

Hypertext marks in L^AT_EX

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

2023-10-27 v7.01d

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 \LaTeX definition and compares this definition with the current meaning of that command.

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```



```

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

```

`\HyC@noValue`

```

85 \def\HyC@noValue{NoValue}

```

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

```

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

```

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

```

90 \newtoks\HyC@Toks

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

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

```

```

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

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

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

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

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

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

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

```

```

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

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

```

4 Package options and setup

4.1 Save catcodes

There are many packages that change the standard catcodes.

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

```

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

```

`\Hy@SetCatcodes`

```

181 \def\Hy@SetCatcodes{%
182   \@makeother`\%
183   \@makeother\=%
184   \catcode`\$=3 %
185   \catcode`\&=4 %
186   \catcode`\^=7 %
187   \catcode`\_ =8 %
188   \@makeother\| %
189   \@makeother\: %
190   \@makeother\(%
191   \@makeother\)%
192   \@makeother\[ %
193   \@makeother\] %
194   \@makeother\/ %
195   \@makeother\! %
196   \@makeother\<%

```

```

197 \@makeother\>%
198 \@makeother\.%
199 \@makeother\;%
200 \@makeother\+%
201 \@makeother\-%
202 \@makeother\"%
203 \@makeother\'%
204 }

```

\Hy@RestoreCatcodes

```

205 \begingroup
206 \def\x#1{\catcode`\noexpand#1=\the\catcode`#1\relax}%
207 \xdef\Hy@RestoreCatcodes{%
208   \the\toks@
209   \x\$%
210   \x\&%
211   \x\~%
212   \x\_%
213   \x\|%
214   \x\:%
215   \x\(%
216   \x\) %
217   \x\[ %
218   \x\] %
219   \x\/%
220   \x\!%
221   \x\<%
222   \x\>%
223   \x\. %
224   \x\;%
225   \x\+%
226   \x\-%
227   \x\"%
228   \x\'%
229 }%
230 \endgroup

```

231 \Hy@SetCatcodes

change 2020-07-24: require newer pdftexcmds and remove fallback code for version older than 2010. change 2021-08-14: require expl3

```

232 \ifx\ExplSyntaxOn\undefined \RequirePackage{expl3}\fi
233 \RequirePackage{ltxcmds}[2010/11/12]
234 \RequirePackage{iftex}[2019/10/24]
235 \RequirePackage{pdftexcmds}[2018/09/10]
236 \RequirePackage{infwarerr}[2010/04/08]
237 \RequirePackage{keyval}[1997/11/10]
238 \RequirePackage{kvsetkeys}[2007/09/29]
239 \RequirePackage{kvdefinekeys}[2011/04/07]
240 \RequirePackage{pdfescape}[2007/11/11]
241 \RequirePackage{hycolor}
242 \RequirePackage{letltxmacro}[2008/06/13]
243 \RequirePackage{auxhook}[2009/12/14]
244 \RequirePackage{nameref}[2012/07/28]

```

```

245 \RequirePackage{etoolbox}
246 \def\Hy@Error{\@PackageError{hyperref}}
247 \def\Hy@Warning{\@PackageWarning{hyperref}}
248 \def\Hy@WarningNoLine{\@PackageWarningNoLine{hyperref}}
249 \def\Hy@Info{\@PackageInfo{hyperref}}
250 \def\Hy@InfoNoLine{\@PackageInfoNoLine{hyperref}}
251 \def\Hy@Message#1{%
252   \GenericWarning{%
253     (hyperref)\@spaces\@spaces\@spaces\@spaces
254   }{%
255     Package hyperref Message: #1\ltx@gobble
256   }%
257 }

```

4.2 Version check

\Hy@VersionChecked

```

258 \chardef\Hy@VersionChecked=0 %

```

\Hy@VersionCheck

```

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

```

```

293      * \y: hyperref.sty\MessageBreak
294      * \z: \a
295      }\@ehd
296      \fi
297      \fi
298      }%
299      }%
300 \endgroup
301 \chardef\Hy@VersionChecked=1 %
302 }

```

\Hy@@VersionCheck

```

303 \def\Hy@@VersionCheck #1#2 #3 #4\@nil{%
304 \def#1{#2 #3}%
305 }

```

4.3 Checks with regular expressions

```

306 \ltx@ifundefined{pdfmatch}{%
307 \def\Hy@Match#1#2#3#4#5{%
308 }{%
309 \def\Hy@Match#1#2#3{%
310 \begingroup
311 \edef\~{\ltx@backslashchar\string~}%
312 \edef\.{\ltx@backslashchar.}%
313 \edef\[{\ltx@backslashchar[% ]}%
314 \edef\${\ltx@backslashchar$}%
315 \edef\({\ltx@backslashchar(}%
316 \edef\){\ltx@backslashchar)}%
317 \edef\|{\ltx@backslashchar|}%
318 \edef\*{\ltx@backslashchar*}%
319 \edef\+{\ltx@backslashchar+}%
320 \edef\?{\ltx@backslashchar?}%
321 \edef\{{\ltx@backslashchar\ltx@leftbracechar}%
322 \edef\}{\ltx@rightbracechar}%
323 \edef\\{\ltx@backslashchar\ltx@backslashchar}%
324 \let\ \ltx@space
325 \ifcase\pdfmatch#2{#3}{#1} %
326 \endgroup
327 \expandafter\ltx@secondoftwo
328 \or
329 \endgroup
330 \expandafter\ltx@firstoftwo
331 \else
332 \Hy@Warning{%
333 Internal error: Wrong pattern!\MessageBreak
334 --> #3 <--\MessageBreak
335 Pattern check ignored%
336 }%
337 \endgroup
338 \expandafter\ltx@firstoftwo
339 \fi
340 }%
341 }

```

4.4 Compatibility with format dumps

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

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

```
342 \@ifundefined{AfterBeginDocument}{%
343   \def\AfterBeginDocument{\AtBeginDocument}%
344 }{}%
```

`\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.

```
345 \def\Hy@AtBeginDocument{%
346   \ltx@LocalAppendToMacro\Hy@AtBeginDocumentHook
347 }
```

`\Hy@AtEndOfPackage`

```
348 \def\Hy@AtEndOfPackage{%
349   \ltx@LocalAppendToMacro\Hy@AtEndOfPackageHook
350 }
```

`\Hy@AtBeginDocumentHook`

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

`\Hy@AtEndOfPackageHook`

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

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

```
353 \AtEndOfPackage{%
354   \Hy@AtEndOfPackageHook
355   \let\Hy@AtEndOfPackageHook\@undefined
356   \AfterBeginDocument{%
357     \Hy@AtBeginDocumentHook}%
358   \let\Hy@AtBeginDocumentHook\@undefined
359 }%
360 }
```

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

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

4.5 Switches

```
362 \newif\ifHy@stoppeearly
363 \newif\ifHy@typexml
364 \newif\ifHy@activeanchor
365 \newif\ifHy@backref
366 \newif\ifHy@bookmarks
```

```

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

```

Defaults for the switches are now set.

```

412 \Hy@backreffalse
413 \Hy@bookmarksnumberedfalse
414 \Hy@bookmarksopenfalse
415 \Hy@bookmarkstrue
416 \Hy@breaklinksfalse
417 \Hy@pdfcenterwindowfalse
418 \Hy@CJKbookmarksfalse
419 \Hy@destlabelfalse

```



```

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

```

5 Common help macros

\Hy@StepCount

```

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

```

\Hy@GlobalStepCount

```

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

```

```

457 \newdimen\@linkdim
458 \let\Hy@driver\ltx@empty
459 \let\MaybeStopEarly\relax
460 \newcount\Hy@linkcounter
461 \newcount\Hy@pagecounter
462 \Hy@linkcounter0
463 \Hy@pagecounter0

```

5.1 Macros for recursions

```

464 \let\Hy@ReturnEnd\@empty
465 \long\def\Hy@ReturnAfterFiFiEnd#1\fi#2\Hy@ReturnEnd{\fi\fi#1}
466 \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.

```

467 \def\Hy@safe@activetrue{\csname @safe@activetrue\endcsname}
468 \def\Hy@safe@activesfalse{\csname @safe@activesfalse\endcsname}

```

5.3 Coordinate transformations

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

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

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

- It cannot be used inside `\usepackage`, because LaTeX expands the options before package `hyperref` is loaded and `\hypercalcbp` is defined.
- With the now required e-TeX extensions an expandable implementation is very easy; `\hypercalcbp` can be used everywhere and is expanded at use.

Example (TeX):

```

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

```

`\hypercalcbp`

```

469 \def\hypercalcbp#1{%
470   \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
471 }%
472 \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:

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

6.2 Definition of `\pdfstringdef`

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

Important: In 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 T_EX 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.

