EB
 18366 %* \textntriangleright -> \ngtrclosed (MnSymbol)
 18367 % U+22EC NOT NORMAL SUBGROUP OF OR EQUAL TO;
 18368 % \ntrianglelefteq (AmS)
 18369 \DeclareTextCommand{\textntrianglelefteq}{PU}{\9042\354}%* U+22EC
 18370 % U+22ED DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL;
 18371 % \ntrianglerighteq (AmS)
 18372 \DeclareTextCommand{\textntrianglerighteq}{PU}{\9042\355}%* U+22ED
 18373 %* \textntrianglerighteq -> \textngeqclosed
 18374 % U+22EE VERTICAL ELLIPSIS; ellipsisvertical; \vdots (LaTeX)
 18375 \DeclareTextCommand{\textvdots}{PU}{\9042\356}%* U+22EE
 18376 % U+22EF MIDLINE HORIZONTAL ELLIPSIS; \cdots (LaTeX)
 18377 \DeclareTextCommand{\textcdots}{PU}{\9042\357}%* U+22EF
 18378 % U+22F0 UP RIGHT DIAGONAL ELLIPSIS; \udots (MnSymbol)
 18379 \DeclareTextCommand{\textudots}{PU}{\9042\360}%* U+22F0
 18380 % U+22F1 DOWN RIGHT DIAGONAL ELLIPSIS; \ddots (LaTeX)
 18381 \DeclareTextCommand{\textddots}{PU}{\9042\361}%* U+22F1
 18382 % U+22F6 ELEMENT OF WITH OVERBAR; \barin (mathabx)
 18383 \DeclareTextCommand{\textbarin}{PU}{\9042\366}%* U+22F6

47.2.23 Miscellaneous Technical: U+2300 to U+23FF

18384 % U+2300 DIAMETER SIGN; \diameter (mathabx,wasysym)
 18385 \DeclareTextCommand{\textdiameter}{PU}{\9043\000}%* U+2300
 18386 % U+2310 REVERSED NOT SIGN; \backneg (MnSymbol)
 18387 \DeclareTextCommand{\textbackneg}{PU}{\9043\020}%* U+2310
 18388 % U+2311 SQUARE LOZENGE; \wasylozenge (wasysym)
 18389 \DeclareTextCommand{\textwasylozenge}{PU}{\9043\021}%* U+2311
 18390 % U+2319 TURNED NOT SIGN; \invbackneg (MnSymbol)
 18391 \DeclareTextCommand{\textinvbackneg}{PU}{\9043\031}%* U+2319
 18392 % U+231A WATCH; \clock (wasysym)
 18393 \DeclareTextCommand{\textclock}{PU}{\9043\032}%* U+231A
 18394 %* \textclock -> \Clocklogo (marvosym)
 18395 %* \textclock -> \ClockLogo (marvosym)
 18396 % U+231C TOP LEFT CORNER; \ulcorner (AmS)
 18397 \DeclareTextCommand{\textulcorner}{PU}{\9043\034}%* U+231C
 18398 % U+231D TOP RIGHT CORNER; \urcorner (AmS)
 18399 \DeclareTextCommand{\texturcorner}{PU}{\9043\035}%* U+231D
 18400 % U+231E BOTTOM LEFT CORNER; \llcorner (AmS)
 18401 \DeclareTextCommand{\textllcorner}{PU}{\9043\036}%* U+231E
 18402 % U+231F BOTTOM RIGHT CORNER; \lrcorner (AmS)
 18403 \DeclareTextCommand{\textlrcorner}{PU}{\9043\037}%* U+231F
 18404 % U+2322 FROWN; \frown (LaTeX)
 18405 \DeclareTextCommand{\textfrown}{PU}{\9043\042}%* U+2322
 18406 % U+2323 SMILE; \smile (LaTeX)
 18407 \DeclareTextCommand{\textsmile}{PU}{\9043\043}%* U+2323
 18408 % U+2328 KEYBOARD; \Keyboard (marvosym)

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18409 \DeclareTextCommand{\textKeyboard}{PU}{\9043\050}%* U+2328
18410 % U+2329 LEFT-POINTING ANGLE BRACKET; angleleft; \langle (LaTeX)
18411 \DeclareTextCommand{\textlangle}{PU}{\9043\051}%* U+2329
18412 % U+232A RIGHT-POINTING ANGLE BRACKET; angleright; \rangle (LaTeX)
18413 \DeclareTextCommand{\textrangle}{PU}{\9043\052}%* U+232A
18414 % U+2339 APL FUNCTIONAL SYMBOL QUAD DIVIDE; \APLinv (wasysym)
18415 \DeclareTextCommand{\textAPLinv}{PU}{\9043\071}%* U+2339
18416 % U+233C APL FUNCTIONAL SYMBOL QUAD CIRCLE; \Tumbler (marvosym)
18417 \DeclareTextCommand{\textTumbler}{PU}{\9043\074}%* U+233C
18418 % U+233D APL FUNCTIONAL SYMBOL CIRCLE STILE; \baro (stmaryrd)
18419 \DeclareTextCommand{\textstmaryrdbaro}{PU}{\9043\075}% U+233D
18420 %* \textstmaryrdbaro -> \baro (stmaryrd)
18421 % U+233F APL FUNCTIONAL SYMBOL SLASH BAR; \notslash (wasysym)
18422 \DeclareTextCommand{\textnotslash}{PU}{\9043\077}%* U+233F
18423 % U+2340 APL FUNCTIONAL SYMBOL BACKSLASH BAR;
18424 % \notbackslash (wasysym)
18425 \DeclareTextCommand{\textnotbackslash}{PU}{\9043\100}%* U+2340
18426 % U+2342 APL FUNCTIONAL SYMBOL QUAD BACKSLASH; \boxbackslash (mathabx)
18427 \DeclareTextCommand{\textboxbackslash}{PU}{\9043\102}%* U+2342
18428 % U+2347 APL FUNCTIONAL SYMBOL QUAD LEFTWARDS ARROW;
18429 % \APLleftarrowbox (wasysym)
18430 \DeclareTextCommand{\textAPLleftarrowbox}{PU}{\9043\107}%* U+2347
18431 % U+2348 APL FUNCTIONAL SYMBOL QUAD RIGHTWARDS ARROW;
18432 % \APLrightarrowbox (wasysym)
18433 \DeclareTextCommand{\textAPLrightarrowbox}{PU}{\9043\110}%* U+2348
18434 % U+2350 APL FUNCTIONAL SYMBOL QUAD UPWARDS ARROW; \APLuparrowbox (wasysym)
18435 \DeclareTextCommand{\textAPLuparrowbox}{PU}{\9043\120}%* U+2350
18436 % U+2357 APL FUNCTIONAL SYMBOL QUAD DOWNWARDS ARROW;
18437 % \APLdownarrowbox (wasysym)
18438 \DeclareTextCommand{\textAPLdownarrowbox}{PU}{\9043\127}%* U+2357
18439 % U+235E APL FUNCTIONAL SYMBOL QUOTE QUAD;
18440 % \APLinput (wasysym)
18441 \DeclareTextCommand{\textAPLinput}{PU}{\9043\136}%* U+235E
18442 % U+2370 APL FUNCTIONAL SYMBOL QUAD QUESTION; \Request (china2e)
18443 \DeclareTextCommand{\textRequest}{PU}{\9043\160}%* U+2370
18444 % U+2393 DIRECT CURRENT SYMBOL FORM TWO; \Beam (marvosym)
18445 \DeclareTextCommand{\textBeam}{PU}{\9043\223}%* U+2393
18446 % U+2394 SOFTWARE-FUNCTION SYMBOL; \hexagon (wasysym)
18447 \DeclareTextCommand{\texthexagon}{PU}{\9043\224}%* U+2394
18448 % U+2395 APL FUNCTIONAL SYMBOL QUAD; \APLbox (wasysym)
18449 \DeclareTextCommand{\textAPLbox}{PU}{\9043\225}%* U+2395
18450 % U+23ED BLACK RIGHT-POINTING DOUBLE TRIANGLE WITH VERTICAL BAR;
18451 % \ForwardToIndex (marvosym)
18452 \DeclareTextCommand{\textForwardToIndex}{PU}{\9043\355}%* U+23ED
18453 % U+23EE BLACK LEFT-POINTING DOUBLE TRIANGLE WITH VERTICAL BAR;
18454 % \RewindToIndex (marvosym)
18455 \DeclareTextCommand{\textRewindToIndex}{PU}{\9043\356}%* U+23EE

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47.2.24 Control Pictures: U+2400 to U+243F

18456 % U+2422 BLANK SYMBOL
 18457 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
 18458 % U+2423 OPEN BOX; blank
 18459 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

47.2.25 Optical Character Recognition: U+2440 to U+245F

18460 % U+244A OCR DOUBLE BACKSLASH; \bbslash (stmaryrd)
 18461 \DeclareTextCommand{\textbbslash}{PU}{\9044\112}%* U+244A
 18462 %* \textbbslash -> \varparallelinv (txfonts/pxfonts)

47.2.26 Enclosed Alphanumerics: U+2460 to U+24FF

18463 % U+2460 CIRCLED DIGIT ONE; onecircle
 18464 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
 18465 % U+2461 CIRCLED DIGIT TWO; twocircle
 18466 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
 18467 % U+2462 CIRCLED DIGIT THREE; threecircle
 18468 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
 18469 % U+2463 CIRCLED DIGIT FOUR; fourcircle
 18470 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
 18471 % U+2464 CIRCLED DIGIT FIVE; fivecircle
 18472 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
 18473 % U+2465 CIRCLED DIGIT SIX; sixcircle
 18474 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
 18475 % U+2466 CIRCLED DIGIT SEVEN; sevendecircle
 18476 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
 18477 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
 18478 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
 18479 % U+2468 CIRCLED DIGIT NINE; ninecircle
 18480 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
 18481 % U+2469 CIRCLED NUMBER TEN; tencircle
 18482 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
 18483 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
 18484 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
 18485 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
 18486 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
 18487 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
 18488 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
 18489 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
 18490 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
 18491 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
 18492 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
 18493 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
 18494 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
 18495 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
 18496 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
 18497 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
 18498 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
 18499 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
 18500 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
 18501 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
 18502 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
 18503 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
 18504 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
 18505 % \CircledA (marvosym)

18506 \DeclareTextCommand{\textCircledA}{PU}{\9044\266}%* U+24B6
18507 %* \textCircledA -> \CleaningA
18508 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
18509 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
18510 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
18511 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
18512 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
18513 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
18514 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
18515 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
18516 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
18517 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
18518 % \CleaningF (marvosym)
18519 \DeclareTextCommand{\textCleaningF}{PU}{\9044\273}%* U+24BB
18520 % \CleaningFF (marvosym)
18521 \DeclareTextCommand{\textCleaningFF}{PU}{\9044\273\83\062}%* U+24BB U+0332
18522 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
18523 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
18524 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
18525 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
18526 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
18527 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
18528 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
18529 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
18530 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
18531 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
18532 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
18533 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
18534 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
18535 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
18536 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
18537 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
18538 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
18539 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
18540 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
18541 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
18542 % \CleaningP (marvosym)
18543 \DeclareTextCommand{\textCleaningP}{PU}{\9044\305}%* U+24C5
18544 % \CleaningPP (marvosym)
18545 \DeclareTextCommand{\textCleaningPP}{PU}{\9044\305\83\062}%* U+24C5 U+0332
18546 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
18547 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
18548 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
18549 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
18550 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
18551 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
18552 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
18553 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
18554 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
18555 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
18556 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
18557 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
18558 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
18559 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC

18560 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle
 18561 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
 18562 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
 18563 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
 18564 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
 18565 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
 18566 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
 18567 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
 18568 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
 18569 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
 18570 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
 18571 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
 18572 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
 18573 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
 18574 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle
 18575 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
 18576 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
 18577 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
 18578 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
 18579 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
 18580 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
 18581 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
 18582 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
 18583 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
 18584 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
 18585 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
 18586 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
 18587 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
 18588 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
 18589 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
 18590 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
 18591 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
 18592 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
 18593 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
 18594 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
 18595 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
 18596 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
 18597 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
 18598 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
 18599 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
 18600 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
 18601 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
 18602 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
 18603 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
 18604 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
 18605 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
 18606 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
 18607 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
 18608 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
 18609 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
 18610 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
 18611 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
 18612 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
 18613 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7

18614 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
 18615 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
 18616 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
 18617 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
 18618 % U+24EA CIRCLED DIGIT ZERO
 18619 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

47.2.27 Box Drawing: U+2500 to 257F

18620 % U+2504 BOX DRAWINGS LIGHT TRIPLE DASH HORIZONTAL; \Cutting-
 Line (marvosym)
 18621 \DeclareTextCommand{\textCuttingLine}{PU}{\9045\004}%* U+2504
 18622 %* \textCuttingLine -> \Kutline (marvosym)
 18623 %* \textCuttingLine -> \CutLine (marvosym)
 18624 %* \textCuttingLine -> \Cutline (marvosym)

47.2.28 Geometric Shapes: U+25A0 to U+25FF

18625 % U+25B2 BLACK UP-POINTING TRIANGLE; \UParrow (wasysym)
 18626 \DeclareTextCommand{\textUParrow}{PU}{\9045\262}%* U+25B2
 18627 %* \textUParrow -> \MoveUp (marvosym)
 18628 % U+25B3 WHITE UP-POINTING TRIANGLE; whiteuppointingtriangle;
 18629 % \bigtriangleup (LaTeX)
 18630 \DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}%* U+25B3
 18631 %* \textbigtriangleup -> \APLup (wasysym)
 18632 %* \textbigtriangleup -> \Bleech (marvosym)
 18633 % U+25B6 BLACK RIGHT-POINTING TRIANGLE; \Forward (marvosym)
 18634 \DeclareTextCommand{\textForward}{PU}{\9045\266}%* U+25B6
 18635 % U+25B7 WHITE RIGHT-POINTING TRIANGLE (= z notation range restric-
 tion);
 18636 % whiterightpointingtriangle; \triangleright (LaTeX)
 18637 \DeclareTextCommand{\texttripleright}{PU}{\9045\267}%* U+25B7
 18638 % U+25BA BLACK RIGHT-POINTING POINTER; \RHD (wasysym)
 18639 \DeclareTextCommand{\textRHD}{PU}{\9045\272}%* U+25BA
 18640 % U+25BC BLACK DOWN-POINTING TRIANGLE; \DOWNarrow (wasysym)
 18641 \DeclareTextCommand{\textDOWNarrow}{PU}{\9045\274}%* U+25BC
 18642 %* \textDOWNarrow -> \MoveDown (marvosym)
 18643 % U+25BD WHITE DOWN-POINTING TRIANGLE; whitedownpointingtri-
 angle;
 18644 % \bigtriangledown (LaTeX)
 18645 \DeclareTextCommand{\textbigtriangledown}{PU}{\9045\275}%* U+25BD
 18646 %* \textbigtriangledown -> \APLdown (wasysym)
 18647 % U+25C0 BLACK LEFT-POINTING TRIANGLE; \Rewind (marvosym)
 18648 \DeclareTextCommand{\textRewind}{PU}{\9045\300}%* U+25C0
 18649 % U+25C1 WHITE RIGHT-POINTING TRIANGLE (= z notation domain re-
 striction);
 18650 % whiteleftpointingtriangle; \triangleleft (LaTeX)
 18651 \DeclareTextCommand{\texttriangleleft}{PU}{\9045\301}%* U+25C1
 18652 % U+25C4 BLACK LEFT-POINTING POINTER; \LHD (wasysym)
 18653 \DeclareTextCommand{\textLHD}{PU}{\9045\304}%* U+25C4
 18654 % U+25C7 WHITE DIAMOND; whitediamond; \diamond (LaTeX)
 18655 \DeclareTextCommand{\textdiamond}{PU}{\9045\307}%* U+25C7
 18656 %* \textdiamond -> \Diamond (wasysym)
 18657 % U+25CA LOZENGE; lozenge; \lozenge (AmS)
 18658 \DeclareTextCommand{\textlozenge}{PU}{\9045\312}%* U+25CA
 18659 % U+25D6 LEFT HALF BLACK CIRCLE; \LEFTCIRCLE (wasysym)

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18660 \DeclareTextCommand{\textLEFTCIRCLE}{PU}{\9045\326}%* U+25D6
18661 % U+25D7 RIGHT HALF BLACK CIRCLE; \RIGHTCIRCLE (wasysym)
18662 \DeclareTextCommand{\textRIGHTCIRCLE}{PU}{\9045\327}%* U+25D7
18663 % U+25E6 WHITE BULLET; *openbullet, whitebullet
18664 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}%* U+25E6
18665 % U+25EB WHITE SQUARE WITH VERTICAL BISECTING LINE;
18666 % \boxbar (stmaryrd)
18667 \DeclareTextCommand{\textboxbar}{PU}{\9045\353}%* U+25EB
18668 % U+25EF LARGE CIRCLE; largecircle
18669 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}%* U+25EF
18670 %* \textbigcircle -> \varbigcirc (stmaryrd)
18671 %

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47.2.29 Miscellaneous Symbols: U+2600 to U+26FF

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18672 % U+2601 CLOUD; \Cloud (ifsym)
18673 \DeclareTextCommand{\textCloud}{PU}{\9046\001}%* U+2601
18674 % U+2605 BLACK STAR; \FiveStar (bbding)
18675 \DeclareTextCommand{\textFiveStar}{PU}{\9046\005}%* U+2605
18676 % U+2606 WHITE STAR; \FiveStarOpen (bbding)
18677 \DeclareTextCommand{\textFiveStarOpen}{PU}{\9046\006}%* U+2606
18678 % U+260E BLACK TELEPHONE; telephoneblack; \Phone (bbding)
18679 \DeclareTextCommand{\textPhone}{PU}{\9046\016}%* U+260E
18680 %* \textPhone -> \Telefon (marvosym)
18681 % U+2610 BALLOT BOX; \boxempty (stmaryrd)
18682 \DeclareTextCommand{\textboxempty}{PU}{\9046\020}%* U+2610
18683 %* \textboxempty -> \Box (wasysym)
18684 % U+2611 BALLOT BOX WITH CHECK; \Checkedbox (marvosym)
18685 \DeclareTextCommand{\textCheckedbox}{PU}{\9046\021}%* U+2611
18686 %* \textCheckedbox -> \CheckedBox (marvosym)
18687 % U+2612 BALLOT BOX WITH X; \Crossedbox (marvosym)
18688 \DeclareTextCommand{\textCrossedbox}{PU}{\9046\022}%* U+2612
18689 %* \textCrossedbox -> \XBox (wasysym)
18690 %* \textCrossedbox -> \CrossedBox (marvosym)
18691 % U+2615 HOT BEVERAGE; \Coffeecup (marvosym)
18692 \DeclareTextCommand{\textCoffeecup}{PU}{\9046\025}%* U+2615
18693 % U+261A BLACK LEFT POINTING INDEX; \HandCuffLeft (bbding)
18694 \DeclareTextCommand{\textHandCuffLeft}{PU}{\9046\032}%* U+261A
18695 % U+261B BLACK RIGHT POINTING INDEX; \HandCuffRight (bbding)
18696 \DeclareTextCommand{\textHandCuffRight}{PU}{\9046\033}%* U+261B
18697 % U+261C WHITE LEFT POINTING INDEX; \HandLeft (bbding)
18698 \DeclareTextCommand{\textHandLeft}{PU}{\9046\034}%* U+261C
18699 %* \textHandLeft -> \rightpointleft (fourier)
18700 % U+261E WHITE RIGHT POINTING INDEX; \HandRight (bbding)
18701 \DeclareTextCommand{\textHandRight}{PU}{\9046\036}%* U+261E
18702 %* \textHandRight -> \leftpointright (fourier)
18703 %* \textHandRight -> \PointingHand (marvosym)
18704 %* \textHandRight -> \Pointinghand (marvosym)
18705 % U+2622 RADIOACTIVE SIGN; \Radioactivity (marvosym)
18706 \DeclareTextCommand{\textRadioactivity}{PU}{\9046\042}%* U+2622
18707 %* \textRadioactivity -> \Radiation (ifsym)
18708 % U+2623 BIOHAZARD SIGN; \Biohazard (marvosym)
18709 \DeclareTextCommand{\textBiohazard}{PU}{\9046\043}%* U+2623
18710 % U+2625 ANKH; \Ankh (marvosym)
18711 \DeclareTextCommand{\textAnkh}{PU}{\9046\045}%* U+2625