`\MakeUppercaseUnsupportedInPdfStrings`
`\MakeLowercaseUnsupportedInPdfStrings`

```

473 \providecommand*\BCPdata[1]{}
474 \ExplSyntaxOn
475 \@ifundefined{text_uppercase:n}{}
476 {
477   \def\MakeUppercaseUnsupportedInPdfStrings#1
478     {\use:e
479       {\exp_args:Ne
480         \text_uppercase:nn{\BCPdata { casing }}{#1}
481       }
482     }
483   \def\MakeLowercaseUnsupportedInPdfStrings#1
484     {\use:e
485       {\exp_args:Ne
486         \text_lowercase:nn{\BCPdata { casing }}{#1}
487       }
488     }
489 }
490 \ExplSyntaxOff

```

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

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

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

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

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

```
492 \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.

```
493 \escapechar`\\%
```

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

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

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

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

```
497 \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.

```
498 \ifHy@unicode
```

```
499 \edef\8{\string\8}%
```

```
500 \edef\9{\string\9}%
```

```
501 \fontencoding{PU}%
```

```

502 \HyPsd@UTFviii
503 \def\ifpdfstringunicode##1##2{##1}%
504 \else
505 \fontencoding{PD1}%
506 \def\ifpdfstringunicode##1##2{##2}%
507 \fi
508 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
509 \enc@update

```

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

```

510 \@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).

```

511 \let\@inmathwarn\HyPsd@inmathwarn

```

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

```

512 \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.

```

513 \let\{\textbraceleft
514 \let\}\textbraceright
515 \let\\\textbackslash
516 \let\#\textnumbersign
517 \let\$\textdollar
518 \let\%\textpercent
519 \let\&\textampersand
520 % \let\~\textasciitilde
521 \let\_ \textunderscore
522 \let\P\textparagraph
523 \let\ldots\textellipsis
524 \let\dots\textellipsis
525 \ltx@ifundefined{textEncodingNoboundary}%
526 {}{\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.

```
527 \def\{\pdfstringdefWarn\}%
528 \def\newline{\pdfstringdefWarn\newline}%
```

Logos. Because the box shifting used in the \TeX logo does not work while writing to a file, the standard \TeX logos are redefined. We use the direct PU code to avoid problems if `\textepsilon` is not defined.

```
529 \def\TeX{\TeX}%
530 \def\LaTeX{La\TeX}%
531 \def\LaTeXe{%
532   \LaTeX2%
533   \ifHy@unicode\83\265\else e\fi
534 }%
535 \def\eTeX{%
536   \ifHy@unicode\83\265\else e\fi
537   -\TeX%
538 }%
539 \def\SliTeX{Sli\TeX}%
540 \def\MF{Metafont}%
541 \def\MP{Metapost}%
```

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

```
542 \let\fontencoding\@gobble
543 \let\fontfamily\@gobble
544 \let\fontseries\@gobble
545 \let\fontshape\@gobble
546 \let\fontsize\@gobbletwo
547 \let\selectfont\@empty
548 \let\usefont\@gobblefour
549 \let\emph\@firstofone
550 \let\textnormal\@firstofone
551 \let\textrm\@firstofone
552 \let\textsf\@firstofone
553 \let\texttt\@firstofone
554 \let\textbf\@firstofone
555 \let\textmd\@firstofone
556 \let\textit\@firstofone
557 \let\textsc\@firstofone
558 \let\textsl\@firstofone
559 \let\textup\@firstofone
560 \let\normalfont\@empty
561 \let\rmfamily\@empty
```

```

562 \let\sfamily\@empty
563 \let\ttfamily\@empty
564 \let\bfseries\@empty
565 \let\mdseries\@empty
566 \let\itshape\@empty
567 \let\scshape\@empty
568 \let\slshape\@empty
569 \let\upshape\@empty
570 \let\em\@empty
571 \let\rm\@empty
572 \let\Huge\@empty
573 \let\LARGE\@empty
574 \let\Large\@empty
575 \let\footnotesize\@empty
576 \let\huge\@empty
577 \let\large\@empty
578 \let\normalsize\@empty
579 \let\scriptsize\@empty
580 \let\small\@empty
581 \let\tiny\@empty
582 \let\mathversion\@gobble
583 \let\phantom\@gobble
584 \let\vphantom\@gobble
585 \let\hphantom\@gobble

```

Package pifont.

```

586 \let\ding\HyPsd@ding
587 \let\Cube\HyPsd@DieFace
588 %* \HyPsd@DieFace -> \epsdice (epsdice)
589 %* \HyPsd@DieFace -> \fcdice (hhcount)

```

Environments.

```

590 \def\begin##1{\csname##1\endcsname}%
591 \def\end##1{\csname end##1\endcsname}%

```

Package color.

```

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

```

Upper- and lowercase.

```

593 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
594 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

595 \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.

```

596 \ifHy@psdextra
597 \ifHy@unicode

```

```

598     \csname psdmapshortnames\endcsname
599     \csname psdaliasnames\endcsname
600     \fi
601     \fi

```

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

```

602     \let\foreignlanguage\@secondoftwo
603     \let\textlatin\@firstofone
604     \ltx@ifundefined{language@group}{\relax}{%
605         \let\bbl@info\@gobble
606         \csname HyPsd@babel@\language@group\endcsname
607     }%

608     \let\@safe@activetrue\relax
609     \let\@safe@activesfalse\relax

    Disable \cyr, used in russianb.ldf.
610     \let\cyr\relax

```

Package german.

```

611     \let\glqq\textglqq
612     \let\grqq\textgrqq
613     \let\glq\textglq
614     \let\grq\textgrq
615     \let\flqq\textflqq
616     \let\frqq\textfrqq
617     \let\flq\textflq
618     \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}

619     \let\if@mid@expandable\@firstoftwo

```

AMS classes.

```

620     \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.

```

621     \let\hspace\HyPsd@hspace

```


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

```
622 \let\label\@gobble
623 \let\index\@gobble
624 \let\glossary\@gobble
625 \let\href\HyPsd@href
626 \let\@mkboth\@gobbletwo
```

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

```
627 \let\ref\HyPsd@ref
628 \let\pageref\HyPsd@pageref
629 \let\nameref\HyPsd@nameref
630 \let\autoref\HyPsd@autoref
```

Miscellaneous commands.

```
631 \let\leavevmode\@empty
632 \let\mbox\@empty
```

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

```
633 \def\halign{\pdfstringdefWarn\halign\@gobble}%
634 \let\ignorespaces\HyPsd@ignorespaces
635 \let\Hy@SectionAnchorHref\@gobble
636 \let\ensuremath\@firstofone
```

Patch for cjk bookmarks.

```
637 \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 T_EX'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 \pdfstringdef-PreHook.

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).

```
638 \Hy@pdfstringtrue
639 \pdfstringdefPreHook
```

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

```
640 \HyPsd@LetUnexpandableSpace\space
641 \HyPsd@LetUnexpandableSpace\ %
642 \HyPsd@LetUnexpandableSpace~%
643 \HyPsd@LetUnexpandableSpace\nobreakspace
```

Package xspace.

```
644 \ltx@ifundefined{@xspace}{%
645 \let\xspace\HyPsd@ITALCORR
646 }{%
647 \let\xspace\HyPsd@XSPACE
648 }%
649 \let\/\HyPsd@ITALCORR
650 \let\bgroup\/%
651 \let\egroup\/%
```

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
652 \let\discretionary\@gobbletwo
```

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

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

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

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

```
653 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
654 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
655 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
656 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

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

6.2.2 Expansion

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

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

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

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

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

```
658 \begingroup
659 \let\GenericError\@gobblefour
660 \let\GenericWarning\@gobbletwo
661 \let\GenericInfo\@gobbletwo
```

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

```
662 \ifx\nofrenchguillemets\@undefined
663 \else
664 \nofrenchguillemets
665 \fi
```

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

```
666 \let\Hy@temp\xdef
667 \let\def\HyPsd@DefCommand
668 \let\gdef\HyPsd@DefCommand
669 \let\edef\HyPsd@DefCommand
670 \let\xdef\HyPsd@DefCommand
671 \let\futurelet\HyPsd@LetCommand
672 \let\let\HyPsd@LetCommand
673 \Hy@temp#1{#2}%
674 \endgroup
```

6.2.3 Postprocessing

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

```
675 \ifx#1\@empty
676 \else
```

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

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

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

```

677 \HyPsd@ProtectSpaces#1%
678 \let\HyPsd@String\@empty
679 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
680 \global\let#1\HyPsd@String

```

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

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

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

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

```

681 \let\HyPsd@SPACEOPTI\relax
682 {%
683 \let\HyPsd@String\@empty
684 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
685 \global\let#1\HyPsd@String
686 }%
687 \expandafter\HyPsd@RemoveMask\expandafter
688 |\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.

```
689 \expandafter
690 \HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
691 \let\HyPsd@String\@empty
692 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
693 \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.

```
694 \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.

```
695 \ifHy@unicode
696 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
697 \HyPsd@SPACEOPTI#1%
698 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
699 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
700 {\HyPsd@SPACEOPTI\80\273}#1%
701 \else
702 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
703 \expandafter\HyPsd@Subst\expandafter{%
704 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
705 \string\273}\HyPsd@SPACEOPTI\273}#1%
706 \fi
```

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

```
707 \ifHy@unicode
708 \HyPsd@StringSubst{\)}{\80\051}#1%
709 \HyPsd@Subst){\80\051}#1%
```

```

710 \let\HyPsd@empty\relax
711 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
712 {\HyPsd@empty\80\051}#1%
713 \else
714 \HyPsd@StringSubst{\}){\051}#1%
715 \HyPsd@Subst){\051}#1%
716 \let\HyPsd@empty\relax
717 \HyPsd@StringSubst{\051}{\HyPsd@empty\string\}){\051}#1%
718 \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`.

```

719 \expandafter\HyPsd@Subst\expandafter{\}/\HyPsd@empty#1%
720 \ltx@ifundefined{@xspace}{%
721 }{%
722 \let\HyPsd@xspace\relax
723 \expandafter\HyPsd@Subst\expandafter
724 {\HyPsd@XSPACE}\HyPsd@xspace#1%
725 \let\HyPsd@xspace\HyPsd@doxspace
726 }%
727 \xdef#1{#1\HyPsd@empty}%

```

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

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

```

728 \HyPsd@Subst{---}\textemdash#1%
729 \HyPsd@Subst{--}\textendash#1%
730 % \HyPsd@Subst{fi}\textfi#1%
731 % \HyPsd@Subst{fl}\textfl#1%
732 \HyPsd@Subst{!~}\textexclamdown#1%
733 \HyPsd@Subst{?~}\textquestiondown#1%

```

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

```
734 \let\HyPsd@empty\@empty
```

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

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

```
735 \ifHy@unicode
736 \HyPsd@StringSubst\(\textparenleft#1%
737 \HyPsd@Subst(\textparenleft#1%
738 \else
739 \HyPsd@StringSubst\({\050}#1%
740 \HyPsd@Subst({\050}#1%
741 \HyPsd@StringSubst{\050}{\string\}#1%
742 \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.

```
743 \ifHy@unicode
744 \edef\HyPsd@SPACEOPTI{\80\040}%
745 \else
746 \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
747 \fi
748 \xdef#1{#1\@empty}%
749 \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.

```
750 \endgroup
751 \begingroup
752 \ifHy@unicode
753 \HyPsd@ConvertToUnicode#1%
```

Try conversion back to PDFDocEncoding.

```
754 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
755 \ltx@ifundefined{StringEncodingConvertTest}{%
756 }{%
757 \EdefUnescapeString\HyPsd@temp#1%
758 \iftutex
759 \let\HyPsd@UnescapedString\HyPsd@temp
760 \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
761 {utf16be}{ascii-print}{%
762 \EdefEscapeString\HyPsd@temp\HyPsd@temp
763 \global\let#1\HyPsd@temp
764 \HyPsd@EscapeTeX#1%
765 \Hy@unicodedefalse
766 }{%
```

```

767      \HyPsd@EscapeTeX#1%
768    }%
769  \else
770    \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
771      {utf16be}{pdfdoc}{%
772      \EdefEscapeString\HyPsd@temp\HyPsd@temp
773      \global\let#1\HyPsd@temp
774      \HyPsd@EscapeTeX#1%
775      \Hy@unicodedefalse
776    }{}%
777  \fi
778 }%
779 \fi
780 \fi

```

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

```

781 \pdfstringdefPostHook#1%
782 \endgroup
783 }

```

`\Hy@pdfstringdef`

```

784 \def\Hy@pdfstringdef#1#2{%
785 \pdfstringdef\Hy@gtemp{#2}%
786 \let#1\Hy@gtemp
787 }

```

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

```

788 \@ifpackageloaded{linguex}{%
789 \let\HyLinguex@OrgB\b
790 \let\HyLinguex@OrgC\c
791 \let\HyLinguex@OrgD\d
792 \def\HyLinguex@Restore{%
793 \let\b\HyLinguex@OrgB
794 \let\c\HyLinguex@OrgC
795 \let\d\HyLinguex@OrgD
796 }%
797 \Hy@AtEndOfPackage{%
798 \pdfstringdefDisableCommands{%
799 \ltx@ifundefined{oldb}{\let\b\oldb}%
800 \ltx@ifundefined{oldc}{\let\c\oldc}%
801 \ltx@ifundefined{oldd}{\let\d\oldd}%
802 }%
803 }%
804 }{%

```



```

805 \let\HyLinguex@Restore\relax
806 }%

```

6.3.3 Catcodes saving and restoring for .def files

\Hy@SaveCatcodeSettings

```

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

```

\Hy@RestoreCatcodeSettings

```

851 \def\Hy@RestoreCatcodeSettings#1{%
852 \csname Hy@cat@#1\endcsname
853 \expandafter\let\csname Hy@cat@#1\endcsname\relax

```

854 }

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.

```

855 \@ifundefined{T@PD1}{%
856   \Hy@SaveCatcodeSettings{pd1}%
857   \input{pd1enc.def}%
858   \Hy@RestoreCatcodeSettings{pd1}%
859   \HyLinguex@Restore
860 }{}
861 \DeclareFontFamily{PD1}{pdf}{}
862 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
863 \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`.

```

864 \def\HyPsd@LoadUnicode{%
865   \@ifundefined{T@PU}{%
866     \Hy@SaveCatcodeSettings{pu}%
867     \input{puenc.def}%
868     \Hy@RestoreCatcodeSettings{pu}%
869     \HyLinguex@Restore
870   }{}%
871   \DeclareFontFamily{PU}{pdf}{}%
872   \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
873   \DeclareFontSubstitution{PU}{pdf}{m}{n}%
874   \HyPsd@LoadExtra
875   \let\HyPsd@LoadUnicode\relax
876 }

```

`\HyPsd@LoadExtra`

```

877 \def\HyPsd@LoadExtra{%
878   \ifHy@psdextra
879     \ltx@iffileloaded{puenc.def}{%
880       \Hy@SaveCatcodeSettings{psdextra}%
881       \input{psdextra.def}%
882       \Hy@RestoreCatcodeSettings{psdextra}%
883       \let\HyPsd@LoadExtra\relax

```

```

884   }{}%
885   \fi
886 }

```

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.

```

887 \def\texorpdfstring{%
888   \ifHy@pdfstring
889     \expandafter\@secondoftwo
890   \else
891     \expandafter\@firstoftwo
892   \fi
893 }

```

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`.

```

894 \@ifundefined{pdfstringdefPreHook}{%
895   \let\pdfstringdefPreHook\@empty
896 }{}
897 \@ifundefined{pdfstringdefPostHook}{%
898   \let\pdfstringdefPostHook\@gobble
899 }{}

```

`\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`.

```

900 \def\pdfstringdefDisableCommands{%
901   \begingroup
902     \makeatletter
903     \HyPsd@DisableCommands
904 }

```

`\HyPsd@DisableCommands`

```
905 \long\def\HyPsd@DisableCommands#1{%
906   \ltx@GlobalAppendToMacro\pdfstringdefPreHook{#1}%
907   \endgroup
908 }
```

`\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`.

```
909 \def\pdfstringdefWarn#1{%
910   \expandafter\noexpand\csname<>-string#1\endcsname
911 }
```

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.

```
912 \begingroup
913   \catcode0=12 %
914   \def\x{\endgroup
915     \def\HyPsd@ignorespaces{%
916       \romannumeral\expandafter`\expandafter^^@%
917       \romannumeral^^@%
918     }%
919   }%
920 \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.

```
921 \newif\ifHy@next
922 </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.

```
923 <*package>
```

6.5.3 CJK patch

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

```
\HyPsd@CJKhook
```

```
925 \def\HyPsd@CJKhook{%
926   \ltx@ifpackageloaded{CJK}{%
927     \let\CJK@kern\relax
928     \let\CJKkern\relax
929     \let\CJK@CJK\relax
930     \ifHy@CJKbookmarks
931       \HyPsd@CJKhook@bookmarks
932     \fi
933     \HyPsd@CJKhook@unicode
934   }{}%
935 }
```

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 ($\geq 0x40$).