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18712 % U+262F YIN YANG; \YinYang (marvosym)
18713 \DeclareTextCommand{\textYinYang}{PU}{\9046\057}%* U+262F
18714 %* \textYinYang -> \Yinyang (marvosym)
18715 %* \textYinYang -> \YingYang (marvosym)
18716 %* \textYinYang -> \Yingyang (marvosym)
18717 % U+2639 WHITE FROWNING FACE; \frownie (wasysym)
18718 \DeclareTextCommand{\textfrownie}{PU}{\9046\071}%* U+2639
18719 %* \textfrownie -> \Frowny (marvosym)
18720 % U+263A WHITE SMILING FACE; \smiley (wasysym)
18721 \DeclareTextCommand{\textsmiley}{PU}{\9046\072}%* U+263A
18722 %* \textsmiley -> \Smiley (marvosym)
18723 % U+263B BLACK SMILING FACE; \blacksmiley (wasysym)
18724 \DeclareTextCommand{\textblacksmiley}{PU}{\9046\073}%* U+263B
18725 % U+263C WHITE SUN WITH RAYS; \sun (wasysym)
18726 \DeclareTextCommand{\textsun}{PU}{\9046\074}%* U+263C
18727 %* \textsun -> \Sun (marvosym)
18728 % U+263D FIRST QUARTER MOON; \leftmoon (wasysym, mathabx)
18729 \DeclareTextCommand{\textleftmoon}{PU}{\9046\075}%* U+263D
18730 % U+263E LAST QUARTER MOON; \rightmoon (wasysym, mathabx)
18731 \DeclareTextCommand{\textrightmoon}{PU}{\9046\076}%* U+263E
18732 % U+263F MERCURY; \mercury (wasysym)
18733 \DeclareTextCommand{\textmercury}{PU}{\9046\077}%* U+263F
18734 %* \textmercury -> \Mercury (marvosym)
18735 % U+2640 FEMALE SIGN; female; \female (wasysym)
18736 \DeclareTextCommand{\textPUfemale}{PU}{\9046\100}% U+2640
18737 %* \textPUfemale -> \textfemale (tipx)
18738 %* \textPUfemale -> \female (wasysym)
18739 %* \textPUfemale -> \venus (wasysym)
18740 %* \textPUfemale -> \Venus (marvosym)
18741 %* \textPUfemale -> \Female (marvosym)
18742 % U+2641 EARTH; \earth (wasysym)
18743 \DeclareTextCommand{\textearth}{PU}{\9046\101}%* U+2641
18744 %* \textearth -> \Earth (marvosym)
18745 % U+2642 MALE SIGN; male, mars; \male (wasysym)
18746 \DeclareTextCommand{\textmale}{PU}{\9046\102}%* U+2642
18747 %* \textmale -> \mars (wasysym)
18748 %* \textmale -> \Mars (marvosym)
18749 %* \textmale -> \Male (marvosym)
18750 % U+2643 JUPITER; \jupiter (wasysym)
18751 \DeclareTextCommand{\textjupiter}{PU}{\9046\103}%* U+2643
18752 %* \textjupiter -> \Jupiter (marvosym)
18753 % U+2644 SATURN; \saturn (wasysym)
18754 \DeclareTextCommand{\textsaturn}{PU}{\9046\104}%* U+2644
18755 %* \textsaturn -> \Saturn (marvosym)
18756 % U+2645 URANUS; \uranus (wasysym)
18757 \DeclareTextCommand{\texturanus}{PU}{\9046\105}%* U+2645
18758 %* \texturanus -> \Uranus (marvosym)
18759 % U+2646 NEPTUNE; \neptune (wasysym)
18760 \DeclareTextCommand{\textneptune}{PU}{\9046\106}%* U+2646
18761 %* \textneptune -> \Neptune (marvosym)
18762 % U+2647 PLUTO; \pluto (wasysym)
18763 \DeclareTextCommand{\textpluto}{PU}{\9046\107}%* U+2647
18764 %* \textpluto -> \Pluto (marvosym)
18765 % U+2648 ARIES; \aries (wasysym)

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18766 \DeclareTextCommand{\textaries}{PU}{\9046\110}%* U+2648
18767 %* \textaries -> \Aries (marvosym)
18768 % U+2649 TAURUS; \taurus (wasysym)
18769 \DeclareTextCommand{\texttaurus}{PU}{\9046\111}%* U+2649
18770 %* \texttaurus -> \Taurus (marvosym)
18771 % U+264A GEMINI; \gemini (wasysym)
18772 \DeclareTextCommand{\textgemini}{PU}{\9046\112}%* U+264A
18773 %* \textgemini -> \Gemini (marvosym)
18774 % U+264B CANCER; \cancer (wasysym)
18775 \DeclareTextCommand{\textcancer}{PU}{\9046\113}%* U+264B
18776 %* \textcancer -> \Cancer (marvosym)
18777 % U+264C LEO; \leo (wasysym)
18778 \DeclareTextCommand{\textleo}{PU}{\9046\114}%* U+264C
18779 %* \textleo -> \Leo (marvosym)
18780 % U+264D VIRGO; \virgo (wasysym)
18781 \DeclareTextCommand{\textvirgo}{PU}{\9046\115}%* U+264D
18782 %* \textvirgo -> \Virgo (marvosym)
18783 % U+264E LIBRA; \libra (wasysym)
18784 \DeclareTextCommand{\textlibra}{PU}{\9046\116}%* U+264E
18785 %* \textlibra -> \Libra (marvosym)
18786 % U+264F SCORPIO; \scorpio (wasysym)
18787 \DeclareTextCommand{\textscorpio}{PU}{\9046\117}%* U+264F
18788 %* \textscorpio -> \Scorpio (marvosym)
18789 % U+2650 SAGITTARIUS; \sagittarius (wasysym)
18790 \DeclareTextCommand{\textsagittarius}{PU}{\9046\120}%* U+2650
18791 %* \textsagittarius -> \Sagittarius (marvosym)
18792 % U+2651 CAPRICORN; \capricornus (wasysym)
18793 \DeclareTextCommand{\textcapricornus}{PU}{\9046\121}%* U+2651
18794 %* \textcapricornus -> \Capricorn (marvosym)
18795 % U+2652 AQUARIUS; \aquarius (wasysym)
18796 \DeclareTextCommand{\textaquarius}{PU}{\9046\122}%* U+2652
18797 %* \textaquarius -> \Aquarius (marvosym)
18798 % U+2653 PISCES; \pisces (wasysym)
18799 \DeclareTextCommand{\textpisces}{PU}{\9046\123}%* U+2653
18800 %* \textpisces -> \Pisces (marvosym)
18801 % U+2660 BLACK SPADE SUIT; spade, spadesuitblack; \spadesuit (LaTeX)
18802 \DeclareTextCommand{\textspadesuitblack}{PU}{\9046\140}% U+2660
18803 %* \textspadesuitblack -> \spadesuit (MnSymbol)
18804 % U+2661 WHITE HEART SUIT; heartsuitwhite; \heartsuit (LaTeX)
18805 \DeclareTextCommand{\textheartsuitwhite}{PU}{\9046\141}% U+2661
18806 %* \textheartsuitwhite -> \Heart (marvosym)
18807 %* \textheartsuitwhite -> \heartsuit (MnSymbol)
18808 % U+2662 WHITE DIAMOND SUIT; diamondsuitwhite; \diamondsuit (LaTeX)
18809 \DeclareTextCommand{\textdiamondsuitwhite}{PU}{\9046\142}% U+2662
18810 %* \textdiamondsuitwhite -> \diamondsuit (MnSymbol)
18811 % U+2663 BLACK CLUB SUIT; club, clubsuitblack; \clubsuit (LaTeX)
18812 \DeclareTextCommand{\textclubsuitblack}{PU}{\9046\143}% U+2663
18813 %* \textclubsuitblack -> \clubsuit (MnSymbol)
18814 % U+2664 WHITE SPADE SUIT; spadesuitwhite
18815 \DeclareTextCommand{\textspadesuitwhite}{PU}{\9046\144}% U+2664
18816 % U+2665 BLACK HEART SUIT; heartsuitblack, heart
18817 \DeclareTextCommand{\textheartsuitblack}{PU}{\9046\145}% U+2665
18818 % U+2666 BLACK DIAMOND SUIT; diamond
18819 \DeclareTextCommand{\textdiamondsuitblack}{PU}{\9046\146}% U+2666

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18820 % U+2667 WHITE CLUB SUIT; clubsuitwhite
18821 \DeclareTextCommand{\textclubsuitwhite}{PU}{\9046\147}% U+2667
18822 % U+2669 QUARTER NOTE; quarternote; \quarternote (wasysym, arev)
18823 \DeclareTextCommand{\textquarternote}{PU}{\9046\151}%* U+2669
18824 % U+266A EIGHTH NOTE; musicalnote; \textmusicalnote (textcomp)
18825 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
18826 %* \textmusicalnote -> \eighthnote (wasysym, arev)
18827 % U+266B BEAMED EIGHTH NOTES; eighthnotebeamed; \twonotes (wasysym)
18828 \DeclareTextCommand{\texttwonotes}{PU}{\9046\153}%* U+266B
18829 % U+266C BEAMED SIXTEENTH NOTES; beamedsixteenthnotes; \sixteenth-
note (arev)
18830 \DeclareTextCommand{\textsixteenthnote}{PU}{\9046\154}%* U+266C
18831 % U+266D MUSIC FLAT SIGN; musicflatsign; \flat (LaTeX)
18832 \DeclareTextCommand{\textflat}{PU}{\9046\155}%* U+266D
18833 % U+266E MUSIC NATURAL SIGN; \natural (LaTeX)
18834 \DeclareTextCommand{\textnatural}{PU}{\9046\156}%* U+266E
18835 % U+266F MUSIC SHARP SIGN; musicsharpsign; \sharp (LaTeX)
18836 \DeclareTextCommand{\textsharp}{PU}{\9046\157}%* U+266F
18837 % U+2672 UNIVERSAL RECYCLING SYMBOL; \recycle (recycle)
18838 \DeclareTextCommand{\textrecycle}{PU}{\9046\162}%* U+2672
18839 %* \textrecycle -> \Recycling (marvosym)
18840 % U+267F WHEELCHAIR SYMBOL; \Wheelchair (marvosym)
18841 \DeclareTextCommand{\textWheelchair}{PU}{\9046\177}%* U+267F
18842 % U+2691 BLACK FLAG; \Flag (ifsym)
18843 \DeclareTextCommand{\textFlag}{PU}{\9046\221}%* U+2691
18844 %* \textFlag -> \VarFlag (ifsym)
18845 % U+2692 HAMMER AND PICK; \MineSign (marvosym)
18846 \DeclareTextCommand{\textMineSign}{PU}{\9046\222}%* U+2692
18847 % U+2694 CROSSED SWORDS; \dsmlilitary (dictsym)
18848 \DeclareTextCommand{\textdsmlilitary}{PU}{\9046\224}%* U+2694
18849 %* \textdsmlilitary -> \textxswup (fourier)
18850 % U+2695 STAFF OF AESCULAPIUS; \dsmedical (dictsym)
18851 \DeclareTextCommand{\textdsmedical}{PU}{\9046\225}%* U+2695
18852 % U+2696 SCALES; \dsjuridical (dictsym)
18853 \DeclareTextCommand{\textdsjuridical}{PU}{\9046\226}%* U+2696
18854 % U+2697 ALEMBIC; \dschemical (dictsym)
18855 \DeclareTextCommand{\textdschemical}{PU}{\9046\227}%* U+2697
18856 % U+2698 FLOWER; \dsbiological (dictsym)
18857 \DeclareTextCommand{\textdsbiological}{PU}{\9046\230}%* U+2698
18858 % U+269A STAFF OF HERMES; \dscommercial (dictsym)
18859 \DeclareTextCommand{\textdscommercial}{PU}{\9046\232}%* U+269A
18860 % U+269D OUTLINED WHITE STAR; \manstar (manfnt)
18861 \DeclareTextCommand{\textmanstar}{PU}{\9046\235}%* U+269D
18862 % U+26A0 WARNING SIGN; \danger (fourier)
18863 \DeclareTextCommand{\textdanger}{PU}{\9046\240}%* U+26A0
18864 % U+26A2 DOUBLED FEMALE SIGN; \FemaleFemale (marvosym)
18865 \DeclareTextCommand{\textFemaleFemale}{PU}{\9046\242}%* U+26A2
18866 % U+26A3 DOUBLED MALE SIGN; \MaleMale (marvosym)
18867 \DeclareTextCommand{\textMaleMale}{PU}{\9046\243}%* U+26A3
18868 % U+26A4 INTERLOCKED FEMALE AND MALE SIGN; \FemaleMale (mar-
vosym)
18869 \DeclareTextCommand{\textFemaleMale}{PU}{\9046\244}%* U+26A4
18870 % U+26A5 MALE AND FEMALE SIGN; \Hermaphrodite (marvosym)
18871 \DeclareTextCommand{\textHermaphrodite}{PU}{\9046\245}%* U+26A5

18872 % U+26AA MEDIUM WHITE CIRCLE; \Neural (marvosym)
 18873 \DeclareTextCommand{\textNeutral}{PU}{\9046\252}%* U+26AA
 18874 % U+26AD MARRIAGE SYMBOL
 18875 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
 18876 % U+26AE DIVORCE SYMBOL
 18877 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE
 18878 % U+26B2 NEUTER; \textunconfemale (tipx)
 18879 \DeclareTextCommand{\textPUunconfemale}{PU}{\9046\262}% U+26B2
 18880 %* \textPUunconfemale -> \textunconfemale (tipx)
 18881 % U+26B9 SEXTILE; \hexstar (wasysym)
 18882 \DeclareTextCommand{\texthexstar}{PU}{\9046\271}%* U+26B9
 18883 % U+26BD SOCCER BALL; \Football (marvosym)
 18884 \DeclareTextCommand{\textSoccerBall}{PU}{\9046\275}% U+26BD
 18885 %* \textSoccerBall -> \Football (marvosym)
 18886 % U+26C5 SUN BEHIND CLOUD; \SunCloud (ifsym)
 18887 \DeclareTextCommand{\textSunCloud}{PU}{\9046\305}%* U+26C5
 18888 % U+26C6 RAIN; \Rain (ifsym)
 18889 \DeclareTextCommand{\textRain}{PU}{\9046\306}%* U+26C6
 18890 % U+26D4 NO ENTRY; \noway (fourier)
 18891 \DeclareTextCommand{\textnoway}{PU}{\9046\324}%* U+26D4
 18892 % U+26F0 MOUNTAIN; \Mountain (ifsym)
 18893 \DeclareTextCommand{\textMountain}{PU}{\9046\360}%* U+26F0
 18894 % U+26FA TENT; \Tent (ifsym)
 18895 \DeclareTextCommand{\textTent}{PU}{\9046\372}%* U+26FA

47.2.30 Dingbats: U+2700 to U+27BF

18896 % U+2701 UPPER BLADE SCISSORS; \ScissorRightBrokenBottom (bding)
 18897 \DeclareTextCommand{\textScissorRightBrokenBottom}{PU}{\9047\001}% U+2701
 18898 %* \textScissorRightBrokenBottom -> \CutLeft (marvosym)
 18899 %* \textScissorRightBrokenBottom -> \Cutright (marvosym)
 18900 % U+2702 BLACK SCISSORS; \ScissorRight (bding)
 18901 \DeclareTextCommand{\textScissorRight}{PU}{\9047\002}%* U+2702
 18902 %* \textScissorRight -> \RightScissors (marvosym)
 18903 %* \textScissorRight -> \Leftscissors (marvosym)
 18904 % U+2703 LOWER BLADE SCISSORS; \ScissorRightBrokenTop (bding)
 18905 \DeclareTextCommand{\textScissorRightBrokenTop}{PU}{\9047\003}%* U+2703
 18906 % U+2704 WHITE SCISSORS; \ScissorHollowRight (bding)
 18907 \DeclareTextCommand{\textScissorHollowRight}{PU}{\9047\004}%* U+2704
 18908 % U+2706 TELEPHONE LOCATION SIGN; \PhoneHandset (bding)
 18909 \DeclareTextCommand{\textPhoneHandset}{PU}{\9047\006}%* U+2706
 18910 % U+2707 TAPE DRIVE; \Tape (bding)
 18911 \DeclareTextCommand{\textTape}{PU}{\9047\007}%* U+2707
 18912 % U+2708 AIRPLANE; \Plane (bding)
 18913 \DeclareTextCommand{\textPlane}{PU}{\9047\010}%* U+2708
 18914 % U+2709 ENVELOPE; \Envelope (bding),
 18915 \DeclareTextCommand{\textEnvelope}{PU}{\9047\011}%* U+2709
 18916 %* \textEnvelope -> \Letter (marvosym)
 18917 % U+270C VICTORY HAND; \Peace (bding)
 18918 \DeclareTextCommand{\textPeace}{PU}{\9047\014}%* U+270C
 18919 % U+270D WRITING HAND; \WritingHand (marvosym)
 18920 \DeclareTextCommand{\textWritingHand}{PU}{\9047\015}%* U+270D
 18921 %* \textWritingHand -> \Writinghand (marvosym)
 18922 % U+270E LOWER RIGHT PENCIL; \PencilRightDown (bding)
 18923 \DeclareTextCommand{\textPencilRightDown}{PU}{\9047\016}%* U+270E

18924 % U+270F PENCIL; \PencilRight (bding)
 18925 \DeclareTextCommand{\textPencilRight}{PU}{\9047\017}%* U+270F
 18926 % U+2710 UPPER RIGHT PENCIL; \PencilRightUp (bding)
 18927 \DeclareTextCommand{\textPencilRightUp}{PU}{\9047\020}%* U+2710
 18928 % U+2711 WHITE NIB; \NibRight (bding)
 18929 \DeclareTextCommand{\textNibRight}{PU}{\9047\021}%* U+2711
 18930 % U+2712 BLACK NIB; \NibSolidRight (bding)
 18931 \DeclareTextCommand{\textNibSolidRight}{PU}{\9047\022}%* U+2712
 18932 % U+2713 CHECK MARK; checkmark; \Checkmark (bding)
 18933 \DeclareTextCommand{\textCheckmark}{PU}{\9047\023}%* U+2713
 18934 %* \textCheckmark -> \checkmark (MnSymbol)
 18935 % U+2714 HEAVY CHECK MARK; \CheckmarkBold (bding)
 18936 \DeclareTextCommand{\textCheckmarkBold}{PU}{\9047\024}%* U+2714
 18937 % U+2715 MULTIPLICATION X; \XSolid (bding)
 18938 \DeclareTextCommand{\textXSolid}{PU}{\9047\025}%* U+2715
 18939 % U+2716 HEAVY MULTIPLICATION X; \XSolidBold (bding)
 18940 \DeclareTextCommand{\textXSolidBold}{PU}{\9047\026}%* U+2716
 18941 % U+2717 BALLOT X; \XSolidBrush (bding)
 18942 \DeclareTextCommand{\textXSolidBrush}{PU}{\9047\027}%* U+2717
 18943 % U+2719 OUTLINED GREEK CROSS; \PlusOutline (bding)
 18944 \DeclareTextCommand{\textPlusOutline}{PU}{\9047\031}%* U+2719
 18945 % U+271A HEAVY GREEK CROSS; \Plus (bding)
 18946 \DeclareTextCommand{\textPlus}{PU}{\9047\032}%* U+271A
 18947 % U+271B OPEN CENTRE CROSS; \PlusThinCenterOpen (bding)
 18948 \DeclareTextCommand{\textPlusThinCenterOpen}{PU}{\9047\033}%* U+271B
 18949 % U+271C HEAVY OPEN CENTRE CROSS; \PlusCenterOpen (bding)
 18950 \DeclareTextCommand{\textPlusCenterOpen}{PU}{\9047\034}%* U+271C
 18951 % U+271D LATIN CROSS; \Cross (bding)
 18952 \DeclareTextCommand{\textCross}{PU}{\9047\035}%* U+271D
 18953 % U+271E SHADOWED WHITE LATIN CROSS; \CrossOpenShadow (bding)
 18954 \DeclareTextCommand{\textCrossOpenShadow}{PU}{\9047\036}%* U+271E
 18955 % U+271F OUTLINED LATIN CROSS; \CrossOutline (bding)
 18956 \DeclareTextCommand{\textCrossOutline}{PU}{\9047\037}%* U+271F
 18957 % U+2720 MALTESE CROSS; \CrossMaltese (bding)
 18958 \DeclareTextCommand{\textCrossMaltese}{PU}{\9047\040}%* U+2720
 18959 % U+2721 STAR OF DAVID; \DavidStar (bding)
 18960 \DeclareTextCommand{\textDavidStar}{PU}{\9047\041}%* U+2721
 18961 %* \textDavidStar -> \davidstar (wasysym)
 18962 % U+2722 FOUR TEARDROP-SPOKED ASTERISK; \FourAsterisk (bding)
 18963 \DeclareTextCommand{\textFourAsterisk}{PU}{\9047\042}%* U+2722
 18964 % U+2723 FOUR BALLOON-SPOKED ASTERISK; \JackStar (bding)
 18965 \DeclareTextCommand{\textJackStar}{PU}{\9047\043}%* U+2723
 18966 % U+2724 HEAVY FOUR BALLOON-SPOKED ASTERISK; \JackStarBold (bding)
 18967 \DeclareTextCommand{\textJackStarBold}{PU}{\9047\044}%* U+2724
 18968 % U+2725 FOUR CLUB-SPOKED ASTERISK; \CrossClowerTips (bding)
 18969 \DeclareTextCommand{\textClowerTips}{PU}{\9047\045}%* U+2725
 18970 % U+2726 BLACK FOUR POINTED STAR; \FourStar (bding)
 18971 \DeclareTextCommand{\textFourStar}{PU}{\9047\046}%* U+2726
 18972 % U+2727 WHITE FOUR POINTED STAR; \FourStarOpen (bding)
 18973 \DeclareTextCommand{\textFourStarOpen}{PU}{\9047\047}%* U+2727
 18974 % U+272A CIRCLED WHITE STAR; \FiveStarOpenCircled (bding)
 18975 \DeclareTextCommand{\textFiveStarOpenCircled}{PU}{\9047\052}%* U+272A
 18976 % U+272B OPEN CENTRE BLACK STAR; \FiveStarCenterOpen (bding)