```
936 \begingroup
937   \catcode"7F=\active
938   \toks@{%
939     \let\CJK@ignorespaces\empty
940     \def\CJK@char#1{\@gobbletwo}%
941     \let\CJK@charx\@gobblefour
942     \let\CJK@punctchar\@gobblefour
943     \def\CJK@punctcharx#1{\@gobblefour}%
944     \catcode"7F=\active
945     \def^^7f#1^^7f#2^^7f{%
946       \string #1\HyPsd@DecimalToOctal{#2}%
```

```

947 }%
948 % ... ?
949 \ifHy@unicode
950 \def\Hy@cjkpu{\80}%
951 \else
952 \let\Hy@cjkpu\@empty
953 \fi
954 \HyPsd@CJKActiveChars
955 }%
956 \count@=127 %
957 \@whilenum\count@<255 \do{%
958 \advance\count@ by 1 %
959 \lccode\~=\count@
960 \lowercase{%
961 \toks@\expandafter{\the\toks@ ~}%
962 }%
963 }%
964 \toks@\expandafter{\the\toks@ !}%
965 \xdef\HyPsd@CJKhook@bookmarks{%
966 \the\toks@
967 }%
968 \endgroup

```

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

```

969 \def\HyPsd@CJKActiveChars#1{%
970 \ifx#1!%
971 \let\HyPsd@CJKActiveChars\relax
972 \else
973 \edef#1{\noexpand\Hy@cjkpu\string#1}%
974 \fi
975 \HyPsd@CJKActiveChars
976 }

```

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

```

977 \def\HyPsd@DecimalToOctal#1{%
978 \ifcase #1 %
979 \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
980 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
981 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
982 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
983 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
984 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
985 \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
986 \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
987 \or @\or A\or B\or C\or D\or E\or F\or G%
988 \or H\or I\or J\or K\or L\or M\or N\or O%
989 \or P\or Q\or R\or S\or T\or U\or V\or W%
990 \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
991 \or \140\or a\or b\or c\or d\or e\or f\or g%
992 \or h\or i\or j\or k\or l\or m\or n\or o%
993 \or p\or q\or r\or s\or t\or u\or v\or w%
994 \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%
995 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%

```

```

996 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
997 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
998 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
999 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1000 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1001 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1002 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1003 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1004 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1005 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1006 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1007 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1008 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1009 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1010 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1011 \fi
1012 }

```

6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1013 \def\HyPsd@CJKhook@unicode{%
1014 \let\Unicode\HyPsd@CJK@Unicode
1015 \let\CJKnumber\HyPsd@CJKnumber
1016 \let\CJKdigits\HyPsd@CJKdigits
1017 }

```

\HyPsd@CJK@Unicode

```

1018 \def\HyPsd@CJK@Unicode#1#2{%
1019 \ifnum#1<256 %
1020 \HyPsd@DecimalToOctalFirst{#1}%
1021 \HyPsd@DecimalToOctalSecond{#2}%
1022 \else
1023 \933%
1024 \expandafter\expandafter\expandafter\HyPsd@HighA
1025 \intcalcDiv{#1}{4}!%
1026 \933%
1027 \ifcase\intcalcMod{#1}{4} %
1028 4\or 5\or 6\or 7%
1029 \fi
1030 \HyPsd@DecimalToOctalSecond{#2}%
1031 \fi
1032 }

1033 \def\HyPsd@HighA#1!{%
1034 \expandafter\expandafter\expandafter\HyPsd@HighB
1035 \IntCalcDiv#1!64!!%
1036 \expandafter\expandafter\expandafter\HyPsd@HighD
1037 \IntCalcMod#1!64!!%
1038 }

1039 \def\HyPsd@HighB#1!{%
1040 \expandafter\expandafter\expandafter\HyPsd@HighC
1041 \IntCalcDec#1!!%
1042 }

```

```

1043 \def\HyPsd@HighC#1!{%
1044   \IntCalcDiv#1!4!%
1045   \@backslashchar
1046   \IntCalcMod#1!4!%
1047 }
1048 \def\HyPsd@HighD#1!{%
1049   \ifcase\IntCalcDiv#1!8! %
1050     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1051   \fi
1052   \ifcase\IntCalcMod#1!8! %
1053     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1054   \fi
1055 }
1056 \def\HyPsd@DecimalToOctalFirst#1{%
1057   \9%
1058   \ifcase#1 %
1059     000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1060     \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1061     \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1062     \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1063     \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1064     \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1065     \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1066     \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1067     \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1068     \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1069     \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1070     \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1071     \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1072     \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1073     \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1074     \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1075     \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1076     \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1077     \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1078     \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1079     \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1080     \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1081     \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1082     \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1083     \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1084     \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1085     \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1086     \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1087     \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1088     \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1089     \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1090     \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1091   \fi
1092 }
1093 \def\HyPsd@DecimalToOctalSecond#1{%
1094   \ifcase #1 %
1095     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
1096     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%

```



```

1097 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1098 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1099 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1100 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1101 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1102 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1103 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1104 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1105 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1106 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1107 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1108 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1109 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1110 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1111 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1112 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1113 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1114 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1115 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1116 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1117 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1118 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1119 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1120 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1121 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1122 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1123 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1124 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1125 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1126 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1127 \fi
1128 }

1129 \def\HyPsd@CJKnumber#1{%
1130 \ifnum#1<\z@
1131 \CJK@minus
1132 \expandafter\HyPsd@@CJKnumber\expandafter{\number-\number#1}%
1133 \else
1134 \expandafter\HyPsd@@CJKnumber\expandafter{\number#1}%
1135 \fi
1136 }

1137 \def\HyPsd@@CJKnumber#1{%
1138 \ifcase#1 %
1139 \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1140 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1141 \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or
1142 \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1143 \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1144 \CJK@ten\CJK@nine
1145 \else
1146 \ifnum#1<10000 %
1147 \HyPsd@CJKnumberFour#1!\@empty{20}%
1148 \@empty
1149 \else
1150 \ifnum#1<100000000 %

```

```

1151 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1152 \IntCalcDiv#1!10000!%
1153 !\CJK@zero{10}%
1154 \CJK@tenthousand
1155 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1156 \IntCalcMod#1!10000!%
1157 !\CJK@zero{10}%
1158 \@empty
1159 \else
1160 \expandafter\HyPsd@CJKnumberLarge
1161 \number\IntCalcDiv#1!100000000!\expandafter!%
1162 \number\IntCalcMod#1!100000000!!%
1163 \fi
1164 \fi
1165 \fi
1166 }
1167 \def\HyPsd@CJKnumberLarge#1!#2!{%
1168 \HyPsd@CJKnumberFour#1!{20}%
1169 \CJK@hundredmillion
1170 \ifnum#2=\z@
1171 \else
1172 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1173 \IntCalcDiv#2!10000!%
1174 !\CJK@zero{10}%
1175 \CJK@tenthousand
1176 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1177 \IntCalcMod#2!10000!%
1178 !\CJK@zero{10}%
1179 \@empty
1180 \fi
1181 }
1182 \def\HyPsd@CJKnumberFour#1!#2#3{%
1183 \ifnum#1=\z@
1184 \expandafter\@gobble
1185 \else
1186 \ifnum#1<1000 %
1187 #2%
1188 \HyPsd@CJKnumberThree#1!{3}%
1189 \else
1190 \HyPsd@@@CJKnumber{\IntCalcDiv#1!1000!}%
1191 \CJK@thousand
1192 \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1193 \IntCalcMod#1!1000!%
1194 !\CJK@zero{10}%
1195 \fi
1196 \fi
1197 }
1198 \def\HyPsd@CJKnumberThree#1!#2#3{%
1199 \ifnum#1=\z@
1200 \else
1201 \ifnum#1<100 %
1202 #2%
1203 \HyPsd@CJKnumberTwo#1!{3}%
1204 \else

```

```

1205 \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1206 \CJK@hundred
1207 \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1208 \IntCalcMod#1!100!%
1209 !\CJK@zero{10}%
1210 \fi
1211 \fi
1212 }
1213 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1214 \ifnum#1=\z@
1215 \else
1216 \ifnum#1<#3 %
1217 #2%
1218 \HyPsd@@CJKnumber{#1}%
1219 \else
1220 \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1221 \CJK@ten
1222 \ifnum\IntCalcMod#1!10!=\z@
1223 \else
1224 \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1225 \fi
1226 \fi
1227 \fi
1228 }
1229 \def\HyPsd@CJKdigits#1{%
1230 \ifx*#1\relax
1231 \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1232 \else
1233 \HyPsd@@CJKdigits\CJK@null{#1}%
1234 \fi
1235 }
1236 \def\HyPsd@@CJKdigits#1#2{%
1237 \ifx\#2\%
1238 \else
1239 \HyPsd@@@CJKdigits#1#2\@nil
1240 \fi
1241 }%
1242 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1243 \HyPsd@CJKdigit#1{#2}%
1244 \ifx\#3\%
1245 \expandafter\@gobble
1246 \else
1247 \expandafter\@firstofone
1248 \fi
1249 {%
1250 \HyPsd@@@CJKdigits#1#3\@nil
1251 }%
1252 }
1253 \def\HyPsd@CJKdigit#1#2{%
1254 \ifcase#2 %
1255 #1\or
1256 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1257 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine
1258 \fi

```

6.5.6 \@inmathwarn-Patch

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

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

```

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

1260 \def\HyPsd@inmathwarn#1#2{%
1261   \ifx#2\expandafter
1262     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1263       \HyPsd@GLYPHERR
1264       \expandafter\@gobble\string#1%
1265       >%
1266       \expandafter\expandafter\expandafter\HyPsd@EndWithElse

```

```

1267 \else
1268 \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1269 \fi
1270 \else
1271 \expandafter#2%
1272 \fi
1273 }
1274 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1275 \def\HyPsd@EndWithElse#1\else{\else}

```

`\HyPsd@add@accent`

```

1276 \def\HyPsd@add@accent#1#2{%
1277 \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1278 #2%
1279 }%

```

6.5.7 Unexpandable spaces

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

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

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

```

1280 \def\HyPsd@LetUnexpandableSpace#1{%
1281 \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1282 }

```

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

```

1283 \HyPsd@LetUnexpandableSpace\HyPsd@UnexpandableSpace

```

6.5.8 Marker for commands

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

```

1284 \edef\HyPsd@XSPACE{\string#\string X}
1285 \edef\HyPsd@ITALCORR{\string#\string I}
1286 \edef\HyPsd@GLYPHERR{\string#\string G}

```

6.5.9 `\hspace` fix

`\HyPsd@hspace`

```

1287 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*END}

```

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

```

1288 \def\HyPsd@@hspace#1*#2END{%
1289 \ifx\#2\%

```

```

1290 \HyPsd@hspacetest{#1}%
1291 \else
1292 \expandafter\HyPsd@hspacetest
1293 \fi
1294 }

```

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

```

1295 \def\HyPsd@hspacetest#1{\ifdim\dimexpr#1\relax>\z@\space\fi}

```

6.5.10 Fix for AMS classes

```

1296 \ltx@ifundefined{tocsection}{%
1297 \let\HyPsd@AMSclassfix\relax
1298 }{%
1299 \def\HyPsd@AMSclassfix{%
1300 \let\tocpart\HyPsd@tocsection
1301 \let\tocchapter\HyPsd@tocsection
1302 \let\tocappendix\HyPsd@tocsection
1303 \let\tocsection\HyPsd@tocsection
1304 \let\tocsubsection\HyPsd@tocsection
1305 \let\tocsubsubsection\HyPsd@tocsection
1306 \let\tocparagraph\HyPsd@tocsection
1307 }%
1308 \def\HyPsd@tocsection#1#2#3{%
1309 \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
1310 #3%
1311 }%
1312 }

```

6.5.11 Reference commands

`\HyPsd@href`

```

1313 \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.

```

1314 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%

```

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

```

1315 \def\HyPsd@@ref#1*#2\END{%
1316 \ifx\#2\%
1317 \HyPsd@@@ref{#1}%
1318 \else
1319 \expandafter\HyPsd@@@ref
1320 \fi
1321 }%

```

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

```

1322 \def\HyPsd@@@ref#1{%
1323 \expandafter\ifx\csname r@#1\endcsname\relax
1324 ??%
1325 \else
1326 \expandafter\expandafter\expandafter

```

```

1327 \car\csname r@#1\endcsname\@nil
1328 \fi
1329 }

```

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

```

1330 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*END}

```

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

```

1331 \def\HyPsd@@pageref#1*#2END{%
1332 \ifx\#2\%
1333 \HyPsd@@@pageref{#1}%
1334 \else
1335 \expandafter\HyPsd@@@pageref
1336 \fi
1337 }

```

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

```

1338 \def\HyPsd@@@pageref#1{%
1339 \expandafter\ifx\csname r@#1\endcsname\relax
1340 ??%
1341 \else
1342 \expandafter\expandafter\expandafter\expandafter
1343 \expandafter\expandafter\expandafter\@car
1344 \expandafter\expandafter\expandafter\@gobble
1345 \csname r@#1\endcsname{}\@nil
1346 \fi
1347 }

```

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

```

1348 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*END}

```

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

```

1349 \def\HyPsd@@nameref#1*#2END{%
1350 \ifx\#2\%
1351 \HyPsd@@@nameref{#1}%
1352 \else
1353 \expandafter\HyPsd@@@nameref
1354 \fi
1355 }

```

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

```

1356 \def\HyPsd@@@nameref#1{%
1357 \expandafter\ifx\csname r@#1\endcsname\relax
1358 ??%
1359 \else
1360 \expandafter\expandafter\expandafter\expandafter
1361 \expandafter\expandafter\expandafter\@car
1362 \expandafter\expandafter\expandafter\@gobbletwo
1363 \csname r@#1\endcsname{}\@nil
1364 \fi
1365 }

```

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

```
1366 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}
```

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

```
1367 \def\HyPsd@@autoref#1*#2\END{%
1368   \ifx\#2\%
1369     \HyPsd@@@autoref{#1}%
1370   \else
1371     \expandafter\HyPsd@@@autoref
1372   \fi
1373 }
```

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

```
1374 \def\HyPsd@@@autoref#1{%
1375   \expandafter\ifx\csname r@#1\endcsname\relax
1376     ??%
1377   \else
1378     \expandafter\expandafter\expandafter\HyPsd@autorefname
1379       \csname r@#1\endcsname\relax\@nil
1380     \expandafter\expandafter\expandafter
1381       \@car\csname r@#1\endcsname\@nil
1382   \fi
1383 }
```

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

```
1384 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1385   \ifx\#4\%
1386   \else
1387     \HyPsd@@autorefname#4.\@nil
1388   \fi
1389 }
```

`\HyPsd@@autorefname`

```
1390 \def\HyPsd@@autorefname#1.#2\@nil{%
1391   \ltx@ifundefined{#1autorefname}{%
1392     \ltx@ifundefined{#1name}{%
1393       }{%
1394         \csname#1name\endcsname\space
1395       }%
1396     }{%
1397       \csname#1autorefname\endcsname\space
1398     }%
1399 }
```

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 1400 \begingroup
1401 \def\x#1#2{%
1402 \endgroup
1403 \let#1\def
1404 \def\HyPsd@DefCommand##1##2###{%
1405 #1%
1406 \expandafter\noexpand
1407 \csname\expandafter\@gobble\string##1\@empty\endcsname
1408 \@gobble
1409 }%
1410 \let#2\let
1411 \def\HyPsd@@LetCommand##1{%
1412 \expandafter\ifx\csname##1\expandafter\endcsname
1413 \csname iftrue\endcsname
1414 \pdfstringdefWarn\let
1415 \expandafter\@gobble
1416 \else
1417 \expandafter\ifx\csname##1\expandafter\endcsname
1418 \csname iffalse\endcsname
1419 \pdfstringdefWarn\let
1420 \expandafter\expandafter\expandafter\@gobble
1421 \else
1422 #2%
1423 \expandafter\noexpand
1424 \csname##1\expandafter\expandafter\expandafter\endcsname
1425 \fi
1426 \fi
1427 }%
1428 }%
```

```

1429 \expandafter\x\csname <def>-command\expandafter\endcsname
1430         \csname <let>-command\endcsname
1431 \def\HyPsd@LetCommand#1{%
1432 \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1433 \expandafter\expandafter\expandafter{%
1434 \expandafter\@gobble\string#1\@empty
1435 }%
1436 }

```

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).

```

1437 \def\HyPsd@ifnextchar#1{%
1438 \pdfstringdefWarn#1%
1439 \expandafter\@gobbletwo\@gobble
1440 }

```

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`.

```

1441 \def\HyPsd@protected@testopt#1{%
1442 \pdfstringdefWarn#1%
1443 \@gobbletwo
1444 }

```

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:

```

1445 \def\HyPsd@Warning#1{%
1446 \begingroup
1447 \let\space\ltx@space
1448 \Hy@Warning{#1}%
1449 \endgroup
1450 }

```

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`.

```

1451 \let\HyPsd@fi\fi
1452 \def\HyPsd@ProtectSpaces#1{%
1453   \xdef#1{%
1454     \iftrue
1455       \expandafter\HyPsd@@ProtectSpacesFi
1456       \expandafter|\expandafter\@empty#1| %
1457       \HyPsd@fi
1458   }%
1459   \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1460 }%
```

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

```

1461 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1462   \fi
1463   \unexpanded{#1}%
1464   \ifx\scrollmode#2\scrollmode
1465   \else
1466     \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1467   \HyPsd@fi
1468 }%
```

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.

```

1469 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1470   \xdef#2{\unexpanded\expandafter{#1}}%
1471 }%
```

6.6.3 Remove grouping braces

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

```

1472 \def\HyPsd@RemoveBraces#1{%
1473   \ifx\scrollmode#1\scrollmode
1474   \else
1475     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1476   \fi
1477 }
```

`\HyPsd@@RemoveBraces` `\HyPsd@@RemoveBraces` is called with the expanded string, the end marked by `\HyPsd@End`, the expanded string again, but enclosed in braces and the string command. The first expanded string is scanned by the parameter text `#1#2`. By a comparison with the original form in `#3` we can decide whether `#1` is a single

token or a group. To avoid the case that `#2` is a group, the string is extended by a `|` before.