18977 \DeclareTextCommand{\textFiveStarCenterOpen}{PU}{\9047\053}%* U+272B
 18978 % U+272C BLACK CENTRE WHITE STAR; \FiveStarOpenDotted (bding)
 18979 \DeclareTextCommand{\textFiveStarOpenDotted}{PU}{\9047\054}%* U+272C
 18980 % U+272D OUTLINED BLACK STAR; \FiveStarOutline (bding)
 18981 \DeclareTextCommand{\textFiveStarOutline}{PU}{\9047\055}%* U+272D
 18982 % U+272E HEAVY OUTLINED BLACK STAR; \FiveStarOutlineHeavy (bding)
 18983 \DeclareTextCommand{\textFiveStarOutlineHeavy}{PU}{\9047\056}%* U+272E
 18984 % U+272F PINWHEEL STAR; \FiveStarConvex (bding)
 18985 \DeclareTextCommand{\textFiveStarConvex}{PU}{\9047\057}%* U+272F
 18986 % U+2730 SHADOWED WHITE STAR; \FiveStarShadow (bding)
 18987 \DeclareTextCommand{\textFiveStarShadow}{PU}{\9047\060}%* U+2730
 18988 % U+2731 HEAVY ASTERISK; \AsteriskBold (bding)
 18989 \DeclareTextCommand{\textAsteriskBold}{PU}{\9047\061}%* U+2731
 18990 % U+2732 OPEN CENTRE ASTERISK; \AsteriskCenterOpen (bding)
 18991 \DeclareTextCommand{\textAsteriskCenterOpen}{PU}{\9047\062}%* U+2732
 18992 % U+2734 EIGHT POINTED BLACK STAR; \EightStarTaper (bding)
 18993 \DeclareTextCommand{\textEightStarTaper}{PU}{\9047\064}%* U+2734
 18994 % U+2735 EIGHT POINTED PINWHEEL STAR; \EightStarConvex (bding)
 18995 \DeclareTextCommand{\textEightStarConvex}{PU}{\9047\065}%* U+2735
 18996 % U+2736 SIX POINTED BLACK STAR; \SixStar (bding)
 18997 \DeclareTextCommand{\textSixStar}{PU}{\9047\066}%* U+2736
 18998 % U+2737 EIGHT POINTED RECTILINEAR BLACK STAR; \EightStar (bding)
 18999 \DeclareTextCommand{\textEightStar}{PU}{\9047\067}%* U+2737
 19000 % U+2738 HEAVY EIGHT POINTED RECTILINEAR BLACK STAR; \EightStarBold (bding)
 19001 \DeclareTextCommand{\textEightStarBold}{PU}{\9047\070}%* U+2738
 19002 % U+2739 TWELVE POINTED BLACK STAR; \TwelveStar (bding)
 19003 \DeclareTextCommand{\textTwelveStar}{PU}{\9047\071}%* U+2739
 19004 % U+273A SIXTEEN POINTED ASTERISK; \SixteenStarLight (bding)
 19005 \DeclareTextCommand{\textSixteenStarLight}{PU}{\9047\072}%* U+273A
 19006 % U+273B TEARDROP-SPOKED ASTERISK; \SixFlowerPetalRemoved (bding)
 19007 \DeclareTextCommand{\textSixFlowerPetalRemoved}{PU}{\9047\073}%* U+273B
 19008 % U+273C OPEN CENTRE TEARDROP-SPOKED ASTERISK;
 19009 % \SixFlowerOpenCenter (bding)
 19010 \DeclareTextCommand{\textSixFlowerOpenCenter}{PU}{\9047\074}%* U+273C
 19011 % U+273D HEAVY TEARDROP-SPOKED ASTERISK; \Asterisk (bding)
 19012 \DeclareTextCommand{\textAsterisk}{PU}{\9047\075}%* U+273D
 19013 % U+273E SIX PETALLED BLACK AND WHITE FLORETTE; \SixFlowerAlternate (bding)
 19014 \DeclareTextCommand{\textSixFlowerAlternate}{PU}{\9047\076}%* U+273E
 19015 % U+273F BLACK FLORETTE; \FiveFlowerPetal (bding)
 19016 \DeclareTextCommand{\textFiveFlowerPetal}{PU}{\9047\077}%* U+273F
 19017 % U+2740 WHITE FLORETTE; \FiveFlowerOpen (bding)
 19018 \DeclareTextCommand{\textFiveFlowerOpen}{PU}{\9047\100}%* U+2740
 19019 % U+2741 EIGHT PETALLED OUTLINED BLACK FLORETTE; \EightFlowerPetal (bding)
 19020 \DeclareTextCommand{\textEightFlowerPetal}{PU}{\9047\101}%* U+2741
 19021 % U+2742 CIRCLED OPEN CENTRE EIGHT POINTED STAR; \SunshineOpenCircled (bding)
 19022 \DeclareTextCommand{\textSunshineOpenCircled}{PU}{\9047\102}%* U+2742
 19023 % U+2743 HEAVY TEARDROP-SPOKED PINWHEEL ASTERISK; \SixFlowerAltPetal (bding)

19024 \DeclareTextCommand{\textSixFlowerAltPetal}{PU}{\9047\103}%* U+2743
 19025 % U+2744 SNOWFLAKE; \SnowflakeChevron (bding)
 19026 \DeclareTextCommand{\textSnowflakeChevron}{PU}{\9047\104}%* U+2744
 19027 % U+2745 TIGHT TRIFOLIATE SNOWFLAKE; \Snowflake (bding)
 19028 \DeclareTextCommand{\textSnowflake}{PU}{\9047\105}%* U+2745
 19029 % U+2746 HEAVY CHEVRON SNOWFLAKE; \SnowflakeChevronBold (bding)
 19030 \DeclareTextCommand{\textSnowflakeChevronBold}{PU}{\9047\106}%* U+2746
 19031 % U+2747 SPARKLE; \Sparkle (bding)
 19032 \DeclareTextCommand{\textSparkle}{PU}{\9047\107}%* U+2747
 19033 % U+2748 HEAVY SPARKLE; \SparkleBold (bding)
 19034 \DeclareTextCommand{\textSparkleBold}{PU}{\9047\110}%* U+2748
 19035 % U+2749 BALLOON-SPOKED ASTERISK; \AsteriskRoundedEnds (bding)
 19036 \DeclareTextCommand{\textAsteriskRoundedEnds}{PU}{\9047\111}%* U+2749
 19037 % U+274A EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;
 19038 % \EightFlowerPetalRemoved (bding)
 19039 \DeclareTextCommand{\textEightFlowerPetalRemoved}{PU}{\9047\112}%* U+274A
 19040 % U+274B HEAVY EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;
 19041 % \EightAsterisk (bding)
 19042 \DeclareTextCommand{\textEightAsterisk}{PU}{\9047\113}%* U+274B
 19043 % U+274D SHADOWED WHITE CIRCLE; \CircleShadow (bding)
 19044 \DeclareTextCommand{\textCircleShadow}{PU}{\9047\115}%* U+274D
 19045 % U+274F LOWER RIGHT DROP-SHADOWED WHITE SQUARE;
 19046 % \SquareShadowBottomRight (bding)
 19047 \DeclareTextCommand{\textSquareShadowBottomRight}{PU}{\9047\117}%* U+274F
 19048 % U+2750 UPPER RIGHT DROP-SHADOWED WHITE SQUARE;
 19049 % \SquareShadowTopRight (bding)
 19050 \DeclareTextCommand{\textSquareShadowTopRight}{PU}{\9047\120}%* U+2750
 19051 % U+2751 LOWER RIGHT SHADOWED WHITE SQUARE;
 19052 % \SquareCastShadowBottomRight (bding)
 19053 \DeclareTextCommand{\textSquareCastShadowBottomRight}{PU}{\9047\121}%* U+2751
 19054 % U+2752 UPPER RIGHT SHADOWED WHITE SQUARE;
 19055 % \SquareCastShadowTopRight (bding)
 19056 \DeclareTextCommand{\textSquareCastShadowTopRight}{PU}{\9047\122}%* U+2752
 19057 % U+2756 BLACK DIAMOND MINUS WHITE X; \OrnamentDiamondSolid (bding)
 19058 \DeclareTextCommand{\textDiamondSolid}{PU}{\9047\126}%* U+2756
 19059 % U+2758 LIGHT VERTICAL BAR; \RectangleThin (bding)
 19060 \DeclareTextCommand{\textRectangleThin}{PU}{\9047\130}%* U+2758
 19061 % U+2759 MEDIUM VERTICAL BAR; \Rectangle (bding)
 19062 \DeclareTextCommand{\textRectangle}{PU}{\9047\131}%* U+2759
 19063 % U+275A HEAVY VERTICAL BAR; \RectangleBold (bding)
 19064 \DeclareTextCommand{\textRectangleBold}{PU}{\9047\132}%* U+275A

47.2.31 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

19065 % U+27C2 PERPENDICULAR; perpendicular; \perp (LaTeX)
 19066 \DeclareTextCommand{\textperp}{PU}{\9047\302}%* U+27C2
 19067 % \notperp (mathabx)
 19068 \DeclareTextCommand{\textnotperp}{PU}{\9047\302\83\070}%* U+27C2 U+0338
 19069 % U+27C7 OR WITH DOT INSIDE; \veedot (MnSymbol)
 19070 \DeclareTextCommand{\textveedot}{PU}{\9047\307}%* U+27C7
 19071 % U+27D1 AND WITH DOT; \wedgedot (MnSymbol)
 19072 \DeclareTextCommand{\textwedgedot}{PU}{\9047\321}%* U+27D1
 19073 % U+27DC LEFT MULTIMAP; \leftspoon (MnSymbol)
 19074 \DeclareTextCommand{\textleftspoon}{PU}{\9047\334}%* U+27DC

19075 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
 19076 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}%* U+27E6
 19077 %* \textlbrackdbl -> \lbracket (stmaryrd)
 19078 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
 19079 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}%* U+27E7
 19080 %* \textrbrackdbl -> \rrbracket (stmaryrd)

47.2.32 Supplemental Arrows-A: U+27F0 to U+27FF

19081 % U+27F2 ANTICLOCKWISE GAPPED CIRCLE ARROW;
 19082 % \circlearrowleft (AmS)
 19083 \DeclareTextCommand{\textcirclearrowleft}{PU}{\9047\362}%* U+27F2
 19084 % U+27F3 CLOCKWISE GAPPED CIRCLE ARROW; \circlearrowright (AmS)
 19085 \DeclareTextCommand{\textcirclearrowright}{PU}{\9047\363}%* U+27F3
 19086 % U+27F5 LONG LEFTWARDS ARROW; \longleftarrow (AmS)
 19087 \DeclareTextCommand{\textlongleftarrow}{PU}{\9047\365}%* U+27F5
 19088 % U+27F6 LONG RIGHTWARDS ARROW; \longrightarrow (AmS)
 19089 \DeclareTextCommand{\textlongrightarrow}{PU}{\9047\366}%* U+27F6
 19090 % U+27F7 LONG LEFT RIGHT ARROW; \longleftrightarrow (AmS)
 19091 \DeclareTextCommand{\textlongleftrightarrow}{PU}{\9047\367}%* U+27F7
 19092 % U+27F8 LONG LEFTWARDS DOUBLE ARROW; \Longleftarrow (AmS)
 19093 \DeclareTextCommand{\textLongleftarrow}{PU}{\9047\370}%* U+27F8
 19094 % U+27F9 LONG RIGHTWARDS DOUBLE ARROW; \longrightarrow (AmS)
 19095 \DeclareTextCommand{\textLongrightarrow}{PU}{\9047\371}%* U+27F9
 19096 % U+27FA LONG LEFT RIGHT DOUBLE ARROW; \Longleftrightarrow (AmS)
 19097 \DeclareTextCommand{\textLongleftrightarrow}{PU}{\9047\372}%* U+27FA
 19098 % U+27FC LONG RIGHTWARDS ARROW FROM BAR; \longmapsto (AmS)
 19099 \DeclareTextCommand{\textlongmapsto}{PU}{\9047\374}%* U+27FC
 19100 % U+27FD LONG LEFTWARDS DOUBLE ARROW FROM BAR; \Longmaps-
 from (stmaryrd)
 19101 \DeclareTextCommand{\textLongmapsfrom}{PU}{\9047\375}%* U+27FD
 19102 % U+27FE LONG RIGHTWARDS DOUBLE ARROW FROM BAR; \Longmap-
 sto (stmaryrd)
 19103 \DeclareTextCommand{\textLongmapsto}{PU}{\9047\376}%* U+27FE

47.2.33 Supplemental Arrows-B: U+2900 to U+297F

19104 % U+2921 NORTH WEST AND SOUTH EAST ARROW; \nwsearrow (MnSym-
 bol)
 19105 \DeclareTextCommand{\textnwsearrow}{PU}{\9051\041}%* U+2921
 19106 % U+2922 NORTH EAST AND SOUTH WEST ARROW; \neswarrow (MnSym-
 bol)
 19107 \DeclareTextCommand{\textneswarrow}{PU}{\9051\042}%* U+2922
 19108 % U+2923 NORTH WEST ARROW WITH HOOK; \hooknwarrow (MnSymbol)
 19109 \DeclareTextCommand{\texthooknwarrow}{PU}{\9051\043}%* U+2923
 19110 % U+2924 NORTH EAST ARROW WITH HOOK; \hooknearrow (MnSymbol)
 19111 \DeclareTextCommand{\textrhooknearrow}{PU}{\9051\044}%* U+2924
 19112 % U+2925 SOUTH EAST ARROW WITH HOOK; \hooksearrow (MnSymbol)
 19113 \DeclareTextCommand{\texthooksearrow}{PU}{\9051\045}%* U+2925
 19114 % U+2926 SOUTH WEST ARROW WITH HOOK; \hookswarrow (MnSymbol)
 19115 \DeclareTextCommand{\textrhookswarrow}{PU}{\9051\046}%* U+2926
 19116 % U+2933 WAVE ARROW POINTING DIRECTLY RIGHT; \leadsto (wasysym)
 19117 \DeclareTextCommand{\textleadsto}{PU}{\9051\063}%* U+2933
 19118 % U+2934 ARROW POINTING RIGHTWARDS THEN CURVING UPWARDS;
 19119 % \rcurvearrowne (MnSymbol)
 19120 \DeclareTextCommand{\textrcurvearrowne}{PU}{\9051\064}%* U+2934

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19121 % U+2935 ARROW POINTING RIGHTWARDS THEN CURVING DOWN-
      WARDS;
19122 % \lcurvearrowse (MnSymbol)
19123 \DeclareTextCommand{\textlcurvearrowse}{PU}{\9051\065}%* U+2935
19124 % U+2936 ARROW POINTING DOWNWARDS THEN CURVING LEFT-
      WARDS;
19125 % \lcurvearrowsw (MnSymbol)
19126 \DeclareTextCommand{\textlcurvearrowsw}{PU}{\9051\066}%* U+2936
19127 % U+2937 ARROW POINTING DOWNWARDS THEN CURVING RIGHT-
      WARDS;
19128 % \rcurvearrowse (MnSymbol)
19129 \DeclareTextCommand{\textrcurvearrowse}{PU}{\9051\067}%* U+2937
19130 % U+2938 RIGHT-SIDE ARC CLOCKWISE ARROW; \lcurvearrowdown (Mn-
      Symbol)
19131 \DeclareTextCommand{\textlcurvearrowdown}{PU}{\9051\070}%* U+2938
19132 %* \textlcurvearrowdown -> \RightTorque (marvosym)
19133 %* \textlcurvearrowdown -> \Righttorque (marvosym)
19134 % U+2939 LEFT-SIDE ARC ANTICLOCKWISE ARROW;
19135 % \rcurvearrowdown (MnSymbol)
19136 \DeclareTextCommand{\textrcurvearrowdown}{PU}{\9051\071}%* U+2939
19137 %* \textrcurvearrowdown -> \LeftTorque (marvosym)
19138 %* \textrcurvearrowdown -> \Lefttorque (marvosym)
19139 % U+293A TOP ARC ANTICLOCKWISE ARROW; \rcurvearrowleft (MnSym-
      bol)
19140 \DeclareTextCommand{\textrcurvearrowleft}{PU}{\9051\072}%* U+293A
19141 % U+293B BOTTOM ARC ANTICLOCKWISE ARROW;
19142 % \rcurvearrowright (MnSymbol)
19143 \DeclareTextCommand{\textrcurvearrowright}{PU}{\9051\073}%* U+293B
19144 % U+294A LEFT BARB UP RIGHT BARB DOWN HARPOON; \lefttrighthar-
      poon (mathabx)
19145 \DeclareTextCommand{\textlefttrightharpoon}{PU}{\9051\112}%* U+294A
19146 % U+294B LEFT BARB DOWN RIGHT BARB UP HARPOON; \rightlefthar-
      poon (mathabx)
19147 \DeclareTextCommand{\textrightleftharpoon}{PU}{\9051\113}%* U+294B
19148 % U+294C UP BARB RIGHT DOWN BARB LEFT HARPOON;
19149 % \updownharpoonrightleft (MnSymbol)
19150 \DeclareTextCommand{\textupdownharpoonrightleft}{PU}{\9051\114}%* U+294C
19151 % U+294D UP BARB LEFT DOWN BARB RIGHT HARPOON;
19152 % \updownharpoonleftright (MnSymbol)
19153 \DeclareTextCommand{\textupdownharpoonleftright}{PU}{\9051\115}%* U+294D
19154 % U+2962 LEFTWARDS HARPOON WITH BARB UP ABOVE LEFTWARDS
19155 % HARPOON WITH BARB DOWN; \leftleftharpoons (mathabx)
19156 \DeclareTextCommand{\textleftleftharpoons}{PU}{\9051\142}%* U+2962
19157 % U+2963 UPWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS
19158 % HARPOON WITH BARB RIGHT; \upupharpoons (mathabx)
19159 \DeclareTextCommand{\textupupharpoons}{PU}{\9051\143}%* U+2963
19160 % U+2964 RIGHTWARDS HARPOON WITH BARB UP ABOVE RIGHT-
      WARDS HARPOON
19161 % WITH BARB DOWN; \rightrightarpoons (mathabx)
19162 \DeclareTextCommand{\textrightarpoons}{PU}{\9051\144}%* U+2964
19163 % U+2965 DOWNWARDS HARPOON WITH BARB LEFT BESIDE DOWN-
      WARDS HARPOON
19164 % WITH BARB RIGHT; \downdownharpoons (mathabx)
19165 \DeclareTextCommand{\textdowndownharpoons}{PU}{\9051\145}%* U+2965

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19166 % U+296A LEFTWARDS HARPOON WITH BARB UP ABOVE LONG DASH;
 19167 % \leftbarharpoon (mathabx)
 19168 \DeclareTextCommand{\textleftbarharpoon}{PU}{\9051\152}%* U+296A
 19169 % U+296B LEFTWARDS HARPOON WITH BARB DOWN BELOW
 19170 % LONG DASH; \barleftharpoon (mathabx)
 19171 \DeclareTextCommand{\textbarleftharpoon}{PU}{\9051\153}%* U+296B
 19172 % U+296C RIGHTWARDS HARPOON WITH BARB UP ABOVE
 19173 % LONG DASH; \rightbarharpoon (mathabx)
 19174 \DeclareTextCommand{\textrightbarharpoon}{PU}{\9051\154}%* U+296C
 19175 % U+296D RIGHTWARDS HARPOON WITH BARB DOWN BELOW
 19176 % LONG DASH; \barrightharpoon (mathabx)
 19177 \DeclareTextCommand{\textbarrightharpoon}{PU}{\9051\155}%* U+296D
 19178 % U+296E UPWARDS HARPOON WITH BARB LEFT BESIDE DOWN-
 WARDS HARPOON
 19179 % WITH BARB RIGHT; \updownharpoons (mathabx)
 19180 \DeclareTextCommand{\textupdownharpoons}{PU}{\9051\156}%* U+296E
 19181 % U+296F DOWNWARDS HARPOON WITH BARB LEFT BESIDE UP-
 WARDS HARPOON
 19182 % WITH BARB RIGHT; \downupharpoons (mathabx)
 19183 \DeclareTextCommand{\textdownupharpoons}{PU}{\9051\157}%* U+296F
 19184 % U+297F DOWN FISH TAIL
 19185 \DeclareTextCommand{\textmoo}{PU}{\9051\177\83\066}%* U+297F U+0336

47.2.34 Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF

19186 % U+2987 Z NOTATION LEFT IMAGE BRACKET; \lparenthesis (stmaryrd)
 19187 \DeclareTextCommand{\textllparenthesis}{PU}{\9051\207}%* U+2987
 19188 % U+2988 Z NOTATION RIGHT IMAGE BRACKET; \rrparenthesis (stmaryrd)
 19189 \DeclareTextCommand{\textrrparenthesis}{PU}{\9051\210}%* U+2988
 19190 % U+29B0 REVERSED EMPTY SET; \invdiameter (wasysym)
 19191 \DeclareTextCommand{\textinvdiameter}{PU}{\9051\260}%* U+29B0
 19192 % U+29B6 CIRCLED VERTICAL BAR; \obar (stmaryrd)
 19193 \DeclareTextCommand{\textobar}{PU}{\9051\266}%* U+29B6
 19194 %* \textobar -> \textvarobar (stmaryrd)
 19195 % U+29B8 CIRCLED REVERSE SOLIDUS; \obslash (stmaryrd)
 19196 \DeclareTextCommand{\textobslash}{PU}{\9051\270}%* U+29B8
 19197 %* \textobslash -> \circledbslash (txfonts/pxfonts)
 19198 %* \textobslash -> \obackslash (mathabx)
 19199 %* \textobslash -> \varobslash (stmaryrd)
 19200 % U+29BA CIRCLE DIVIDED BY HORIZONTAL BAR AND TOP HALF
 19201 % DIVIDED BY VERTICAL BAR; \obot (mathabx)
 19202 \DeclareTextCommand{\textobot}{PU}{\9051\272}%* U+29BA
 19203 %* \textobot -> \odplus (ulsy)
 19204 % U+29BB CIRCLE WITH SUPERIMPOSED X; \NoChemicalCleaning (mar-
 vosym)
 19205 \DeclareTextCommand{\textNoChemicalCleaning}{PU}{\9051\273}%* U+29BB
 19206 % U+29C0 CIRCLED LESS-THAN; \olessthan (stmaryrd)
 19207 \DeclareTextCommand{\textolessthan}{PU}{\9051\300}%* U+29C0
 19208 %* \textolessthan -> \varolessthan (stmaryrd)
 19209 % U+29C1 CIRCLED GREATER-THAN; \ogreaterthan (stmaryrd)
 19210 \DeclareTextCommand{\textogreaterthan}{PU}{\9051\301}%* U+29C1
 19211 %* \textogreaterthan -> \varogreaterthan (stmaryrd)
 19212 % U+29C4 SQUARED RISING DIAGONAL SLASH; \boxslash (mathabx, stmaryrd)
 19213 \DeclareTextCommand{\textboxslash}{PU}{\9051\304}%* U+29C4
 19214 % U+29C5 SQUARED FALLING DIAGONAL SLASH; \boxbslash (stmaryrd)

19215 \DeclareTextCommand{\textboxslash}{PU}{\9051\305}%* U+29C5
 19216 % U+29C6 SQUARED ASTERISK; \boxast (stmaryrd)
 19217 \DeclareTextCommand{\textboxast}{PU}{\9051\306}%* U+29C6
 19218 % U+29C7 SQUARED SMALL CIRCLE; \boxcircle (stmaryrd)
 19219 \DeclareTextCommand{\textboxcircle}{PU}{\9051\307}%* U+29C7
 19220 % U+29C8 SQUARED SQUARE; \boxbox (stmaryrd)
 19221 \DeclareTextCommand{\textboxbox}{PU}{\9051\310}%* U+29C8
 19222 % U+29D3 BLACK BOWTIE; \Valve (marvosym)
 19223 \DeclareTextCommand{\textValve}{PU}{\9051\323}%* U+29D3
 19224 % U+29DF DOUBLE-ENDED MULTIMAP; \multimapboth (txfonts/pxfonts)
 19225 \DeclareTextCommand{\textmultimapboth}{PU}{\9051\337}%* U+29DF
 19226 % U+29E2 SHUFFLE PRODUCT; \shuffle (shuffle)
 19227 \DeclareTextCommand{\textshuffle}{PU}{\9051\342}%* U+29E2

47.2.35 Supplemental Mathematical Operators: U+2A00 to U+2AFF

19228 % U+2A04 N-ARY UNION OPERATOR WITH PLUS; \uplus (LaTeX)
 19229 \DeclareTextCommand{\textuplus}{PU}{\9052\004}%* U+2A04
 19230 % U+2A07 TWO LOGICAL AND OPERATOR; \bigdoublewedge (MnSymbol)
 19231 \DeclareTextCommand{\textbigdoublewedge}{PU}{\9052\007}%* U+2A07
 19232 % U+2A08 TWO LOGICAL OR OPERATOR; \bigdoublevee (MnSymbol)
 19233 \DeclareTextCommand{\textbigdoublevee}{PU}{\9052\010}%* U+2A08
 19234 % U+2A1D JOIN; \Join (latexsym, amsfonts, amssymb, mathabx, txfonts,
 19235 % pxfonts, wasysym)
 19236 \DeclareTextCommand{\textJoin}{PU}{\9052\035}%* U+2A1D
 19237 % U+2A1F Z NOTATION SCHEMA COMPOSITION; \fatsemi (stmaryrd)
 19238 \DeclareTextCommand{\textfatsemi}{PU}{\9052\037}%* U+2A1F
 19239 % U+2A22 PLUS SIGN WITH SMALL CIRCLE ABOVE; \circplus (mathabx)
 19240 \DeclareTextCommand{\textcircplus}{PU}{\9052\042}%* U+2A22
 19241 % U+2A2A MINUS SIGN WITH DOT BELOW; \minusdot (MnSymbol)
 19242 \DeclareTextCommand{\textminusdot}{PU}{\9052\052}%* U+2A2A
 19243 %* \textminusdot -> \divdot (mathabx)
 19244 % U+2A30 MULTIPLICATION SIGN WITH DOT ABOVE; \dottimes (mathabx)
 19245 \DeclareTextCommand{\textdottimes}{PU}{\9052\060}%* U+2A30
 19246 % U+2A32 SEMIDIRECT PRODUCT WITH BOTTOM CLOSED;
 19247 % \dtimes (mathdesign)
 19248 \DeclareTextCommand{\textdtimes}{PU}{\9052\062}%* U+2A32
 19249 % U+2A38 CIRCLED DIVISION SIGN; \odiv (mathabx)
 19250 \DeclareTextCommand{\textodiv}{PU}{\9052\070}%* U+2A38
 19251 % U+2A3C INTERIOR PRODUCT; \invneg (MnSymbol)
 19252 \DeclareTextCommand{\textinvneg}{PU}{\9052\074}%* U+2A3C
 19253 % U+2A4E DOUBLE SQUARE INTERSECTION; \sqdoublecap (mathabx)
 19254 \DeclareTextCommand{\textsqdoublecap}{PU}{\9052\116}%* U+2A4E
 19255 %* \textsqdoublecap -> \doublesqcap (MnSymbol)
 19256 % U+2A40 INTERSECTION WITH DOT; \capdot (MnSymbol)
 19257 \DeclareTextCommand{\textcapdot}{PU}{\9052\100}%* U+2A40
 19258 % U+2A4F DOUBLE SQUARE UNION; \sqdoublecup (mathabx)
 19259 \DeclareTextCommand{\textsqdoublecup}{PU}{\9052\117}%* U+2A4F
 19260 %* \textsqdoublecup -> \doublesqcup (MnSymbol)
 19261 % U+2A55 TWO INTERSECTING LOGICAL AND; \doublewedge (MnSymbol)
 19262 \DeclareTextCommand{\textdoublewedge}{PU}{\9052\125}%* U+2A55
 19263 % U+2A56 TWO INTERSECTING LOGICAL OR; \doublevee (MnSymbol)
 19264 \DeclareTextCommand{\textdoublevee}{PU}{\9052\126}%* U+2A56
 19265 %* \textdoublevee -> \merge (stmaryrd)
 19266 % U+2A5E LOGICAL AND WITH DOUBLE OVERBAR;

19267 % \doublebarwedge (AmS)
 19268 \DeclareTextCommand{\textdoublebarwedge}{PU}{\9052\136}%* U+2A5E
 19269 % U+2A63 LOGICAL OR WITH DOUBLE UNDERBAR;
 19270 % \veedoublebar (mahtabx)
 19271 \DeclareTextCommand{\textveedoublebar}{PU}{\9052\143}%* U+2A63
 19272 % U+2A66 EQUALS SIGN WITH DOT BELOW; \eqdot (MnSymbol)
 19273 \DeclareTextCommand{\texteqdot}{PU}{\9052\146}%* U+2A66
 19274 % \neqdot (MnSymbol)
 19275 \DeclareTextCommand{\textneqdot}{PU}{\9052\146\83\070}%* U+2A66 U+0338
 19276 % U+2A74 DOUBLE COLON EQUAL; \coloncolonequals (colonequals)
 19277 \DeclareTextCommand{\textcoloncolonequals}{PU}{\9052\164}%* U+2A74
 19278 % U+2A7D LESS-THAN OR SLANTED EQUAL TO; \leqslant (AmS)
 19279 \DeclareTextCommand{\textleqslant}{PU}{\9052\175}%* U+2A7D
 19280 % \nleqslant (txfonts/pxfonts)
 19281 \DeclareTextCommand{\textnleqslant}{PU}{\9052\175\83\070}%* U+2A7D U+0338
 19282 % U+2A7E GREATER-THAN OR SLANTED EQUAL TO; \geqslant (AmS)
 19283 \DeclareTextCommand{\textgeqslant}{PU}{\9052\176}%* U+2A7E
 19284 % \ngeqslant (txfonts/pxfonts)
 19285 \DeclareTextCommand{\textngeqslant}{PU}{\9052\176\83\070}%* U+2A7E U+0338
 19286 % U+2A85 LESS-THAN OR APPROXIMATE; \lessapprox (AmS)
 19287 \DeclareTextCommand{\textlessapprox}{PU}{\9052\205}%* U+2A85
 19288 % \nlessapprox (txfonts/pxfonts)
 19289 \DeclareTextCommand{\textnlessapprox}{PU}{\9052\205\83\070}%* U+2A85 U+0338
 19290 % U+2A86 GREATER-THAN OR APPROXIMATE; \gtrapprox (AmS)
 19291 \DeclareTextCommand{\textgtrapprox}{PU}{\9052\206}%* U+2A86
 19292 % \ngtrapprox (txfonts/pxfonts)
 19293 \DeclareTextCommand{\textngtrapprox}{PU}{\9052\206\83\070}%* U+2A86 U+0338
 19294 % U+2A87 LESS-THAN AND SINGLE-LINE NOT EQUAL TO; \lneq (AmS)
 19295 \DeclareTextCommand{\textlneq}{PU}{\9052\207}%* U+2A87
 19296 % U+2A88 GREATER-THAN AND SINGLE-LINE NOT EQUAL TO;
 19297 % \gneq (AmS)
 19298 \DeclareTextCommand{\textgneq}{PU}{\9052\210}%* U+2A88
 19299 % U+2A89 LESS-THAN AND NOT APPROXIMATE; \lnapprox (AmS)
 19300 \DeclareTextCommand{\textlnapprox}{PU}{\9052\211}%* U+2A89
 19301 % U+2A8A GREATER-THAN AND NOT APPROXIMATE; \gnapprox (AmS)
 19302 \DeclareTextCommand{\textgnapprox}{PU}{\9052\212}%* U+2A8A
 19303 % U+2A8B LESS-THAN ABOVE DOUBLE-LINE EQUAL ABOVE GREATER-
 19304 % \lesseqgtr (AmS)
 19305 \DeclareTextCommand{\textlesseqgtr}{PU}{\9052\213}%* U+2A8B
 19306 % U+2A8C GREATER-THAN ABOVE DOUBLE-LINE EQUAL ABOVE LESS-
 19307 % \gtreqless (AmS)
 19308 \DeclareTextCommand{\textgtreqless}{PU}{\9052\214}%* U+2A8C
 19309 % U+2A95 SLANTED EQUAL TO OR LESS-THAN; \eqslantless (AmS)
 19310 \DeclareTextCommand{\texteqslantless}{PU}{\9052\225}%* U+2A95
 19311 % U+2A96 SLANTED EQUAL TO OR GREATER-THAN; \eqslantgtr (AmS)
 19312 \DeclareTextCommand{\texteqslantgtr}{PU}{\9052\226}%* U+2A96
 19313 % U+2AA6 LESS-THAN CLOSED BY CURVE; \leftslice (stmaryrd)
 19314 \DeclareTextCommand{\textleftslice}{PU}{\9052\246}%* U+2AA6
 19315 % U+2AA7 GREATER-THAN CLOSED BY CURVE; \rightslice (stmaryrd)
 19316 \DeclareTextCommand{\textright slice}{PU}{\9052\247}%* U+2AA7
 19317 % U+2AAF PRECEDES ABOVE SINGLE-LINE EQUALS SIGN; \preceq (Mn-
 Symbol)

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19318 \DeclareTextCommand{\textpreceq}{PU}{\9052\257}%* U+2AAF
19319 % \npreceq (txfonts/pxfonts)
19320 \DeclareTextCommand{\textnpreceq}{PU}{\9052\257\83\070}%* U+2AAF U+0338
19321 % U+2AB0 SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN; \succeq (Mn-
      Symbol)
19322 \DeclareTextCommand{\textsucceq}{PU}{\9052\260}%* U+2AB0
19323 % \nsucceq (txfonts/pxfonts)
19324 \DeclareTextCommand{\textnsucceq}{PU}{\9052\260\83\070}%* U+2AB0 U+0338
19325 % U+2AB1 PRECEDES ABOVE SINGLE-LINE NOT EQUAL TO; \prec-
      neq (mathabx)
19326 \DeclareTextCommand{\textprecneq}{PU}{\9052\261}%* U+2AB1
19327 % U+2AB2 SUCCEEDS ABOVE SINGLE-LINE NOT EQUAL TO; \succ-
      neq (mathabx)
19328 \DeclareTextCommand{\textsuccneq}{PU}{\9052\262}%* U+2AB2
19329 % U+2AB3 PRECEDES ABOVE EQUALS SIGN; \preceqq (txfonts/pxfonts)
19330 \DeclareTextCommand{\textpreceqq}{PU}{\9052\263}%* U+2AB3
19331 % \npreceqq (txfonts/pxfonts)
19332 \DeclareTextCommand{\textnpreceqq}{PU}{\9052\263\83\070}%* U+2AB3 U+0338
19333 % U+2AB4 SUCCEEDS ABOVE EQUALS SIGN; \succeqq (txfonts/pxfonts)
19334 \DeclareTextCommand{\textsucceqq}{PU}{\9052\264}%* U+2AB4
19335 % \nsucceqq (txfonts/pxfonts)
19336 \DeclareTextCommand{\textnsucceqq}{PU}{\9052\264\83\070}%* U+2AB4 U+0338
19337 % U+2AB5 PRECEDES ABOVE NOT EQUAL TO; \precneqq (txfonts/pxfonts)
19338 \DeclareTextCommand{\textprecneqq}{PU}{\9052\265}%* U+2AB5
19339 % U+2AB6 SUCCEEDS ABOVE NOT EQUAL TO; \succneqq (txfonts/pxfonts)
19340 \DeclareTextCommand{\textsuccneqq}{PU}{\9052\266}%* U+2AB6
19341 % U+2AB7 PRECEDES ABOVE ALMOST EQUAL TO; \precapprox (AmS)
19342 \DeclareTextCommand{\textprecapprox}{PU}{\9052\267}%* U+2AB7
19343 % \nprecapprox (txfonts/pxfonts)
19344 \DeclareTextCommand{\textnprecapprox}{PU}{\9052\267\83\070}%* U+2AB7 U+0338
19345 % U+2AB8 SUCCEEDS ABOVE ALMOST EQUAL TO; \succapprox (AmS)
19346 \DeclareTextCommand{\textsuccapprox}{PU}{\9052\270}%* U+2AB8
19347 % \nsuccapprox (txfonts/pxfonts)
19348 \DeclareTextCommand{\textnsuccapprox}{PU}{\9052\270\83\070}%* U+2AB8 U+0338
19349 % U+2AB9 PRECEDES ABOVE NOT ALMOST EQUAL TO; \precnap-
      prox (AmS)
19350 \DeclareTextCommand{\textprecnapprox}{PU}{\9052\271}%* U+2AB9
19351 % U+2ABA SUCCEEDS ABOVE NOT ALMOST EQUAL TO; \succnap-
      prox (AmS)
19352 \DeclareTextCommand{\textsuccnapprox}{PU}{\9052\272}%* U+2ABA
19353 % U+2AC5 SUBSET OF ABOVE EQUALS SIGN; \subseteqq (AmS)
19354 \DeclareTextCommand{\textsubseteqq}{PU}{\9052\305}%* U+2AC5
19355 % \nsubseteqq (txfonts/pxfonts, mathabx)
19356 \DeclareTextCommand{\textnsubseteqq}{PU}{\9052\305\83\070}%* U+2AC5 U+0338
19357 % U+2AC6 SUPERSET OF ABOVE EQUALS SIGN; \supseteqq (AmS)
19358 \DeclareTextCommand{\textsupseteqq}{PU}{\9052\306}%* U+2AC6
19359 % \nsupseteqq (mathabx)
19360 \DeclareTextCommand{\textnsupseteqq}{PU}{\9052\306\83\070}%* U+2AC6 U+0338
19361 % U+2AE3 DOUBLE VERTICAL BAR LEFT TURNSTILE
19362 \DeclareTextCommand{\textdashV}{PU}{\9052\343}%* U+2AE3
19363 %* \textdashV -> \leftVdash (MnSymbol)
19364 % \ndashV (mathabx)
19365 \DeclareTextCommand{\textndashV}{PU}{\9052\343\83\070}%* U+2AE3 U+0338
19366 %* \textndashV -> \nleftVdash (MnSymbol)