While removing the grouping braces an italic correction marker is inserted for supporting package `xspace` and letting ligatures broken.

Because the string is already expanded, the `\if` commands should disappeared. So we can move some parts out of the argument of `\ltx@ReturnAfterFi`.

```

1478 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1479   \fi
1480   \def\Hy@temp@A{#1#2}%
1481   \def\Hy@temp@B{#3}%
1482   \ifx\Hy@temp@A\Hy@temp@B
1483     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1484       \HyPsd@String#1%
1485     }%
1486     \ifx\scrollmode#2\scrollmode
1487       \else
1488         \Hy@ReturnAfterFiFiEnd{%
1489           \HyPsd@RemoveBraces{#2}%
1490         }%
1491       \fi
1492     \else
1493       \def\Hy@temp@A{#1}%
1494       \HyPsd@AppendItalcrr\HyPsd@String
1495       \ifx\Hy@temp@A\@empty
1496         \Hy@ReturnAfterElseFiFiEnd{%
1497           \HyPsd@RemoveBraces{#2}%
1498         }%
1499       \else
1500         \HyPsd@ProtectSpaces\Hy@temp@A
1501         \HyPsd@AppendItalcrr\Hy@temp@A
1502         \Hy@ReturnAfterFiFiEnd{%
1503           \expandafter\HyPsd@RemoveBraces\expandafter
1504             {\Hy@temp@A#2}%
1505         }%
1506       \fi
1507     \fi
1508   \Hy@ReturnEnd
1509 }
```

`\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`.

```

1510 \def\HyPsd@AppendItalcrr#1{%
1511   \expandafter\HyPsd@@AppendItalcrr\expandafter{\/#1%
1512 }
1513 \def\HyPsd@@AppendItalcrr#1#2{%
1514   \expandafter\def\expandafter#2\expandafter{#2#1}%
1515 }
```

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.luaotex.org/view.php?id=773>.

```

1516 \ltx@ifundefined{directlua}{%
1517 }{%
1518 \expandafter\ifx\csname\endcsname\relax\fi
1519 }

```

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.

```

1520 \begingroup
1521 \catcode`\Q=\active
1522 \let Q\ltx@empty
1523 \gdef\HyPsd@CheckCatcodes#1#2\HyPsd@end{%
1524 \global\let\HyPsd@Rest\relax
1525 \ifcat\relax\noexpand#1\relax
1526 \ifx#1\protect
1527 \else
1528 \ifx#1\penalty
1529 \setbox\z@=\hbox{%
1530 \afterassignment\HyPsd@AfterCountRemove
1531 \count@=#2\HyPsd@end
1532 }%
1533 \else
1534 \ifx#1\kern
1535 \setbox\z@=\hbox{%
1536 \afterassignment\HyPsd@AfterDimenRemove
1537 \dimen@=#2\HyPsd@end
1538 }%
1539 \else
1540 \ifx#1\hskip
1541 \setbox\z@=\hbox{%
1542 \afterassignment\HyPsd@AfterSkipRemove
1543 \skip@=#2\HyPsd@end
1544 }%
1545 \else
1546 \HyPsd@CatcodeWarning{#1}%
1547 \fi
1548 \fi
1549 \fi
1550 \fi
1551 \else
1552 \ifcat\noexpand#1\noexpandQ% active character
1553 \expandafter\expandafter\expandafter\def

```

```

1554 \expandafter\expandafter\expandafter\HyPsd@String
1555 \expandafter\expandafter\expandafter{%
1556 \expandafter\HyPsd@String\string#1%
1557 }%
1558 \else
1559 \ifcat#1A% letter
1560 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1561 \HyPsd@String#1%
1562 }%
1563 \else
1564 \ifcat#1 % SPACE
1565 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1566 \HyPsd@String\HyPsd@SPACEOPTI
1567 }%
1568 \else
1569 \ifcat$#1%
1570 \HyPsd@CatcodeWarning{math shift}%
1571 \else
1572 \ifcat&#1%
1573 \HyPsd@CatcodeWarning{alignment tab}%
1574 \else
1575 \ifcat^#1%
1576 \HyPsd@CatcodeWarning{superscript}%
1577 \else
1578 \ifcat_#1%
1579 \HyPsd@CatcodeWarning{subscript}%
1580 \else
1581 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1582 \HyPsd@String#1%
1583 }%
1584 \fi
1585 \fi
1586 \fi
1587 \fi
1588 \fi
1589 \fi
1590 \fi
1591 \fi
1592 \ifx\HyPsd@Rest\relax
1593 \ifx\scrollmode#2\scrollmode
1594 \else
1595 \Hy@ReturnAfterFiFiEnd{%
1596 \HyPsd@CheckCatcodes#2\HyPsd@End
1597 }%
1598 \fi
1599 \else
1600 \ifx\HyPsd@Rest\@empty
1601 \else
1602 \Hy@ReturnAfterFiFiEnd{%
1603 \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1604 }%
1605 \fi
1606 \fi
1607 \Hy@ReturnEnd

```

```

1608 }%
1609 \endgroup

```

Remove counts, dimens, skips.

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

```

1610 \def\HyPsd@AfterCountRemove#1\HyPsd@end{%
1611   \gdef\HyPsd@Rest{#1}%
1612 }

```

`\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.

```

1613 \def\HyPsd@AfterDimenRemove#1\HyPsd@end{%
1614   \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1615     \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1616     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1617   \else
1618     \ifdim\dimen@=\z@
1619     \else
1620       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1621     \fi
1622     \gdef\HyPsd@Rest{#1}%
1623   \fi
1624 }

```

`\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).

```

1625 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1626   \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>1ex %
1627     \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1628     \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1629   \else
1630     \ifdim\skip@=\z@
1631     \else
1632       \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1633     \fi
1634     \gdef\HyPsd@Rest{#1}%
1635   \fi
1636 }

```

Catcode warnings.

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

```

1637 \def\HyPsd@CatcodeWarning#1{%
1638   \HyPsd@Warning{%
1639     Token not allowed in a PDF string (%
1640     \ifHy@unicode
1641       Unicode%
1642     \else
1643       PDFDocEncoding%
1644     \fi

```

```

1645 ):%
1646 \MessageBreak removing ``\HyPsd@RemoveCmdPrefix#1'%
1647 }%
1648 }
1649 \beginingroup
1650 \catcode``|=0 %
1651 \catcode``|=12 %
1652 |gdef|HyPsd@RemoveCmdPrefix#1{%
1653 |expandafter|HyPsd@@RemoveCmdPrefix
1654 |string#1|@empty\<>-|@empty|@empty
1655 }%
1656 |gdef|HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1657 |endgroup

```

\HyPsd@RemoveSpaceWarning

```

1658 \def\HyPsd@RemoveSpaceWarning#1{%
1659 \HyPsd@Warning{%
1660 Token not allowed in a PDF string (%)
1661 \ifHy@unicode
1662 Unicode%
1663 \else
1664 PDFDocEncoding%
1665 \fi
1666 ):%
1667 \MessageBreak #1\MessageBreak
1668 removed%
1669 }%
1670 }

```

\HyPsd@ReplaceSpaceWarning

```

1671 \def\HyPsd@ReplaceSpaceWarning#1{%
1672 \HyPsd@Warning{%
1673 Token not allowed in a PDF string (%)
1674 \ifHy@unicode
1675 Unicode%
1676 \else
1677 PDFDocEncoding%
1678 \fi
1679 ):%
1680 \MessageBreak #1\MessageBreak
1681 replaced by space%
1682 }%
1683 }

```

6.6.5 Check for wrong glyphs

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

```

1684 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1685 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1686 \HyPsd@String#1%
1687 }%
1688 \ifx\|#2\%
1689 \else

```



```

1690 \ltx@ReturnAfterFi{%
1691 \HyPsd@GlyphProcessWarning#2\@empty
1692 }%
1693 \fi
1694 }
1695 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1696 \HyPsd@@@GlyphProcessWarning#1++>%
1697 \HyPsd@GlyphProcess#2\@empty
1698 }
1699 \def\HyPsd@@@GlyphProcessWarning#1+#2+#3>{%
1700 \ifx\#2\%
1701 \HyPsd@Warning{%
1702 Glyph not defined in %
1703 P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1704 removing \@backslashchar#1'%
1705 }%
1706 \else
1707 \HyPsd@Warning{%
1708 Composite letter \@backslashchar#1+#2'\MessageBreak
1709 not defined in P\ifHy@unicode U\else D1\fi\space encoding,%
1710 \MessageBreak
1711 removing \@backslashchar#1'%
1712 }%
1713 \fi
1714 }