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19367 % U+2AE4 VERTICAL BAR DOUBLE LEFT TURNSTILE; \Dashv (mathabx)
 19368 \DeclareTextCommand{\textDashv}{PU}{\9052\344}%* U+2AE4
 19369 %* \textDashv -> \leftmodels (MnSymbol)
 19370 % \nDashv (mathabx)
 19371 \DeclareTextCommand{\textnDashv}{PU}{\9052\344\83\070}%* U+2AE4 U+0338
 19372 %* \textnDashv -> \nleftmodels (MnSymbol)
 19373 % U+2AE5 DOUBLE VERTICAL BAR DOUBLE LEFT TURNSTILE;
 19374 % \DashV (mathabx)
 19375 \DeclareTextCommand{\textDashV}{PU}{\9052\345}%* U+2AE5
 19376 %* \textDashV -> \leftModels (MnSymbol)
 19377 % \nDashV (mathabx)
 19378 \DeclareTextCommand{\textnDashV}{PU}{\9052\345\83\070}%* U+2AE5 U+0338
 19379 %* \textnDashV -> \nleftModels (MnSymbol)
 19380 % U+2AEA DOUBLE DOWN TACK; \downmodels (MnSymbol)
 19381 \DeclareTextCommand{\textdownmodels}{PU}{\9052\352}%* U+2AEA
 19382 % \ndownmodels (MnSymbol)
 19383 \DeclareTextCommand{\textndownmodels}{PU}{\9052\352\83\070}%* U+2AEA U+0338
 19384 % U+2AEB DOUBLE UP TACK; \upmodels (MnSymbol)
 19385 \DeclareTextCommand{\textupmodels}{PU}{\9052\353}%* U+2AEB
 19386 % \nupmodels (MnSymbol)
 19387 \DeclareTextCommand{\textnupmodels}{PU}{\9052\353\83\070}%* U+2AEB U+0338
 19388 % U+2AEF VERTICAL LINE WITH CIRCLE ABOVE; \upspoon (MnSymbol)
 19389 \DeclareTextCommand{\textupspoon}{PU}{\9052\357}%* U+2AEF
 19390 % U+2AF4 TRIPLE VERTICAL BAR BINARY RELATION;
 19391 % \interleave (stmaryrd)
 19392 \DeclareTextCommand{\textinterleave}{PU}{\9052\364}%* U+2AF4
 19393 % U+2AFD DOUBLE SOLIDUS OPERATOR; \sslash (stmaryrd)
 19394 \DeclareTextCommand{\textsslash}{PU}{\9052\375}%* U+2AFD
 19395 %* \textsslash -> \varparallel (txfonts\pxfonts)

47.2.36 Miscellaneous Symbols and Arrows: U+2B00 to U+2BFF

19396 % U+2B20 WHITE PENTAGON; \pentagon (wasysym)
 19397 \DeclareTextCommand{\textpentagon}{PU}{\9053\040}%* U+2B20
 19398 % U+2B21 WHITE HEXAGON; \varhexagon (wasysym)
 19399 \DeclareTextCommand{\textvarhexagon}{PU}{\9053\041}%* U+2B21

47.2.37 Latin Extended-C: U+2C60 to U+2C7F

19400 % U+2C7C LATIN SUBSCRIPT SMALL LETTER J
 19401 \DeclareTextCommand{\textjinferior}{PU}{\9054\174}%* U+2C7C

47.2.38 Supplemental Punctuation: U+2E00 to U+2E7F

19402 % U+2E13 DOTTED OBELOS; \slashdiv (MnSymbol)
 19403 \DeclareTextCommand{\textslashdiv}{PU}{\9056\023}%* U+2E13
 19404 % U+2E18 INVERTED INTERROBANG; \textinterrobangdown (textcomp)
 19405 \DeclareTextCommand{\textinterrobangdown}{PU}{\9056\030}% U+2E18
 19406 % U+2E2D FIVE DOT MARK; \fivedots (MnSymbol)
 19407 \DeclareTextCommand{\textfivedots}{PU}{\9056\055}%* U+2E2D

47.2.39 Modifier Tone Letters: U+A700 to U+A71F

19408 % U+A71B MODIFIER LETTER RAISED UP ARROW; \textupstep (tipa)
 19409 \DeclareTextCommand{\textupstep}{PU}{\9247\033}% U+A71B
 19410 % U+A71C MODIFIER LETTER RAISED DOWN ARROW;
 19411 % \textdownstep (tipa)
 19412 \DeclareTextCommand{\textdownstep}{PU}{\9247\034}% U+A71C

47.2.40 Latin Extended-D: U+A720 to U+A7FF

19413 % U+A727 LATIN SMALL LETTER HENG; \textheng (tipx)
19414 \DeclareTextCommand{\textPUheng}{PU}{\9247\047}% U+A727
19415 %* \textPUheng -> \textheng (tipx)
19416 % U+A72C LATIN CAPITAL LETTER CUATRILLO; \textlhookfour (tipx)
19417 \DeclareTextCommand{\textPULhookfour}{PU}{\9247\054}% U+A72C
19418 %* \textPULhookfour -> \textlhookfour (tipx)
19419 % U+A730 LATIN LETTER SMALL CAPITAL F; \textscf (tipx)
19420 \DeclareTextCommand{\textPUscf}{PU}{\9247\060}% U+A730
19421 %* \textPUscf -> \textscf (tipx)
19422 % U+A735 LATIN SMALL LETTER AO; \textao lig (tipx)
19423 \DeclareTextCommand{\textPUaolig}{PU}{\9247\065}% U+A735
19424 %* \textPUaolig -> \textao lig (tipx)
19425 % U+A74F LATIN SMALL LETTER OO; \oo (wsuipa)
19426 \DeclareTextCommand{\textoo}{PU}{\9247\117}%* U+A74F
19427 % U+A788 MODIFIER LETTER LOW CIRCUMFLEX ACCENT
19428 \DeclareTextCommand{\textcircumlowlow}{PU}{\9247\210}% U+A788

47.2.41 Alphabetic Presentation Forms: U+FB00 to U+FB4F

19429 % U+FB01 LATIN SMALL LIGATURE FI; fi
19430 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
19431 % U+FB02 LATIN SMALL LIGATURE FL; fl
19432 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

47.2.42 Musical Symbols: U+1D100 to U+1D1FF

19433 % U+1D13B MUSICAL SYMBOL WHOLE REST; \GaPa (harmony)
19434 \DeclareTextCommand{\textGaPa}{PU}{\9330\064\9335\073}%* U+1D13B
19435 % U+1D13C MUSICAL SYMBOL HALF REST; \HaPa (harmony)
19436 \DeclareTextCommand{\textHaPa}{PU}{\9330\064\9335\074}%* U+1D13C
19437 % U+1D13D MUSICAL SYMBOL QUARTER REST; \ViPa (harmony)
19438 \DeclareTextCommand{\textViPa}{PU}{\9330\064\9335\075}%* U+1D13D
19439 % U+1D13E MUSICAL SYMBOL EIGHTH REST; \AcPa (harmony)
19440 \DeclareTextCommand{\textAcPa}{PU}{\9330\064\9335\076}%* U+1D13E
19441 % U+1D13F MUSICAL SYMBOL SIXTEENTH REST; \SePa (harmony)
19442 \DeclareTextCommand{\textSePa}{PU}{\9330\064\9335\077}%* U+1D13F
19443 % U+1D140 MUSICAL SYMBOL THIRTY-SECOND REST; \ZwPa (harmony)
19444 \DeclareTextCommand{\textZwPa}{PU}{\9330\064\9335\100}%* U+1D140
19445 % U+1D15D MUSICAL SYMBOL WHOLE NOTE; \fullnote (wasysym)
19446 \DeclareTextCommand{\textfullnote}{PU}{\9330\064\9335\135}%* U+1D15D
19447 %* \textfullnote -> \Ganz (harmony)
19448 % U+1D15E MUSICAL SYMBOL HALF NOTE; \halfnote (wasysym)
19449 \DeclareTextCommand{\texthalfnote}{PU}{\9330\064\9335\136}%* U+1D15E
19450 %* \texthalfnote -> \Halb (harmony)
19451 % U+1D15F MUSICAL SYMBOL QUARTER NOTE; \Vier (harmony)
19452 \DeclareTextCommand{\textVier}{PU}{\9330\064\9335\137}%* U+1D15F
19453 % U+1D160 MUSICAL SYMBOL EIGHTH NOTE; \Acht (harmony)
19454 \DeclareTextCommand{\textAcht}{PU}{\9330\064\9335\140}%* U+1D160
19455 % U+1D161 MUSICAL SYMBOL SIXTEENTH NOTE; \Sech (harmony)
19456 \DeclareTextCommand{\textSech}{PU}{\9330\064\9335\141}%* U+1D161
19457 % U+1D162 MUSICAL SYMBOL THIRTY-SECOND NOTE; \Zwdr (harmony)
19458 \DeclareTextCommand{\textZwdr}{PU}{\9330\064\9335\142}%* U+1D162

47.2.43 Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF

19459 % U+1F30D EARTH GLOBE EUROPE-AFRICA; \Mundus (marvosym)
 19460 \DeclareTextCommand{\textMundus}{PU}{\9330\074\9337\015}%* U+1F30D
 19461 % U+1F319 CRESCENT MOON; \Moon (marvosym)
 19462 \DeclareTextCommand{\textMoon}{PU}{\9330\074\9337\031}%* U+1F319
 19463 % U+1F468 MAN; \ManFace (marvosym)
 19464 \DeclareTextCommand{\textManFace}{PU}{\9330\075\9334\150}%* U+1F468
 19465 % U+1F469 WOMAN; \WomanFace (marvosym)
 19466 \DeclareTextCommand{\textWomanFace}{PU}{\9330\075\9334\151}%* U+1F469
 19467 %* \textWomanFace -> \Womanface (marvosym)
 19468 % U+1F4E0 FAX MACHINE; \Fax (marvosym)
 19469 \DeclareTextCommand{\textFax}{PU}{\9330\075\9334\340}%* U+1F4E0
 19470 %* \textFax -> \Faxmachine (marvosym)
 19471 % U+1F525 FIRE; \Fire (ifsym)
 19472 \DeclareTextCommand{\textFire}{PU}{\9330\075\9335\045}%* U+1F525

47.2.44 Transport and Map Symbols: U+1F680 to U+1F6FF

19473 % U+1F6B2 BICYCLE; \Bicycle (marvosym)
 19474 \DeclareTextCommand{\textBicycle}{PU}{\9330\075\9336\262}%* U+1F6B2
 19475 % U+1F6B9 MENS SYMBOL; \Gentsroom (marvosym)
 19476 \DeclareTextCommand{\textGentsroom}{PU}{\9330\075\9336\271}%* U+1F6B9
 19477 % U+1F6BA WOMENS SYMBOL; \Ladiesroom (marvosym)
 19478 \DeclareTextCommand{\textLadiesroom}{PU}{\9330\075\9336\272}%* U+1F6BA

47.2.45 Miscellaneous

19479 \DeclareTextCommand{\SS}{PU}{SS}%
 19480 % \textcopyleft (textcomp)
 19481 \DeclareTextCommand{\textcopyleft}{PU}{\9041\204\9040\335}% U+2184 U+20DD
 19482 % \ccnc (ccllicenses)
 19483 \DeclareTextCommand{\textccnc}{PU}{\80\044\9040\340}%* U+0024 U+20E0
 19484 % \ccnd (ccllicenses)
 19485 \DeclareTextCommand{\textccnd}{PU}{=\9040\335}%* U+003D U+20DD
 19486 % \ccsa (ccllicenses)
 19487 \DeclareTextCommand{\textccsa}{PU}{\9047\362\9040\335}%* U+27F2 U+20DD
 19488 % \Info (marvosym, china2e)
 19489 \DeclareTextCommand{\textInfo}{PU}{\9330\065\9334\042\9040\336}%* U+1D422 U+20DE
 19490 % \CESign (marvosym)
 19491 \DeclareTextCommand{\textCESign}{PU}{\80\103\80\105}%* U+0043 U+0045
 19492 %* \textCESign -> \CESign (marvosym)

47.2.46 Aliases

Aliases (german.sty)

19493 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}%
 19494 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}%
 19495 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}%
 19496 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}%
 19497 \DeclareTextCommand{\textflqq}{PU}{\guillemetleft}%
 19498 \DeclareTextCommand{\textfrqq}{PU}{\guillemetright}%
 19499 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}%
 19500 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}%

Aliases (math names)

19501 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}%*
 19502 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}%*
 19503 \DeclareTextCommand{\textdiv}{PU}{\textdivide}%*

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19504 \DeclareTextCommand{\textpm}{PU}{\textplusminus}%*
19505 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}%*
19506 </puenc>

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47.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

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19507 <*puvnenc>

19508 \DeclareTextCommand{\abreve}{PU}{\81\003}% U+0103
19509 \DeclareTextCommand{\acircumflex}{PU}{\80\342}% U+00E2
19510 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}% U+00EA
19511 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}% U+00F4
19512 \DeclareTextCommand{\ohorn}{PU}{\81\241}% U+01A1
19513 \DeclareTextCommand{\uhorn}{PU}{\81\260}% U+01B0
19514 \DeclareTextCommand{\ABREVE}{PU}{\81\002}% U+0102
19515 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}% U+00C2
19516 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}% U+00CA
19517 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}% U+00D4
19518 \DeclareTextCommand{\OHORN}{PU}{\81\240}% U+01A0
19519 \DeclareTextCommand{\UHORN}{PU}{\81\257}% U+01AF

19520 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
19521 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1
19522 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
19523 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}% U+1EA3
19524 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
19525 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}% U+1EAF
19526 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}% U+1EB7
19527 \DeclareTextCompositeCommand{\`}{PU}{\abreve}{\9036\261}% U+1EB1
19528 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}% U+1EB3
19529 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}% U+1EB5
19530 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}% U+1EA5
19531 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}% U+1EAD
19532 \DeclareTextCompositeCommand{\`}{PU}{\acircumflex}{\9036\247}% U+1EA7
19533 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}% U+1EA9
19534 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}% U+1EAB
19535 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
19536 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9
19537 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
19538 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}% U+1EBB
19539 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
19540 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}% U+1EBF
19541 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}% U+1EC7
19542 \DeclareTextCompositeCommand{\`}{PU}{\ecircumflex}{\9036\301}% U+1EC1
19543 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}% U+1EC3
19544 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}% U+1EC5
19545 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
19546 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB
19547 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
19548 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}% U+1EC9
19549 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
19550 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
19551 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD

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19552 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2
19553 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}% U+1ECF
19554 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
19555 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}% U+1ED1
19556 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}% U+1ED9
19557 \DeclareTextCompositeCommand{\`}{PU}{\ocircumflex}{\9036\323}% U+1ED3
19558 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}% U+1ED5
19559 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}% U+1ED7
19560 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}% U+1EDB
19561 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}% U+1EE3
19562 \DeclareTextCompositeCommand{\`}{PU}{\ohorn}{\9036\335}% U+1EDD
19563 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}% U+1EDF
19564 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}% U+1EE1
19565 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
19566 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5
19567 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9
19568 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}% U+1EE7
19569 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
19570 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}% U+1EE9
19571 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}% U+1EF1
19572 \DeclareTextCompositeCommand{\`}{PU}{\uhorn}{\9036\353}% U+1EEB
19573 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}% U+1EED
19574 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}% U+1EEF
19575 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
19576 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5
19577 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3
19578 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}% U+1EF7
19579 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9
19580 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
19581 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0
19582 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
19583 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}% U+1EA2
19584 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
19585 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}% U+1EAE
19586 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}% U+1EB6
19587 \DeclareTextCompositeCommand{\`}{PU}{\ABREVE}{\9036\260}% U+1EB0
19588 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}% U+1EB2
19589 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}% U+1EB4
19590 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}% U+1EA4
19591 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}% U+1EAC
19592 \DeclareTextCompositeCommand{\`}{PU}{\ACIRCUMFLEX}{\9036\246}% U+1EA6
19593 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}% U+1EA8
19594 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}% U+1EA A
19595 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
19596 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8
19597 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
19598 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}% U+1EBA
19599 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
19600 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}% U+1EBE
19601 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}% U+1EC6
19602 \DeclareTextCompositeCommand{\`}{PU}{\ECIRCUMFLEX}{\9036\300}% U+1EC0
19603 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}% U+1EC2
19604 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}% U+1EC4
19605 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD

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19606 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA
19607 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
19608 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}% U+1EC8
19609 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
19610 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
19611 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC
19612 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
19613 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}% U+1ECE
19614 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
19615 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}% U+1ED0
19616 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}% U+1ED8
19617 \DeclareTextCompositeCommand{\`}{PU}{\OCIRCUMFLEX}{\9036\322}% U+1ED2
19618 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}% U+1ED4
19619 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}% U+1ED6
19620 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}% U+1EDA
19621 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}% U+1EE2
19622 \DeclareTextCompositeCommand{\`}{PU}{\OHORN}{\9036\334}% U+1EDC
19623 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}% U+1EDE
19624 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}% U+1EE0
19625 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
19626 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4
19627 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
19628 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}% U+1EE6
19629 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
19630 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}% U+1EE8
19631 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}% U+1EF0
19632 \DeclareTextCompositeCommand{\`}{PU}{\UHORN}{\9036\352}% U+1EEA
19633 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}% U+1EEC
19634 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}% U+1EEE
19635 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
19636 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4
19637 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
19638 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}% U+1EF6
19639 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
19640 </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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19641 (*puarenc)
19642 % U+0621;afi57409;ARABIC LETTER HAMZA
19643 \DeclareTextCommand{\hamza}{PU}{\86\041}% U+0621
19644 % U+0622;afi57410;ARABIC LETTER ALEF WITH MADDA ABOVE
19645 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% U+0622
19646 % U+0623;afi57411;ARABIC LETTER ALEF WITH HAMZA ABOVE
19647 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% U+0623
19648 % U+0624;afi57412;ARABIC LETTER WAW WITH HAMZA ABOVE
19649 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% U+0624
19650 % U+0625;afi57413;ARABIC LETTER ALEF WITH HAMZA BELOW
19651 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% U+0625
19652 % U+0626;afi57414;ARABIC LETTER YEH WITH HAMZA ABOVE
19653 \DeclareTextCommand{\yahamza}{PU}{\86\046}% U+0626
19654 % U+0627;afi57415;ARABIC LETTER ALEF

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19655 \DeclareTextCommand{\alef}{PU}{\86\047}% U+0627
 19656 % U+0628;afii57416;ARABIC LETTER BEH
 19657 \DeclareTextCommand{\baa}{PU}{\86\050}% U+0628
 19658 % U+0629;afii57417;ARABIC LETTER TEH MARBUTA
 19659 \DeclareTextCommand{\T}{PU}{\86\051}% U+0629
 19660 % U+062A;afii57418;ARABIC LETTER TEH
 19661 \DeclareTextCommand{\taa}{PU}{\86\052}% U+062A
 19662 % U+062B;afii57419;ARABIC LETTER THEH
 19663 \DeclareTextCommand{\thaa}{PU}{\86\053}% U+062B
 19664 % U+062C;afii57420;ARABIC LETTER JEEM
 19665 \DeclareTextCommand{\jeem}{PU}{\86\054}% U+062C
 19666 % U+062D;afii57421;ARABIC LETTER HAH
 19667 \DeclareTextCommand{\Haa}{PU}{\86\055}% U+062D
 19668 % U+062E;afii57422;ARABIC LETTER KHAH
 19669 \DeclareTextCommand{\kha}{PU}{\86\056}% U+062E
 19670 % U+062F;afii57423;ARABIC LETTER DAL
 19671 \DeclareTextCommand{\dal}{PU}{\86\057}% U+062F
 19672 % U+0630;afii57424;ARABIC LETTER THAL
 19673 \DeclareTextCommand{\dhal}{PU}{\86\060}% U+0630
 19674 % U+0631;afii57425;ARABIC LETTER REH
 19675 \DeclareTextCommand{\ra}{PU}{\86\061}% U+0631
 19676 % U+0632;afii57426;ARABIC LETTER ZAIN
 19677 \DeclareTextCommand{\zay}{PU}{\86\062}% U+0632
 19678 % U+0633;afii57427;ARABIC LETTER SEEN
 19679 \DeclareTextCommand{\seen}{PU}{\86\063}% U+0633
 19680 % U+0634;afii57428;ARABIC LETTER SHEEN
 19681 \DeclareTextCommand{\sheen}{PU}{\86\064}% U+0634
 19682 % U+0635;afii57429;ARABIC LETTER SAD
 19683 \DeclareTextCommand{\sad}{PU}{\86\065}% U+0635
 19684 % U+0636;afii57430;ARABIC LETTER DAD
 19685 \DeclareTextCommand{\dad}{PU}{\86\066}% U+0636
 19686 % U+0637;afii57431;ARABIC LETTER TAH
 19687 \DeclareTextCommand{\Ta}{PU}{\86\067}% U+0637
 19688 % U+0638;afii57432;ARABIC LETTER ZAH
 19689 \DeclareTextCommand{\za}{PU}{\86\070}% U+0638
 19690 % U+0639;afii57433;ARABIC LETTER AIN
 19691 \DeclareTextCommand{\ayn}{PU}{\86\071}% U+0639
 19692 % U+063A;afii57434;ARABIC LETTER GHAIN
 19693 \DeclareTextCommand{\ghayn}{PU}{\86\072}% U+063A
 19694 % U+0640;afii57440;ARABIC TATWEEL
 19695 \DeclareTextCommand{\tatweel}{PU}{\86\100}% U+0640
 19696 % U+0641;afii57441;ARABIC LETTER FEH
 19697 \DeclareTextCommand{\fa}{PU}{\86\101}% U+0641
 19698 % U+0642;afii57442;ARABIC LETTER QAF
 19699 \DeclareTextCommand{\qaf}{PU}{\86\102}% U+0642
 19700 % U+0643;afii57443;ARABIC LETTER KAF
 19701 \DeclareTextCommand{\kaf}{PU}{\86\103}% U+0643
 19702 % U+0644;afii57444;ARABIC LETTER LAM
 19703 \DeclareTextCommand{\lam}{PU}{\86\104}% U+0644
 19704 % U+0645;afii57445;ARABIC LETTER MEEM
 19705 \DeclareTextCommand{\meem}{PU}{\86\105}% U+0645
 19706 % U+0646;afii57446;ARABIC LETTER NOON
 19707 \DeclareTextCommand{\nun}{PU}{\86\106}% U+0646
 19708 % U+0647;afii57470;ARABIC LETTER HEH

19709 \DeclareTextCommand{\ha}{PU}{\86\107}% U+0647
 19710 % U+0648;afii57448;ARABIC LETTER WAW
 19711 \DeclareTextCommand{\waw}{PU}{\86\110}% U+0648
 19712 % U+0649;afii57449;ARABIC LETTER ALEF MAKSURA
 19713 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% U+0649
 19714 % U+064A;afii57450;ARABIC LETTER YEH
 19715 \DeclareTextCommand{\ya}{PU}{\86\112}% U+064A

 19716 % U+064B;afii57451;ARABIC FATHATAN
 19717 \DeclareTextCommand{\nasb}{PU}{\86\113}% U+064B
 19718 % U+064C;afii57452;ARABIC DAMMATAN
 19719 \DeclareTextCommand{\raff}{PU}{\86\114}% U+064C
 19720 % U+064D;afii57453;ARABIC KASRATAN
 19721 \DeclareTextCommand{\jarr}{PU}{\86\115}% U+064D
 19722 % U+064E;afii57454;ARABIC FATHA
 19723 \DeclareTextCommand{\fatha}{PU}{\86\116}% U+064E
 19724 % U+064F;afii57455;ARABIC DAMMA
 19725 \DeclareTextCommand{\damma}{PU}{\86\117}% U+064F
 19726 % U+0650;afii57456;ARABIC KASRA
 19727 \DeclareTextCommand{\kasra}{PU}{\86\120}% U+0650
 19728 % U+0651;afii57457;ARABIC SHADDA
 19729 \DeclareTextCommand{\shadda}{PU}{\86\121}% U+0651
 19730 % U+0652;afii57458;ARABIC SUKUN
 19731 \DeclareTextCommand{\sukun}{PU}{\86\122}% U+0652

 Farsi
 19732 % U+067E ARABIC LETTER PEH; afii57506
 19733 \DeclareTextCommand{\peh}{PU}{\86\176}% U+067E
 19734 % U+0686 ARABIC LETTER TCHEH; afii57507
 19735 \DeclareTextCommand{\tcheh}{PU}{\86\206}% U+0686
 19736 % U+0698 ARABIC LETTER JEH; afii57508
 19737 \DeclareTextCommand{\jeh}{PU}{\86\230}% U+0698
 19738 % U+06A9 ARABIC LETTER KEHEH
 19739 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% U+06A9
 19740 % U+06AF ARABIC LETTER GAF; afii57509
 19741 \DeclareTextCommand{\gaf}{PU}{\86\257}% U+06AF
 19742 % U+06CC ARABIC LETTER FARSI YEH
 19743 \DeclareTextCommand{\farsiya}{PU}{\86\314}% U+06CC

 19744 % U+200C ZERO WIDTH NON-JOINER; afii61664
 19745 \DeclareTextCommand{\ZWJ}{PU}{\9040\014}% U+200C
 19746 % U+200D ZERO WIDTH JOINER; afii301
 19747 \DeclareTextCommand{\textEncodingNoboundary}{PU}{\9040\015}% U+200D
 19748 </puarenc>
 19749 < *psdextra>
 19750 \Hy@VersionCheck{psdextra.def}
 19751 \DeclareTextCommand{\textGamma}{PU}{\83\223}%* U+0393
 19752 \DeclareTextCommand{\textDelta}{PU}{\83\224}%* U+0394
 19753 \DeclareTextCommand{\textTheta}{PU}{\83\230}%* U+0398
 19754 \DeclareTextCommand{\textLambda}{PU}{\83\233}%* U+039B
 19755 \DeclareTextCommand{\textXi}{PU}{\83\236}%* U+039E
 19756 \DeclareTextCommand{\textPi}{PU}{\83\240}%* U+03A0
 19757 \DeclareTextCommand{\textSigma}{PU}{\83\243}%* U+03A3
 19758 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}%* U+03A5
 19759 \DeclareTextCommand{\textPhi}{PU}{\83\246}%* U+03A6

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19760 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
19761 \DeclareTextCommand{\textPsi}{PU}{\83\250}%* U+03A8
19762 \DeclareTextCommand{\textOmega}{PU}{\83\251}%* U+03A9
19763 \DeclareTextCommand{\textalpha}{PU}{\83\261}%* U+03B1
19764 \DeclareTextCommand{\textbeta}{PU}{\83\262}%* U+03B2
19765 \DeclareTextCommand{\textgamma}{PU}{\83\263}%* U+03B3
19766 \DeclareTextCommand{\textdelta}{PU}{\83\264}%* U+03B4
19767 \DeclareTextCommand{\textepsilon}{PU}{\83\265}%* U+03B5
19768 \DeclareTextCommand{\textzeta}{PU}{\83\266}%* U+03B6
19769 \DeclareTextCommand{\texteta}{PU}{\83\267}%* U+03B7
19770 \DeclareTextCommand{\texttheta}{PU}{\83\270}%* U+03B8
19771 \DeclareTextCommand{\textiota}{PU}{\83\271}%* U+03B9
19772 \DeclareTextCommand{\textkappa}{PU}{\83\272}%* U+03BA
19773 \DeclareTextCommand{\textlambda}{PU}{\83\273}%* U+03BB
19774 \DeclareTextCommand{\textmugreek}{PU}{\83\274}%* U+03BC
19775 \DeclareTextCommand{\textnu}{PU}{\83\275}%* U+03BD
19776 \DeclareTextCommand{\textxi}{PU}{\83\276}%* U+03BE
19777 \DeclareTextCommand{\textpi}{PU}{\83\300}%* U+03C0
19778 \DeclareTextCommand{\textrho}{PU}{\83\301}%* U+03C1
19779 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}%* U+03C2
19780 \DeclareTextCommand{\textsigma}{PU}{\83\303}%* U+03C3
19781 \DeclareTextCommand{\texttau}{PU}{\83\304}%* U+03C4
19782 \DeclareTextCommand{\textupsilon}{PU}{\83\305}%* U+03C5
19783 \DeclareTextCommand{\textphi}{PU}{\83\306}%* U+03C6
19784 \DeclareTextCommand{\textchi}{PU}{\83\307}%* U+03C7
19785 \DeclareTextCommand{\textpsi}{PU}{\83\310}%* U+03C8
19786 \DeclareTextCommand{\textomega}{PU}{\83\311}%* U+03C9
19787 \newcommand*{\psdmapshortnames}{%
19788   \let\MVPlus\textMVPlus
19789   \let\MVComma\textMVComma
19790   \let\MVMinus\textMVMinus
19791   \let\MVPeriod\textMVPeriod
19792   \let\MVDivision\textMVDivision
19793   \let\MVZero\textMVZero
19794   \let\MVOne\textMVOne
19795   \let\MVTwo\textMVTwo
19796   \let\MVThree\textMVThree
19797   \let\MVFour\textMVFfour
19798   \let\MVFive\textMVFfive
19799   \let\MVSix\textMVSix
19800   \let\MVSeven\textMVSeven
19801   \let\MVEight\textMVEight
19802   \let\MVNine\textMVNine
19803   \let\MVAt\textMVAt
19804   \let\copyright\textcopyright
19805   \let\twosuperior\texttwosuperior
19806   \let\threesuperior\textthreesuperior
19807   \let\onesuperior\textonesuperior
19808   \let\Thorn\textThorn
19809   \let\thorn\textthorn
19810   \let\hbar\texthbar
19811   \let\hausaB\texthausaB
19812   \let\hausaD\texthausaD
19813   \let\hausaK\texthausaK

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19814 \let\barl\textbarl
 19815 \let\inve\textinve
 19816 \let\slashc\textslashc
 19817 \let\scripta\textscripta
 19818 \let\openo\textopeno
 19819 \let\rtaild\textrtaild
 19820 \let\reve\textreve
 19821 \let\schwa\textschwa
 19822 \let\niepsilon\textniepsilon
 19823 \let\revepsilon\textrevepsilon
 19824 \let\rhookrevepsilon\texthookrevepsilon
 19825 \let\scriptg\textscriptg
 19826 \let\scg\textscg
 19827 \let\ipagamma\textipagamma
 19828 \let\babygamma\textbabygamma
 19829 \let\bari\textbari
 19830 \let\niiota\textniiota
 19831 \let\sci\textsci
 19832 \let\scn\textscn
 19833 \let\niphi\textniphi
 19834 \let\longlegr\textlonglegr
 19835 \let\scr\textscr
 19836 \let\invscr\textinvscr
 19837 \let\esh\textesh
 19838 \let\baru\textbaru
 19839 \let\niupsilon\textniupsilon
 19840 \let\scriptv\textscriptv
 19841 \let\turnv\textturnv
 19842 \let\turnw\textturnw
 19843 \let\turny\textturny
 19844 \let\scy\textscy
 19845 \let\yogh\textyogh
 19846 \let\glotstop\textglotstop
 19847 \let\revglotstop\textrevglotstop
 19848 \let\invglotstop\textinvglotstop
 19849 \let\Gamma\textGamma
 19850 \let\Delta\textDelta
 19851 \let\Theta\textTheta
 19852 \let\Lambda\textLambda
 19853 \let\Xi\textXi
 19854 \let\Pi\textPi
 19855 \let\Sigma\textSigma
 19856 \let\Upsilon\textUpsilon
 19857 \let\Phi\textPhi
 19858 \let\Psi\textPsi
 19859 \let\Omega\textOmega
 19860 \let\alpha\textalpha
 19861 \let\beta\textbeta
 19862 \let\gamma\textgamma
 19863 \let\delta\textdelta
 19864 \let\epsilon\textepsilon
 19865 \let\zeta\textzeta
 19866 \let\eta\texteta
 19867 \let\theta\texttheta

19868 \let\iota\textiota
 19869 \let\kappa\textkappa
 19870 \let\lambda\textlambda
 19871 \let\mu\textmu
 19872 \let\mugreek\textmugreek
 19873 \let\nu\textnu
 19874 \let\xi\textxi
 19875 \let\pi\textpi
 19876 \let\rho\textrho
 19877 \let\varsigma\textvarsigma
 19878 \let\sigma\textsigma
 19879 \let\tau\texttau
 19880 \let\upsilon\textupsilon
 19881 \let\phi\textphi
 19882 \let\chi\textchi
 19883 \let\psi\textpsi
 19884 \let\omega\textomega
 19885 \let\scd\textscd
 19886 \let\scu\textscu
 19887 \let\iinferior\textiinferior
 19888 \let\rinferior\extrinferior
 19889 \let\uiinferior\textuiinferior
 19890 \let\vinferior\textvinferior
 19891 \let\betainferior\textbetainferior
 19892 \let\gammainferior\textgammainferior
 19893 \let\rhoinferior\textrhoinferior
 19894 \let\phiinferior\textphiinferior
 19895 \let\chiinferior\textchiinferior
 19896 \let\barsci\textbarsci
 19897 \let\barp\textbarp
 19898 \let\barscu\textbarscu
 19899 \let\htrtaild\texthtrtaild
 19900 \let\dagger\textdagger
 19901 \let\bullet\textbullet
 19902 \let\hdotfor\texthdotfor
 19903 \let\prime\textprime
 19904 \let\second\textsecond
 19905 \let\third\textthird
 19906 \let\backprime\textbackprime
 19907 \let\lefttherefore\textlefttherefore
 19908 \let\fourth\textfourth
 19909 \let\diamonddots\textdiamonddots
 19910 \let\zerosuperior\textzerosuperior
 19911 \let\isuperior\textisuperior
 19912 \let\foursuperior\textfoursuperior
 19913 \let\fivesuperior\textfivesuperior
 19914 \let\sixsuperior\textsixsuperior
 19915 \let\sevensuperior\textsevensuperior
 19916 \let\eightsuperior\texteightsuperior
 19917 \let\ninesuperior\textninesuperior
 19918 \let\plussuperior\textplussuperior
 19919 \let\minussuperior\textminussuperior
 19920 \let\equalsuperior\textequalsuperior
 19921 \let\parenleftsuperior\textparenleftsuperior

19922 \let\parenrightsuperior\textparenrightsuperior
 19923 \let\nsuperior\textnsuperior
 19924 \let\zeroinferior\textzeroinferior
 19925 \let\oneinferior\textoneinferior
 19926 \let\twoinferior\texttwoinferior
 19927 \let\threeinferior\textthreeinferior
 19928 \let\fourinferior\textfourinferior
 19929 \let\fiveinferior\textfiveinferior
 19930 \let\sixinferior\textsixinferior
 19931 \let\seveninferior\textseveninferior
 19932 \let\eightinferior\texteightinferior
 19933 \let\nineinferior\textnineinferior
 19934 \let\plusinferior\textplusinferior
 19935 \let\minusinferior\textminusinferior
 19936 \let\equalsinferior\textequalsinferior
 19937 \let\parenleftinferior\textparenleftinferior
 19938 \let\parenrightinferior\textparenrightinferior
 19939 \let\ainferior\textainferior
 19940 \let\einferior\texteinferior
 19941 \let\oinferior\textoinferior
 19942 \let\xinferior\textxinferior
 19943 \let\schwainferior\textschwainferior
 19944 \let\hinferior\texthinferior
 19945 \let\kinferior\textkinferior
 19946 \let\linferior\textlinferior
 19947 \let\minferior\textminferior
 19948 \let\ninferior\textninferior
 19949 \let\pinferior\textpinferior
 19950 \let\sinferior\textsinferior
 19951 \let\tinferior\texttinferior
 19952 \let\Deleatur\textDeleatur
 19953 \let\hslash\texthslash
 19954 \let\Im\textIm
 19955 \let\ell\textell
 19956 \let\wp\textwp
 19957 \let\Re\textRe
 19958 \let\mho\textmho
 19959 \let\riota\textriota
 19960 \let\Finv\textFinv
 19961 \let\aleph\textaleph
 19962 \let\beth\textbeth
 19963 \let\gimel\textgimel
 19964 \let\daleth\textdaleth
 19965 \let\xrightarrow\textxrightarrow
 19966 \let\Game\textGame
 19967 \let\leftarrow\textleftarrow
 19968 \let\uparrow\textuparrow
 19969 \let\rightarrow\textrightarrow
 19970 \let\downarrow\textdownarrow
 19971 \let\leftrightarrow\textleftrightarrow
 19972 \let\updownarrow\textupdownarrow
 19973 \let\nwarrow\textnwarrow
 19974 \let\nearrow\textnearrow
 19975 \let\searrow\textsearrow

19976 \let\swarrow\textswarrow
 19977 \let\nleftarrow\textnleftarrow
 19978 \let\nrightarrow\textnrightarrow
 19979 \let\twoheadleftarrow\texttwoheadleftarrow
 19980 \let\ntwoheadleftarrow\textntwoheadleftarrow
 19981 \let\twoheaduparrow\texttwoheaduparrow
 19982 \let\twoheadrightarrow\texttwoheadrightarrow
 19983 \let\ntwoheadrightarrow\textntwoheadrightarrow
 19984 \let\twoheaddownarrow\texttwoheaddownarrow
 19985 \let\leftarrowtail\textleftarrowtail
 19986 \let\rightarrowtail\textrightarrowtail
 19987 \let\mapsto\textmapsto
 19988 \let\hookrightarrow\texthookrightarrow
 19989 \let\hookrightarrow\texthookrightarrow
 19990 \let\looparrowleft\textlooparrowleft
 19991 \let\looparrowright\textlooparrowright
 19992 \let\nleftrightarrow\textnleftrightarrow
 19993 \let\lightning\textlightning
 19994 \let\dlsh\textdlsh
 19995 \let\curvearrowleft\textcurvearrowleft
 19996 \let\curvearrowright\textcurvearrowright
 19997 \let\leftharpoonup\textleftharpoonup
 19998 \let\leftharpoondown\textleftharpoondown
 19999 \let\upharpoonright\textupharpoonright
 20000 \let\upharpoonleft\textupharpoonleft
 20001 \let\rightharpoonup\text\rightharpoonup
 20002 \let\rightharpoondown\text\rightharpoondown
 20003 \let\downharpoonright\textdownharpoonright
 20004 \let\downharpoonleft\textdownharpoonleft
 20005 \let\rightleftarrows\textrightleftarrows
 20006 \let\updownarrows\textupdownarrows
 20007 \let\leftrightarrows\textleftrightarrows
 20008 \let\leftleftarrows\textleftleftarrows
 20009 \let\upuparrows\textupuparrows
 20010 \let\righttrightarrows\textrighttrightarrows
 20011 \let\downdownarrows\textdowndownarrows
 20012 \let\leftrightharpoons\textleftrightharpoons
 20013 \let\rightleftharpoons\textrightleftharpoons
 20014 \let\nLeftarrow\textnLeftarrow
 20015 \let\nLeftrightarrow\textnLeftrightarrow
 20016 \let\nRrightarrow\textnRrightarrow
 20017 \let\Leftarrow\textLeftarrow
 20018 \let\Uparrow\textUparrow
 20019 \let\Rrightarrow\textRrightarrow
 20020 \let\Downarrow\textDownarrow
 20021 \let\Leftrightarrow\textLeftrightarrow
 20022 \let\Updownarrow\textUpdownarrow
 20023 \let\Nwarrow\textNwarrow
 20024 \let\Nearrow\textNearrow
 20025 \let\searrow\textsearrow
 20026 \let\swarrow\textswarrow
 20027 \let\Lleftarrow\textLleftarrow
 20028 \let\Rrightarrow\textRrightarrow
 20029 \let\leftsquigarrow\textleftsquigarrow