```

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`.

```

1715 \def\HyPsd@spaceopti#1{ % first space
1716 \ifx\HyPsd@spaceopti#1%
1717 \040%
1718 \else
1719 #1%
1720 \fi
1721 }%

```

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.
1722 \def\HyPsd@Subst#1#2#3{%
1723 \def\HyPsd@@@ReplaceFi##1#1##2\END\fi{%
1724 \fi
1725 ##1%
1726 \ifx\scrollmode##2\scrollmode

```

```

1727 \else
1728   #2%
1729   \HyPsd@@ReplaceFi##2\END
1730 \fi
1731 }%
1732 \xdef#3{%
1733   \iftrue
1734     \expandafter\HyPsd@@ReplaceFi#3#1\END
1735   \fi
1736 }%
1737 }

```

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

```

1738 \def\HyPsd@StringSubst#1{%
1739   \expandafter\HyPsd@Subst\expandafter{\string#1}%
1740 }

```

`\HyPsd@EscapeTeX`

```

1741 \begingroup
1742 \lccode`!=`\\%%
1743 \lccode`|=`\\%%
1744 \lccode`\(=`\{%
1745 \lccode`\)=`\\}%
1746 \lccode`0=\ltx@zero
1747 \lccode`1=\ltx@zero
1748 \lccode`3=\ltx@zero
1749 \lccode`4=\ltx@zero
1750 \lccode`5=\ltx@zero
1751 \lccode`7=\ltx@zero
1752 \lowercase{\endgroup
1753 \def\HyPsd@EscapeTeX#1{%
1754   \HyPsd@Subst!{|045}#1%
1755   \HyPsd@Subst({|173}#1%
1756   \HyPsd@Subst){|175}#1%
1757 }%
1758 }

```

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.

```

1759 \def\HyPsd@doxspace#1{%
1760   \ifx#1\relax\else
1761     \ifx#1.\else
1762       \ifx#1:\else
1763         \ifx#1,\else
1764           \ifx#1;\else
1765             \ifx#1!\else
1766               \ifx#1?\else
1767                 \ifx#1/\else

```

```

1768     \ifx#1-\else
1769     \ifx#1'\else
1770     \HyPsd@SPACEOPTI
1771     \fi
1772     \fi
1773     \fi
1774     \fi
1775     \fi
1776     \fi
1777     \fi
1778     \fi
1779     \fi
1780     \fi
1781     #1%
1782 }%

```

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.

```

1783 \begingroup
1784 \catcode`\|=0 %
1785 \catcode`\|=12 %

```

\HyPsd@ConvertToUnicode

```

1786 |gdef|HyPsd@ConvertToUnicode#1{%
1787 |xdef#1{%
1788 |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1789 }%
1790 |ifx#1|@empty
1791 |else
1792 |xdef#1{%
1793 \376\377%
1794 #1%
1795 }%
1796 |fi
1797 }%

```

\HyPsd@DoConvert

```

1798 |gdef|HyPsd@DoConvert#1{%
1799 |ifx#1|@empty
1800 |else
1801 |ltx@ReturnAfterFi{%
1802 |ifx#1\%%
1803 \%%
1804 |expandafter|HyPsd@DoEscape
1805 |else
1806 |HyPsd@Char{#1}%
1807 |expandafter|HyPsd@DoConvert
1808 |fi
1809 }%
1810 |fi
1811 }%

```

\HyPsd@DoEscape

```

1812 |gdef|HyPsd@DoEscape#1{%
1813   |ifx#19%
1814   |expandafter|HyPsd@GetTwoBytes
1815   |else
1816   |ltx@ReturnAfterFi{%
1817   |ifx#18%
1818     00%
1819   |expandafter|HyPsd@GetTwoBytes
1820   |else
1821     #1%
1822   |expandafter|HyPsd@GetOneByte
1823   |fi
1824 }%
1825 |fi
1826 }%

```

\HyPsd@GetTwoBytes

```

1827 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1828   #1\#2#3#4%
1829   |HyPsd@DoConvert
1830 }%

```

\HyPsd@GetOneByte

```

1831 |gdef|HyPsd@GetOneByte#1#2{%
1832   #1#2%
1833   |HyPsd@DoConvert
1834 }%
1835 |endgroup

```

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

```

1836 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1837   \xdef#4{#4#1#2}%
1838   \HyPsd@@ConvertToUnicode#3\END#4%
1839 }

```

\HyPsd@Char

```

1840 \begingroup
1841   \catcode0=9 %
1842   \catcode`\^=7 %
1843   \catcode`\^^=12 %
1844   \def\x{^^^0000}%
1845   \expandafter\endgroup
1846   \ifx\x\@empty
1847     \def\HyPsd@Char#1{%
1848       \ifnum`#1<128 %
1849         \@backslashchar 000#1%
1850       \else
1851         \ifnum`#1<65536 %
1852           \expandafter\HyPsd@CharTwoByte\number`#1!%
1853         \else
1854           \expandafter\expandafter\expandafter\HyPsd@CharSurrogate

```

```

1855     \intcalcSub{`#1}{65536}!%
1856     \fi
1857 \fi
1858 }%
1859 \def\HyPsd@CharTwoByte#1!{%
1860   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1861   \IntCalcDiv#1!256!!%
1862   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1863   \IntCalcMod#1!256!!%
1864 }%
1865 \def\HyPsd@CharOctByte#1!{%
1866   \@backslashchar
1867   \IntCalcDiv#1!64!%
1868   \intcalcDiv{\IntCalcMod#1!64!}{8}%
1869   \IntCalcMod#1!8!%
1870 }%
1871 \def\HyPsd@CharSurrogate#1!{%
1872   \@backslashchar 33%
1873   \IntCalcDiv#1!262144!%
1874   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1875   \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
1876   \@backslashchar 33%
1877   \expandafter\expandafter\expandafter\IntCalcAdd
1878   \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
1879   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1880   \IntCalcMod#1!256!!%
1881 }%
1882 \else
1883 \def\HyPsd@Char#1{%
1884   \@backslashchar 000#1%
1885 }%
1886 \fi

```

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

```

1887 \ifcsname UTFviii@loop\endcsname
1888 \def\HyPsd@expand@utfvii{%
1889   \count@"C2
1890   \@tempcnta"F5
1891   \def\UTFviii@tmp{\expandafter\def\expandafter~\expandafter{~}}%
1892   \UTFviii@loop
1893 }
1894 \else
1895 \def\HyPsd@expand@utfvii{}
1896 \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

1897 \begingroup
1898 \lccode\~=`^^f4\relax
1899 \lowercase{\endgroup
1900 \def\HyPsd@UTFviii{%
1901   \HyPsd@expand@utfvii
1902   \let\UTFviii@two@octets\HyPsd@UTFviii@two
1903   \let\UTFviii@three@octets\HyPsd@UTFviii@three
1904   \let\UTFviii@four@octets\HyPsd@UTFviii@four
1905   \ifx~\HyPsd@UTFviii@ccxliv@undef
1906     \let~\HyPsd@UTFviii@ccxliv@def
1907   \fi
1908   \let\unichar\HyPsd@unichar
1909 }%
1910 }%
1911 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
1912 \edef\HyPsd@UTFviii@ccxliv@def{%
1913   \noexpand\UTFviii@four@octets\string ^^f4%
1914 }%

```

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.

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

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

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

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

$$(5)$$

```

1915 \def\HyPsd@UTFviii@two#1#2{%
1916   \expandafter\HyPsd@UTFviii@two
1917   \number\dimexpr.25\dimexpr`#1sp\expandafter\relax\expandafter| %
1918   \number`#1\expandafter| %
1919   \number\dimexpr.125\dimexpr`#2sp\expandafter\relax\expandafter| %
1920   \number`#2 \@nil
1921 }%
1922 \def\HyPsd@UTFviii@two#1|#2|#3|#4|\@nil{%
1923   \expandafter\8%
1924   \number\dimexpr #1-48\expandafter\relax
1925   \csname\number\dimexpr #2-4*#1\relax\expandafter\endcsname
1926   \number\dimexpr #3-8*%
1927   \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1928   \number\dimexpr #4-8*#3\relax
1929 }%

```

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

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

$$\begin{aligned}
b &:= 2 * (A - 4 * (A/4)) + ((B - 128 < 32)?0 : 1) & (7) \\
c &:= B/4 - 32 - ((B - 128 < 32)?0 : 8) & (8) \\
d &:= B - 4 * (B/4) & (9) \\
e &:= C/8 - 16 & (10) \\
f &:= C - 8 * (C/8) & (11) \\
& & (12)
\end{aligned}$$