20030 $\backslash\mathrm{rightsquigarrow}\text{rightsquigarrow}$
 20031 $\backslash\mathrm{dashleftarrow}\text{dashleftarrow}$
 20032 $\backslash\mathrm{dasheduparrow}\text{dasheduparrow}$
 20033 $\backslash\mathrm{dashrightarrow}\text{dashrightarrow}$
 20034 $\backslash\mathrm{dasheddownarrow}\text{dasheddownarrow}$
 20035 $\backslash\mathrm{pointer}\text{pointer}$
 20036 $\backslash\mathrm{downuparrows}\text{downuparrows}$
 20037 $\backslash\mathrm{leftarrowtriangle}\text{leftarrowtriangle}$
 20038 $\backslash\mathrm{rightarrowtriangle}\text{rightarrowtriangle}$
 20039 $\backslash\mathrm{leftrightarrowtriangle}\text{leftrightarrowtriangle}$
 20040 $\backslash\mathrm{forall}\text{forall}$
 20041 $\backslash\mathrm{complement}\text{complement}$
 20042 $\backslash\mathrm{partial}\text{partial}$
 20043 $\backslash\mathrm{exists}\text{exists}$
 20044 $\backslash\mathrm{nexists}\text{nexists}$
 20045 $\backslash\mathrm{emptyset}\text{emptyset}$
 20046 $\backslash\mathrm{triangle}\text{triangle}$
 20047 $\backslash\mathrm{nabla}\text{nabla}$
 20048 $\backslash\mathrm{in}\text{in}$
 20049 $\backslash\mathrm{notin}\text{notin}$
 20050 $\backslash\mathrm{smallin}\text{smallin}$
 20051 $\backslash\mathrm{ni}\text{ni}$
 20052 $\backslash\mathrm{notowner}\text{notowner}$
 20053 $\backslash\mathrm{smallowns}\text{smallowns}$
 20054 $\backslash\mathrm{prod}\text{prod}$
 20055 $\backslash\mathrm{amalg}\text{amalg}$
 20056 $\backslash\mathrm{sum}\text{sum}$
 20057 $\backslash\mathrm{mp}\text{mp}$
 20058 $\backslash\mathrm{dotplus}\text{dotplus}$
 20059 $\backslash\mathrm{Divides}\text{Divides}$
 20060 $\backslash\mathrm{DividesNot}\text{DividesNot}$
 20061 $\backslash\mathrm{setminus}\text{setminus}$
 20062 $\backslash\mathrm{ast}\text{ast}$
 20063 $\backslash\mathrm{circ}\text{circ}$
 20064 $\backslash\mathrm{surd}\text{surd}$
 20065 $\backslash\mathrm{propto}\text{propto}$
 20066 $\backslash\mathrm{infty}\text{infty}$
 20067 $\backslash\mathrm{angle}\text{angle}$
 20068 $\backslash\mathrm{measuredangle}\text{measuredangle}$
 20069 $\backslash\mathrm{sphericalangle}\text{sphericalangle}$
 20070 $\backslash\mathrm{mid}\text{mid}$
 20071 $\backslash\mathrm{nmid}\text{nmid}$
 20072 $\backslash\mathrm{parallel}\text{parallel}$
 20073 $\backslash\mathrm{nparallel}\text{nparallel}$
 20074 $\backslash\mathrm{wedge}\text{wedge}$
 20075 $\backslash\mathrm{owedge}\text{owedge}$
 20076 $\backslash\mathrm{vee}\text{vee}$
 20077 $\backslash\mathrm{ovee}\text{ovee}$
 20078 $\backslash\mathrm{cap}\text{cap}$
 20079 $\backslash\mathrm{cup}\text{cup}$
 20080 $\backslash\mathrm{int}\text{int}$
 20081 $\backslash\mathrm{iint}\text{iint}$
 20082 $\backslash\mathrm{iiint}\text{iiint}$
 20083 $\backslash\mathrm{ooint}\text{ooint}$

20084 \oint
 20085 \ointclockwise
 20086 \ointctrlockwise
 20087 \therefore
 20088 \because
 20089 \vdots
 20090 squaredots
 20091 $\dot{-}$
 20092 eqcolon
 20093 \sim
 20094 \backsim
 20095 \nbacksim
 20096 \wr
 20097 \nsim
 20098 \eqsim
 20099 \neqsim
 20100 \simeq
 20101 \nsimeq
 20102 \cong
 20103 \ncong
 20104 \approx
 20105 \napprox
 20106 \approxeq
 20107 \napproxeq
 20108 \triplesim
 20109 \ntriplesim
 20110 \backcong
 20111 \nbackcong
 20112 \asymp
 20113 \nasympt
 20114 \Bumpeq
 20115 \nBumpeq
 20116 \bumpeq
 20117 \nbumpeq
 20118 \doteq
 20119 \ndoteq
 20120 \doteqdot
 20121 \nDoteq
 20122 \fallingdoteq
 20123 \nfallingdoteq
 20124 \risingdoteq
 20125 \nrisingdoteq
 20126 \colonequals
 20127 \equalscolon
 20128 \eqcirc
 20129 \neqcirc
 20130 \circeq
 20131 \ncirceq
 20132 \hateq
 20133 \nhateq
 20134 \triangleeq
 20135 \neq
 20136 \ne
 20137 \equiv

20138 \let\nequiv\textnequiv
 20139 \let\leq\textleq
 20140 \let\le\textle
 20141 \let\geq\textgeq
 20142 \let\ge\textge
 20143 \let\leqq\textleqq
 20144 \let\leqq\textnleqq
 20145 \let\geqq\textgeqq
 20146 \let\geqq\textngeqq
 20147 \let\lneqq\textlneqq
 20148 \let\gneqq\textgneqq
 20149 \let\ll\textll
 20150 \let\nll\textnll
 20151 \let\gg\textgg
 20152 \let\ngg\textngg
 20153 \let\between\textbetween
 20154 \let\nless\textnless
 20155 \let\ngtr\textngtr
 20156 \let\leq\textnleq
 20157 \let\ngtr\textngeq
 20158 \let\less\textless
 20159 \let\gtr\textgtr
 20160 \let\nless\textnless
 20161 \let\ngtr\textngtr
 20162 \let\less\textless
 20163 \let\gtr\textgtr
 20164 \let\ngtr\textngtr
 20165 \let\nless\textnless
 20166 \let\prec\textprec
 20167 \let\succ\textsucc
 20168 \let\preccurlyeq\textpreccurlyeq
 20169 \let\succcurlyeq\textsucccurlyeq
 20170 \let\prec\textprec
 20171 \let\nprec\textnprec
 20172 \let\succ\textsucc
 20173 \let\nsucc\textnsucc
 20174 \let\prec\textprec
 20175 \let\nsucc\textnsucc
 20176 \let\subset\textsubset
 20177 \let\supset\textsupset
 20178 \let\nsubset\textnsubset
 20179 \let\nsupset\textnsupset
 20180 \let\subseteq\textsubseteq
 20181 \let\supseteq\textsupseteq
 20182 \let\nsubseteq\textnsubseteq
 20183 \let\nsupseteq\textnsupseteq
 20184 \let\subsetneq\textsubsetneq
 20185 \let\supsetneq\textsupsetneq
 20186 \let\cup\textcup
 20187 \let\cup\textcup
 20188 \let\sqsubset\textsqsubset
 20189 \let\nsqsubset\textnsqsubset
 20190 \let\sqsupset\textsqsupset
 20191 \let\nsqsupset\textnsqsupset

20192 \let\sqsubseteq\textsqsubseteq
 20193 \let\sqsubset\textsqsubset
 20194 \let\sqsupseteq\textsqsupseteq
 20195 \let\sqsupset\textsqsupset
 20196 \let\sqcap\textsqcap
 20197 \let\sqcup\textsqcup
 20198 \let\oplus\textplus
 20199 \let\ominus\textminus
 20200 \let\otimes\texttimes
 20201 \let\oslash\textslash
 20202 \let\odot\textdot
 20203 \let\circledcirc\textcircledcirc
 20204 \let\circledast\textcircledast
 20205 \let\circleddash\textcircleddash
 20206 \let\boxplus\textboxplus
 20207 \let\boxminus\textboxminus
 20208 \let\boxtimes\textboxtimes
 20209 \let\boxdot\textboxdot
 20210 \let\vdash\textvdash
 20211 \let\dashv\textdashv
 20212 \let\ndashv\textndashv
 20213 \let\top\texttop
 20214 \let\ndownvdash\textndownvdash
 20215 \let\bot\textbot
 20216 \let\nupvdash\textnupvdash
 20217 \let\vDash\textvDash
 20218 \let\Vdash\textVdash
 20219 \let\Vvdash\textVvdash
 20220 \let\NVdash\textNVdash
 20221 \let\VDash\textVDash
 20222 \let\Nvdash\textNvdash
 20223 \let\NVdash\textNVdash
 20224 \let\Nvdash\textNvdash
 20225 \let\NVDash\textNVDash
 20226 \let\lhd\textlhd
 20227 \let\rhd\textrhd
 20228 \let\unlhd\textunlhd
 20229 \let\unrhd\textunrhd
 20230 \let\multimapdotbothA\textmultimapdotbothA
 20231 \let\multimapdotbothB\textmultimapdotbothB
 20232 \let\multimap\textmultimap
 20233 \let\veebar\textveebar
 20234 \let\barwedge\textbarwedge
 20235 \let\star\textstar
 20236 \let\divideontimes\textdivideontimes
 20237 \let\bowtie\textbowtie
 20238 \let\ltimes\textltimes
 20239 \let\rtimes\textrtimes
 20240 \let\leftthreetimes\textleftthreetimes
 20241 \let\rightthreetimes\textrightthreetimes
 20242 \let\backsimeq\textbacksimeq
 20243 \let\backsim\textbacksim
 20244 \let\curlyvee\textcurlyvee
 20245 \let\curlywedge\textcurlywedge

20246 \let\Subset\textSubset
 20247 \let\nSubset\textnSubset
 20248 \let\Supset\textSupset
 20249 \let\nSupset\textnSupset
 20250 \let\Cap\textCap
 20251 \let\Cup\textCup
 20252 \let\pitchfork\textpitchfork
 20253 \let\lessdot\textlessdot
 20254 \let\gtrdot\textgtrdot
 20255 \let\lll\textlll
 20256 \let\ggg\textggg
 20257 \let\lesseqgtr\textlesseqgtr
 20258 \let\gtreqless\textgtreqless
 20259 \let\curlyeqprec\textcurlyeqprec
 20260 \let\ncurlyeqprec\textncurlyeqprec
 20261 \let\curlyeqsucc\textcurlyeqsucc
 20262 \let\ncurlyeqsucc\textncurlyeqsucc
 20263 \let\preccurlyeq\textnpreccurlyeq
 20264 \let\nsucccurlyeq\textnsucccurlyeq
 20265 \let\subsetseq\textnsubsetseq
 20266 \let\supseteq\textnsubseteq
 20267 \let\subsetneq\textsubsetneq
 20268 \let\supsetneq\textsubsetneq
 20269 \let\insim\textinsim
 20270 \let\gnsim\textgnsim
 20271 \let\precnsim\textprecnsim
 20272 \let\succnsim\textsuccnsim
 20273 \let\triangleleft\texttriangleleft
 20274 \let\triangleright\texttriangleright
 20275 \let\trianglelefteq\texttrianglelefteq
 20276 \let\trianglerighteq\texttrianglerighteq
 20277 \let\vdots\textvdots
 20278 \let\cdots\textcdots
 20279 \let\udots\textudots
 20280 \let\ddots\textddots
 20281 \let\barin\textbarin
 20282 \let\diameter\textdiameter
 20283 \let\backneg\textbackneg
 20284 \let\wasylozenge\textwasylozenge
 20285 \let\invbackneg\textinvbackneg
 20286 \let\clock\textclock
 20287 \let\ulcorner\textulcorner
 20288 \let\urcorner\texturcorner
 20289 \let\llcorner\textllcorner
 20290 \let\lrcorner\textlrcorner
 20291 \let\frown\textfrown
 20292 \let\smile\textsmile
 20293 \let\Keyboard\textKeyboard
 20294 \let\langle\textlangle
 20295 \let\rangle\textrangle
 20296 \let\APLinv\textAPLinv
 20297 \let\Tumbler\textTumbler
 20298 \let\notslash\textnotslash
 20299 \let\notbackslash\textnotbackslash

20300 \let\boxbackslash\textboxbackslash
 20301 \let\APLleftarrowbox\textAPLleftarrowbox
 20302 \let\APLrightarrowbox\textAPLrightarrowbox
 20303 \let\APLuparrowbox\textAPLuparrowbox
 20304 \let\APLdownarrowbox\textAPLdownarrowbox
 20305 \let\APLinput\textAPLinput
 20306 \let\Request\textRequest
 20307 \let\Beam\textBeam
 20308 \let\hexagon\texthexagon
 20309 \let\APLbox\textAPLbox
 20310 \let\ForwardToIndex\textForwardToIndex
 20311 \let\RewindToIndex\textRewindToIndex
 20312 \let\bbslash\textbbslash
 20313 \let\CircledA\textCircledA
 20314 \let\CleaningF\textCleaningF
 20315 \let\CleaningFF\textCleaningFF
 20316 \let\CleaningP\textCleaningP
 20317 \let\CleaningPP\textCleaningPP
 20318 \let\CuttingLine\textCuttingLine
 20319 \let\UParrow\textUParrow
 20320 \let\bigtriangleup\textbigtriangleup
 20321 \let\Forward\textForward
 20322 \let\triangleright\texttriangleright
 20323 \let\RHD\textRHD
 20324 \let\DOWNarrow\textDOWNarrow
 20325 \let\bigtriangledown\textbigtriangledown
 20326 \let\Rewind\textRewind
 20327 \let\triangleleft\texttriangleleft
 20328 \let\LHD\textLHD
 20329 \let\diamond\textdiamond
 20330 \let\lozenge\textlozenge
 20331 \let\LEFTCIRCLE\textLEFTCIRCLE
 20332 \let\RIGHTCIRCLE\textRIGHTCIRCLE
 20333 \let\openbullet\textopenbullet
 20334 \let\boxbar\textboxbar
 20335 \let\bigcircle\textbigcircle
 20336 \let\Cloud\textCloud
 20337 \let\FiveStar\textFiveStar
 20338 \let\FiveStarOpen\textFiveStarOpen
 20339 \let\Phone\textPhone
 20340 \let\boxempty\textboxempty
 20341 \let\Checkedbox\textCheckedbox
 20342 \let\Crossedbox\textCrossedbox
 20343 \let\Coffeecup\textCoffeecup
 20344 \let\HandCuffLeft\textHandCuffLeft
 20345 \let\HandCuffRight\textHandCuffRight
 20346 \let\HandLeft\textHandLeft
 20347 \let\HandRight\textHandRight
 20348 \let\Radioactivity\textRadioactivity
 20349 \let\Biohazard\textBiohazard
 20350 \let\Ankh\textAnkh
 20351 \let\YinYang\textYinYang
 20352 \let\frownie\textfrownie
 20353 \let\smiley\textsmiley

20354 \let\blacksmiley\textblacksmiley
 20355 \let\sun\textsun
 20356 \let\leftmoon\textleftmoon
 20357 \let\rightmoon\textrightmoon
 20358 \let\mercury\textmercury
 20359 \let\earth\textearth
 20360 \let\male\textmale
 20361 \let\jupiter\textjupiter
 20362 \let\saturn\textsaturn
 20363 \let\uranus\texturanus
 20364 \let\neptune\textneptune
 20365 \let\pluto\textpluto
 20366 \let\aries\textaries
 20367 \let\taurus\texttaurus
 20368 \let\gemini\textgemini
 20369 \let\cancer\textcancer
 20370 \let\leo\textleo
 20371 \let\virgo\textvirgo
 20372 \let\libra\textlibra
 20373 \let\scorpio\textscorpio
 20374 \let\sagittarius\textsagittarius
 20375 \let\capricornus\textcapricornus
 20376 \let\aquarius\textaquarius
 20377 \let\pisces\textpisces
 20378 \let\quarternote\textquarternote
 20379 \let\twonotes\texttwonotes
 20380 \let\sixteenthnote\textsixteenthnote
 20381 \let\flat\textflat
 20382 \let\natural\textnatural
 20383 \let\sharp\textsharp
 20384 \let\recycle\textrecycle
 20385 \let\Wheelchair\textWheelchair
 20386 \let\Flag\textFlag
 20387 \let\MineSign\textMineSign
 20388 \let\ds\textds
 20389 \let\ds\textds
 20390 \let\ds\textds
 20391 \let\ds\textds
 20392 \let\ds\textds
 20393 \let\ds\textds
 20394 \let\manstar\textmanstar
 20395 \let\danger\textdanger
 20396 \let\FemaleFemale\textFemaleFemale
 20397 \let\MaleMale\textMaleMale
 20398 \let\FemaleMale\textFemaleMale
 20399 \let\Hermaphrodite\textHermaphrodite
 20400 \let\Neutral\textNeutral
 20401 \let\hexstar\texthexstar
 20402 \let\SunCloud\textSunCloud
 20403 \let\Rain\textRain
 20404 \let\noway\textnoway
 20405 \let\Mountain\textMountain
 20406 \let\Tent\textTent
 20407 \let\ScissorRight\textScissorRight

20408 \let\ScissorRightBrokenTop\textScissorRightBrokenTop
 20409 \let\ScissorHollowRight\textScissorHollowRight
 20410 \let\PhoneHandset\textPhoneHandset
 20411 \let\Tape\textTape
 20412 \let\Plane\textPlane
 20413 \let\Envelope\textEnvelope
 20414 \let\Peace\textPeace
 20415 \let\WritingHand\textWritingHand
 20416 \let\PencilRightDown\textPencilRightDown
 20417 \let\PencilRight\textPencilRight
 20418 \let\PencilRightUp\textPencilRightUp
 20419 \let\NibRight\textNibRight
 20420 \let\NibSolidRight\textNibSolidRight
 20421 \let\Checkmark\textCheckmark
 20422 \let\CheckmarkBold\textCheckmarkBold
 20423 \let\XSolid\textXSolid
 20424 \let\XSolidBold\textXSolidBold
 20425 \let\XSolidBrush\textXSolidBrush
 20426 \let\PlusOutline\textPlusOutline
 20427 \let\Plus\textPlus
 20428 \let\PlusThinCenterOpen\textPlusThinCenterOpen
 20429 \let\PlusCenterOpen\textPlusCenterOpen
 20430 \let\Cross\textCross
 20431 \let\CrossOpenShadow\textCrossOpenShadow
 20432 \let\CrossOutline\textCrossOutline
 20433 \let\CrossMaltese\textCrossMaltese
 20434 \let\DavidStar\textDavidStar
 20435 \let\FourAsterisk\textFourAsterisk
 20436 \let\JackStar\textJackStar
 20437 \let\JackStarBold\textJackStarBold
 20438 \let\ClowerTips\textClowerTips
 20439 \let\FourStar\textFourStar
 20440 \let\FourStarOpen\textFourStarOpen
 20441 \let\FiveStarOpenCircled\textFiveStarOpenCircled
 20442 \let\FiveStarCenterOpen\textFiveStarCenterOpen
 20443 \let\FiveStarOpenDotted\textFiveStarOpenDotted
 20444 \let\FiveStarOutline\textFiveStarOutline
 20445 \let\FiveStarOutlineHeavy\textFiveStarOutlineHeavy
 20446 \let\FiveStarConvex\textFiveStarConvex
 20447 \let\FiveStarShadow\textFiveStarShadow
 20448 \let\AsteriskBold\textAsteriskBold
 20449 \let\AsteriskCenterOpen\textAsteriskCenterOpen
 20450 \let\EightStarTaper\textEightStarTaper
 20451 \let\EightStarConvex\textEightStarConvex
 20452 \let\SixStar\textSixStar
 20453 \let\EightStar\textEightStar
 20454 \let\EightStarBold\textEightStarBold
 20455 \let\TwelveStar\textTwelveStar
 20456 \let\SixteenStarLight\textSixteenStarLight
 20457 \let\SixFlowerPetalRemoved\textSixFlowerPetalRemoved
 20458 \let\SixFlowerOpenCenter\textSixFlowerOpenCenter
 20459 \let\Asterisk\textAsterisk
 20460 \let\SixFlowerAlternate\textSixFlowerAlternate
 20461 \let\FiveFlowerPetal\textFiveFlowerPetal

20462 \let\FiveFlowerOpen\textFiveFlowerOpen
 20463 \let\EightFlowerPetal\textEightFlowerPetal
 20464 \let\SunshineOpenCircled\textSunshineOpenCircled
 20465 \let\SixFlowerAltPetal\textSixFlowerAltPetal
 20466 \let\SnowflakeChevron\textSnowflakeChevron
 20467 \let\Snowflake\textSnowflake
 20468 \let\SnowflakeChevronBold\textSnowflakeChevronBold
 20469 \let\Sparkle\textSparkle
 20470 \let\SparkleBold\textSparkleBold
 20471 \let\AsteriskRoundedEnds\textAsteriskRoundedEnds
 20472 \let\EightFlowerPetalRemoved\textEightFlowerPetalRemoved
 20473 \let\EightAsterisk\textEightAsterisk
 20474 \let\CircleShadow\textCircleShadow
 20475 \let\SquareShadowBottomRight\textSquareShadowBottomRight
 20476 \let\SquareTopRight\textSquareTopRight
 20477 \let\SquareCastShadowBottomRight\textSquareCastShadowBottomRight
 20478 \let\SquareCastShadowTopRight\textSquareCastShadowTopRight
 20479 \let\DiamondSolid\textDiamondSolid
 20480 \let\RectangleThin\textRectangleThin
 20481 \let\Rectangle\textRectangle
 20482 \let\RectangleBold\textRectangleBold
 20483 \let\perp\textperp
 20484 \let\notperp\textnotperp
 20485 \let\veedot\textveedot
 20486 \let\wedgedot\textwedgedot
 20487 \let\leftspoon\textleftspoon
 20488 \let\lbrackdbl\textlbrackdbl
 20489 \let\rbrackdbl\textrbrackdbl
 20490 \let\circlearrowleft\textcirclearrowleft
 20491 \let\circlearrowright\textcirclearrowright
 20492 \let\longleftarrow\textlongleftarrow
 20493 \let\longrightarrow\textlongrightarrow
 20494 \let\longleftarrowright\textlongleftarrowright
 20495 \let\Longleftarrow\textLongleftarrow
 20496 \let\Longrightarrow\textLongrightarrow
 20497 \let\Longleftarrowright\textLongleftarrowright
 20498 \let\longmapsto\textlongmapsto
 20499 \let\Longmapsfrom\textLongmapsfrom
 20500 \let\Longmapsto\textLongmapsto
 20501 \let\nwsearrow\textnwsearrow
 20502 \let\neswarrow\textneswarrow
 20503 \let\hookrightarrow\texthookrightarrow
 20504 \let\rhookrightarrow\texthookrightarrow
 20505 \let\hookrightarrow\texthookrightarrow
 20506 \let\rhookrightarrow\texthookrightarrow
 20507 \let\leadsto\textleadsto
 20508 \let\curvearrowright\textcurvearrowright
 20509 \let\lcurvearrowright\textlcurvearrowright
 20510 \let\lcurvearrowrightsw\textlcurvearrowrightsw
 20511 \let\curvearrowright\textcurvearrowright
 20512 \let\lcurvearrowrightdown\textlcurvearrowrightdown
 20513 \let\curvearrowrightdown\textcurvearrowrightdown
 20514 \let\curvearrowrightleft\textcurvearrowrightleft
 20515 \let\curvearrowright\textcurvearrowright

20516 `\let\leftrightharpoon\textleftrightharpoon`
 20517 `\let\rightleftharpoon\textrightleftharpoon`
 20518 `\let\updownharpoonrightleft\textupdownharpoonrightleft`
 20519 `\let\updownharpoonleftright\textupdownharpoonleftright`
 20520 `\let\leftleftharpoons\textleftleftharpoons`
 20521 `\let\upupharpoons\textupupharpoons`
 20522 `\let\righttrightharpoons\textrighttrightharpoons`
 20523 `\let\downdownharpoons\textdowndownharpoons`
 20524 `\let\leftbarharpoon\textleftbarharpoon`
 20525 `\let\barleftharpoon\textbarleftharpoon`
 20526 `\let\rightbarharpoon\textrightbarharpoon`
 20527 `\let\barrightharpoon\textbarrightharpoon`
 20528 `\let\updownharpoons\textupdownharpoons`
 20529 `\let\downupharpoons\textdownupharpoons`
 20530 `\let\moo\textmoo`
 20531 `\let\llparenthesis\textllparenthesis`
 20532 `\let\rrparenthesis\textrrparenthesis`
 20533 `\let\invdiameter\textinvdiameter`
 20534 `\let\obar\textobar`
 20535 `\let\obslash\textobslash`
 20536 `\let\obot\textobot`
 20537 `\let\NoChemicalCleaning\textNoChemicalCleaning`
 20538 `\let\olessthan\textolessthan`
 20539 `\let\ogreaterthan\textogreaterthan`
 20540 `\let\boxslash\textboxslash`
 20541 `\let\boxbslash\textboxbslash`
 20542 `\let\boxast\textboxast`
 20543 `\let\boxcircle\textboxcircle`
 20544 `\let\boxbox\textboxbox`
 20545 `\let\Valve\textValve`
 20546 `\let\multimapboth\textmultimapboth`
 20547 `\let\shuffle\textshuffle`
 20548 `\let\uplus\textuplus`
 20549 `\let\bigdoublewedge\textbigdoublewedge`
 20550 `\let\bigdoublevee\textbigdoublevee`
 20551 `\let\Join\textJoin`
 20552 `\let\fatsemi\textfatsemi`
 20553 `\let\cirplus\textcirplus`
 20554 `\let\minusdot\textminusdot`
 20555 `\let\dottimes\textdottimes`
 20556 `\let\dtimes\textdtimes`
 20557 `\let\odiv\textodiv`
 20558 `\let\invneg\textinvneg`
 20559 `\let\sqdoublecap\textsqdoublecap`
 20560 `\let\capdot\textcapdot`
 20561 `\let\sqdoublecup\textsqdoublecup`
 20562 `\let\doublewedge\textdoublewedge`
 20563 `\let\doublevee\textdoublevee`
 20564 `\let\doublebarwedge\textdoublebarwedge`
 20565 `\let\veedoublebar\textveedoublebar`
 20566 `\let\eqdot\texteqdot`
 20567 `\let\neqdot\textneqdot`
 20568 `\let\coloncolonequals\textcoloncolonequals`
 20569 `\let\leqslant\textleqslant`

20570 `\let\nleqslant\textnleqslant`
 20571 `\let\geqslant\textgeqslant`
 20572 `\let\ngeqslant\textngeqslant`
 20573 `\let\lessapprox\textlessapprox`
 20574 `\let\nlessapprox\textnlessapprox`
 20575 `\let\gtrapprox\textgtrapprox`
 20576 `\let\ngtrapprox\textngtrapprox`
 20577 `\let\lneq\textlneq`
 20578 `\let\gneq\textgneq`
 20579 `\let\lnapprox\textlnapprox`
 20580 `\let\gnapprox\textgnapprox`
 20581 `\let\lesseqqgtr\textlesseqqgtr`
 20582 `\let\gtreqqless\textgtreqqless`
 20583 `\let\eqslantless\texteqslantless`
 20584 `\let\eqslantgtr\texteqslantgtr`
 20585 `\let\leftslice\textleftslice`
 20586 `\let\rightslice\textright slice`
 20587 `\let\preceq\textpreceq`
 20588 `\let\npreceq\textnpreceq`
 20589 `\let\succeq\textsucceq`
 20590 `\let\nsucceq\textnsucceq`
 20591 `\let\precneq\textprecneq`
 20592 `\let\succneq\textsuccneq`
 20593 `\let\preceqq\textpreceqq`
 20594 `\let\npreceqq\textnpreceqq`
 20595 `\let\succeqq\textsucceqq`
 20596 `\let\nsucceqq\textnsucceqq`
 20597 `\let\precneqq\textprecneqq`
 20598 `\let\succneqq\textsuccneqq`
 20599 `\let\precapprox\textprecapprox`
 20600 `\let\nprecapprox\textnprecapprox`
 20601 `\let\succapprox\textsuccapprox`
 20602 `\let\nsuccapprox\textnsuccapprox`
 20603 `\let\precnapprox\textprecnapprox`
 20604 `\let\succnapprox\textsuccnapprox`
 20605 `\let\subseteqq\textsubseteqq`
 20606 `\let\nsubseteqq\textnsubseteqq`
 20607 `\let\supseteqq\textsupseteqq`
 20608 `\let\nsupseteqq\textnsupseteqq`
 20609 `\let\dashV\textdashV`
 20610 `\let\ndashV\textndashV`
 20611 `\let\Dashv\textDashv`
 20612 `\let\NDashv\textNDashv`
 20613 `\let\DashV\textDashV`
 20614 `\let\NDashV\textNDashV`
 20615 `\let\downmodels\textdownmodels`
 20616 `\let\ndownmodels\textndownmodels`
 20617 `\let\upmodels\textupmodels`
 20618 `\let\nupmodels\textnupmodels`
 20619 `\let\upspoon\textupspoon`
 20620 `\let\interleave\textinterleave`
 20621 `\let\slash\textslash`
 20622 `\let\pentagon\textpentagon`
 20623 `\let\varhexagon\textvarhexagon`

20624 \let\jinferior\textjinferior
 20625 \let\slashdiv\textslashdiv
 20626 \let\fivedots\textfivedots
 20627 \let\oo\textoo
 20628 \let\GaPa\textGaPa
 20629 \let\HaPa\textHaPa
 20630 \let\ViPa\textViPa
 20631 \let\AcPa\textAcPa
 20632 \let\SePa\textSePa
 20633 \let\ZwPa\textZwPa
 20634 \let\fullnote\textfullnote
 20635 \let\halfnote\texthalfnote
 20636 \let\Vier\textVier
 20637 \let\Acht\textAcht
 20638 \let\Sech\textSech
 20639 \let\Zwdr\textZwdr
 20640 \let\Mundus\textMundus
 20641 \let\Moon\textMoon
 20642 \let\ManFace\textManFace
 20643 \let\WomanFace\textWomanFace
 20644 \let\Fax\textFax
 20645 \let\Fire\textFire
 20646 \let\Bicycle\textBicycle
 20647 \let\Gentsroom\textGentsroom
 20648 \let\Ladiesroom\textLadiesroom
 20649 \let\ccnc\textccnc
 20650 \let\ccsa\textccsa
 20651 \let\Info\textInfo
 20652 \let\CESign\textCESign
 20653 \let\neg\textneg
 20654 \let\times\texttimes
 20655 \let\div\textdiv
 20656 \let\pm\textpm
 20657 \let\cdot\textcdot
 20658 }% \psdmapshortnames
 20659 \newcommand*{\psdaliasnames}{%
 20660 \let\epsdice\HyPsd@DieFace
 20661 \let\fcdice\HyPsd@DieFace
 20662 \let\MoonPha\HyPsd@MoonPha
 20663 \let\mathdollar\textdollar
 20664 \let\EyesDollar\textdollar
 20665 \let\binampersand\textampersand
 20666 \let\with\textampersand
 20667 \let\mathunderscore\textunderscore
 20668 \let\textvertline\textbar
 20669 \let\mathsterling\textsterling
 20670 \let\pounds\textsterling
 20671 \let\brokenvert\textbrokenbar
 20672 \let\mathsection\textsection
 20673 \let\S\textsection
 20674 \let\mathparagraph\textparagraph
 20675 \let\MultiplicationDot\textperiodcentered
 20676 \let\Squaredot\textperiodcentered
 20677 \let\vartimes\textmultiply

20678 \let\MVMultiplication\textmultiply
 20679 \let\eth\dh
 20680 \let\crossd\textcrd
 20681 \let\textbard\textcrd
 20682 \let\bard\textcrd
 20683 \let\textcrh\texthbar
 20684 \let\crossh\texthbar
 20685 \let\planck\texthbar
 20686 \let\eng\ng
 20687 \let\engma\ng
 20688 \let\crossb\textcrb
 20689 \let\textbarb\textcrb
 20690 \let\barb\textcrb
 20691 \let\Florin\textflorin
 20692 \let\hv\texthvl
 20693 \let\hausak\texthtk
 20694 \let\crossnilambda\textcrlambda
 20695 \let\barlambda\textcrlambda
 20696 \let\lambdabar\textcrlambda
 20697 \let\lambdash\textcrlambda
 20698 \let\textnrleg\textPUnrleg
 20699 \let\textpipevar\textpipe
 20700 \let\textdoublepipevar\textdoublepipe
 20701 \let\textdoublebarpipevar\textdoublebarpipe
 20702 \let\textcrg\textgslash
 20703 \let\textdblig\textPUdblig
 20704 \let\textqplig\textPUqplig
 20705 \let\textcentoldstyle\textslashc
 20706 \let\textbarc\textslashc
 20707 \let\inva\textturna
 20708 \let\vara\textscripta
 20709 \let\invscripta\textturnscripta
 20710 \let\rotvara\textturnscripta
 20711 \let\hookb\texthtb
 20712 \let\hausab\texthtb
 20713 \let\varopeno\textopeno
 20714 \let\curlyc\textctc
 20715 \let\taild\textrtaild
 20716 \let\hookd\texthtd
 20717 \let\hausad\texthtd
 20718 \let\er\textrhookschwa
 20719 \let\epsi\textniepsilon
 20720 \let\hookrepsilon\texthookrepsilon
 20721 \let\closedrepsilon\textcloserepsilon
 20722 \let\barj\textbardotlessj
 20723 \let\hookg\texthtg
 20724 \let\varg\textscriptg
 20725 \let\vod\texttipagamma
 20726 \let\invh\textturnh
 20727 \let\udesc\textturnh
 20728 \let\hookh\texthth
 20729 \let\voicedh\texthth
 20730 \let\hookheng\texththeng
 20731 \let\ibar\textbari

20732 \let\vari\textnniota
 20733 \let\tildel\textltilde
 20734 \let\latfric\textbeltl
 20735 \let\tail\texttrtail
 20736 \let\lz\textlyoghlig
 20737 \let\invm\textturnm
 20738 \let\rotr\textturnm
 20739 \let\legm\textturnmrleg
 20740 \let\labdentainas\textltailm
 20741 \let\emgma\textltailm
 20742 \let\nj\textltailn
 20743 \let\enya\textltailn
 20744 \let\tailn\texttrtailn
 20745 \let\closedniomega\textcloseomega
 20746 \let\varomega\textcloseomega
 20747 \let\invr\textturnr
 20748 \let\rotr\textturnr
 20749 \let\invlegr\textturnlonglegr
 20750 \let\tailinvr\textturnrrtail
 20751 \let\legr\textlonglegr
 20752 \let\tailr\texttrtailr
 20753 \let\flapr\textfishhookr
 20754 \let\flap\textfishhookr
 20755 \let\tails\texttrtails
 20756 \let\curlyesh\textctesh
 20757 \let\clickt\textturnt
 20758 \let\tailt\texttrtailt
 20759 \let\ubar\textbaru
 20760 \let\rotOmega\textniupsilon
 20761 \let\invv\textturnv
 20762 \let\pwedge\textturnv
 20763 \let\invw\textturnw
 20764 \let\rotrw\textturnw
 20765 \let\invy\textturny
 20766 \let\roty\textturny
 20767 \let\tailz\texttrtailz
 20768 \let\curlyz\textctz
 20769 \let\curlyyogh\textctyogh
 20770 \let\ejjective\textglotstop
 20771 \let\glottal\textglotstop
 20772 \let\reveject\textrevglotstop
 20773 \let\clickc\textstretchc
 20774 \let\textstretchcvar\textstretchc
 20775 \let\clickb\textbullseye
 20776 \let\textObullseye\textbullseye
 20777 \let\textctjvar\textctj
 20778 \let\textturnsck\textturnk
 20779 \let\dz\textdzlig
 20780 \let\tesh\textteshlig
 20781 \let\digamma\textdigammagreek
 20782 \let\hardsign\cyrrhdsn
 20783 \let\softsign\cyrsftsn
 20784 \let\hebsin\hebshin
 20785 \let\textsck\textPUscck

20786 \let\textscm\textPUscm
 20787 \let\textscp\textPUscp
 20788 \let\textrevscr\textPUrevscr
 20789 \let\textrhoaka\textPURhooka
 20790 \let\textrhooke\textPURhooke
 20791 \let\textrhookepsilon\textPURhookepsilon
 20792 \let\textrhookeno\textPURhookopeno
 20793 \let\textdoublevertline\textbardbl
 20794 \let\dag\textdagger
 20795 \let\ddagger\textdaggerdbl
 20796 \let\ddag\textdaggerdbl
 20797 \let\mathellipsis\textellipsis
 20798 \let\EurDig\texteuro
 20799 \let\EURdig\texteuro
 20800 \let\EurHv\texteuro
 20801 \let\EURhv\texteuro
 20802 \let\EurCr\texteuro
 20803 \let\EURcr\texteuro
 20804 \let\EurTm\texteuro
 20805 \let\EURtm\texteuro
 20806 \let\Eur\texteuro
 20807 \let\Denarius\textDeleatur
 20808 \let\agemO\textmho
 20809 \let\EstimatedSign\textestimated
 20810 \let\Ecommerce\textestimated
 20811 \let\bindnasrepma\textinvamp
 20812 \let\parr\textinvamp
 20813 \let\MVRightArrow\textrightarrow
 20814 \let\MVRightarrow\textrightarrow
 20815 \let\MVArrowDown\textdownarrow
 20816 \let\Force\textdownarrow
 20817 \let\textglobrise\textnearrow
 20818 \let\textglobfall\textsearrow
 20819 \let\Lightning\textlightning
 20820 \let\Conclusion\textrightarrow
 20821 \let\dashedleftarrow\textdashleftarrow
 20822 \let\dashedrightarrow\textdashrightarrow
 20823 \let\varnothing\textemptyset
 20824 \let\owns\textni
 20825 \let\notni\textnotowner
 20826 \let\varprop\textpropto
 20827 \let\varangle\textsphericalangle
 20828 \let\Anglesign\textsphericalangle
 20829 \let\AngleSign\textsphericalangle
 20830 \let\notdivides\textnmid
 20831 \let\varowedge\textowedge
 20832 \let\varovee\textovee
 20833 \let\varint\textint
 20834 \let\varoint\textoint
 20835 \let\downtherefore\textbecause
 20836 \let\textdotdiv\textdotminus
 20837 \let\AC\textsim
 20838 \let\wreath\textwr
 20839 \let\nthickapprox\textnapprox

20840 \let\VHF\texttriplesim
 20841 \let\notasymp\textnasymp
 20842 \let\Doteq\textdoteqdot
 20843 \let\corresponds\texthateq
 20844 \let\Corresponds\texthateq
 20845 \let\nequal\textneq
 20846 \let\Congruent\textequiv
 20847 \let\NotCongruent\textnequiv
 20848 \let\notequiv\textnequiv
 20849 \let\LessOrEqual\textleq
 20850 \let\LargerOrEqual\textgeq
 20851 \let\apprle\textless
 20852 \let\apprge\textgtr
 20853 \let\varoplus\textoplus
 20854 \let\varominus\textominus
 20855 \let\varotimes\textotimes
 20856 \let\varoslash\textoslash
 20857 \let\varodot\textodot
 20858 \let\ocirc\textcircledcirc
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 20860 \let\varoast\textcircledast
 20861 \let\oasterisk\textcircledast
 20862 \let\rightvdash\textvdash
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 20864 \let\leftvdash\textndashv
 20865 \let\downvdash\texttop
 20866 \let\upvdash\textbot
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 20874 \let\models\textnvDash
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 20876 \let\models\textnVdash
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 20878 \let\gtrclosed\textrhd
 20879 \let\leqclosed\textunlhd
 20880 \let\trianglelefteq\textunlhd
 20881 \let\geqclosed\textunrhd
 20882 \let\trianglerighteq\textunrhd
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 20884 \let\varcurlyvee\textcurlyvee
 20885 \let\varcurlywedge\textcurlywedge
 20886 \let\doublecap\textCap
 20887 \let\doublecup\textCup
 20888 \let\varsubsetneq\textsubsetneq
 20889 \let\varsupsetneq\textsupsetneq
 20890 \let\lessclosed\texttriangleleft
 20891 \let\ngtrclosed\texttriangleleft
 20892 \let\Clocklogo\textclock
 20893 \let\ClockLogo\textclock

20894 \let\baro\textstmaryrdbaro
 20895 \let\varparallelinv\textbbslash
 20896 \let\CleaningA\textCircledA
 20897 \let\Kutline\textCuttingLine
 20898 \let\CutLine\textCuttingLine
 20899 \let\Cutline\textCuttingLine
 20900 \let\MoveUp\textUParrow
 20901 \let\APLup\textbigtriangleup
 20902 \let\Bleech\textbigtriangleup
 20903 \let\MoveDown\textDOWNarrow
 20904 \let\APLdown\textbigtriangledown
 20905 \let\Diamond\textdiamond
 20906 \let\varbigcirc\textbigcircle
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