```

1930 \def\HyPsd@UTFviii@three#1#2#3{%
1931   \expandafter\HyPsd@UTFviii@@three
1932   \number\dimexpr.25\dimexpr`#1sp\expandafter\relax\expandafter|
1933   \number`#1\expandafter|
1934   \number\ifnum\dimexpr`#2-128\relax <32 0\else 1\fi\expandafter|
1935   \number\dimexpr.25\dimexpr`#2sp\expandafter\relax\expandafter|
1936   \number`#2\expandafter|
1937   \number\dimexpr.125\dimexpr`#3sp\expandafter\relax\expandafter|
1938   \number`#3 \@nil
1939 }%
1940 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1941   \expandafter\9%
1942   \number\dimexpr #1-56\expandafter\relax
1943   \number\dimexpr 2*(#2-4*#1)+#3\expandafter\relax
1944   \number\dimexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1945   \csname\number\dimexpr #5-4*#4\relax\expandafter\endcsname
1946   \number\dimexpr #6-16\expandafter\relax
1947   \number\dimexpr #7-8*#6\relax
1948 }%

```

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

```

```

1949 \def\HyPsd@UTFviii@four#1#2{%
1950   \expandafter\HyPsd@@UTFviii@four\number
1951   \dimexpr-1+(\`#1-240)*4+\dimexpr.0625\dimexpr`#2sp-128sp%
1952   \expandafter|\number
1953   \dimexpr`#2-16*\dimexpr.0625\dimexpr`#2sp|
1954 }%
1955 \def\HyPsd@@UTFviii@four#1|#2|#3{%
1956   \933\number\dimexpr.25\dimexpr#1sp\relax\relax
1957   \csname\number\dimexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1958   \ifodd#2 %
1959     \number\dimexpr(#2-1)/2\relax
1960   \else
1961     \number\dimexpr#2/2\relax
1962   \fi
1963   \number\dimexpr\ifodd#2 4+\fi
1964   \dimexpr.0625\dimexpr`#3sp-128sp\relax\relax\relax
1965   \933%
1966   \expandafter\HyPsd@@@UTFviii@four\number
1967   \dimexpr`#3-16*\dimexpr.0625\dimexpr`#3sp|

```

```

1968 }%
1969 \def\HyPsd@@@UTFviii@four#1|#2{%
1970   \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1971   \csmame\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsmame
1972   \number\dimexpr.125\dimexpr`#2sp-128sp\relax\relax
1973   \number\numexpr`#2-8*\dimexpr.125\dimexpr`#2sp\relax\relax\relax
1974 }%

```

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

```

1975 \def\HyPsd@unichar#1{%
1976   \ifHy@unicode
1977     \ifnum#1>"10FFFF %
1978       \HyPsd@UnicodeReplacementCharacter % illegal
1979     \else
1980       \ifnum#1>"FFFF %

```

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

```

1981   \expandafter\HyPsd@unichar\expandafter{%
1982     \number\numexpr 55296+%
1983     \dimexpr.0009765625\dimexpr\number#1sp-\p@
1984     \relax\relax\relax
1985   }%

```

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

```

1986   \expandafter\HyPsd@unichar\expandafter{%
1987     \number\numexpr#1-9216%
1988     -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
1989     \relax\relax\relax
1990   }%
1991   \else
1992     \ifnum#1>"7FFF %
1993       \9%
1994       \expandafter\HyPsd@unichar@first@byte\expandafter{%
1995         \number
1996         \dimexpr.00390625\dimexpr\number#1sp\relax\relax
1997       }%
1998     \else
1999       \8%
2000       \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2001     \fi
2002     \expandafter\HyPsd@unichar@second@byte\expandafter{%
2003       \number
2004       \numexpr#1-256*\number
2005       \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2006     }%
2007     \fi
2008     \fi
2009   \else
2010     .% unsupported (Unicode -> PDF Doc Encoding)
2011     \fi
2012   }%
2013 \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2014 \def\HyPsd@unichar@first@byte#1{%
2015   \number\dimexpr.015625\dimexpr#1sp\relax\relax

```



```

2016 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2017 \number
2018 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2019 \relax\relax\relax
2020 }%
2021 }%
2022 \def\HyPsd@unichar@second@byte#1{%
2023 \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2024 \expandafter\HyPsd@unichar@octtwo\expandafter{%
2025 \number
2026 \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2027 \relax\relax\relax
2028 }%
2029 }%
2030 \def\HyPsd@unichar@octtwo#1{%
2031 \number\dimexpr.125\dimexpr#1sp\relax\relax
2032 \number\dimexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2033 \relax\relax\relax
2034 }%

```

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

```

2035 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2036 \ifx\@gobble#1%
2037 \else
2038 [Please insert \textbackslash PrerenderUnicode%
2039 \textbraceleft#1\textbraceright\space
2040 into preamble]%
2041 \fi
2042 }%

```

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

\HyPsd@DieFace Die faces are provided by

Package	Macro
ifsym	\Cube
epsdice	\epsdice
hhcount	\fcdice

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

```

2043 \def\HyPsd@DieFace#1{%
2044 \ifHy@unicode
2045 \ifnum#1<1 %
2046 \HyPsd@UnicodeReplacementCharacter
2047 \else
2048 \ifnum#1>6 %
2049 \9046\205%
2050 \expandafter\expandafter\expandafter
2051 \HyPsd@DieFaceLarge\intcalcSub{#1}{6}!%
2052 \else
2053 \9046\20\intcalcDec{#1}%
2054 \fi

```

```

2055 \fi
2056 \else
2057 .% Die faces are not part of PDFDocEncoding
2058 \fi
2059 }

```

\HyPsd@DieFaceLarge

```

2060 \def\HyPsd@DieFaceLarge#1{%
2061 \ifnum#1>6 %
2062 \expandafter\ltx@firstoftwo
2063 \else
2064 \expandafter\ltx@secondoftwo
2065 \fi
2066 {%
2067 \9046\205%
2068 \expandafter\expandafter\expandafter
2069 \HyPsd@DieFaceLarge\IntCalcSub#1!6!!%
2070 }{%
2071 \9046\20\IntCalcDec#1!%
2072 }%
2073 }

```

6.6.11 Support for moon phases of package china2e

```

2074 \def\HyPsd@MoonPha#1{%
2075 \ifcase\intcalcNum{#1} %
2076 \HyPsd@UnicodeReplacementCharacter
2077 \or % 1
2078 % U+1F31A NEW MOON WITH FACE; \MoonPha{1} (china2e)
2079 \9330\074\9337\032%
2080 \or % 2
2081 \HyPsd@UnicodeReplacementCharacter
2082 \or % 3
2083 % U+1F31D FULL MOON WITH FACE; \MoonPha{3} (china2e)
2084 \9330\074\9337\035%
2085 \or % 4
2086 % U+1F31C LAST QUARTER MOON WITH FACE; \MoonPha{4} (china2e)
2087 \9330\074\9337\034%
2088 \else
2089 \HyPsd@UnicodeReplacementCharacter
2090 \fi
2091 }
2092 %* \HyPsd@MoonPha -> \MoonPha

```

6.6.12 Support for package pifont

\HyPsd@ding

```

2093 \def\HyPsd@ding#1{%
2094 \ifHy@unicode
2095 \ifnum#1<32 %
2096 \HyPsd@UnicodeReplacementCharacter
2097 \else
2098 \ifnum#1>254 %
2099 \HyPsd@UnicodeReplacementCharacter
2100 \else

```

```

2101     \ifnum#1<127 %
2102         \expandafter\expandafter\expandafter
2103         \HyPsd@@ding\intcalcNum{#1}!%
2104     \else
2105         \ifnum#1>160 %
2106             \expandafter\expandafter\expandafter
2107             \HyPsd@@ding\intcalcNum{#1}!%
2108         \else
2109             \HyPsd@UnicodeReplacementCharacter
2110         \fi
2111     \fi
2112 \fi
2113 \fi
2114 \else
2115     .% Dingbats are not part of PDFDocEncoding
2116 \fi
2117 }

```

\HyPsd@@ding

```

2118 \def\HyPsd@@ding#1!{%
2119     \ltx@ifundefined{HyPsd@ding@#1}{%
2120         \ifnum#1<127 %
2121             \9047%
2122             \HyPsd@DecimalToOctalSecond{\IntCalcSub#1!32!}%
2123         \else
2124             \ifnum#1<168 %
2125                 \9047\14\IntCalcSub#1!160!%
2126             \else
2127                 \ifnum#1>181 %
2128                     \9047\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!64!}%
2129                 \else
2130                     % 172..181 -> U+2460..U+2469
2131                     \9044\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!76!}%
2132                 \fi
2133             \fi
2134         \fi
2135     }{%
2136         \csname HyPsd@ding@#1\endcsname
2137     }%
2138 }

2139 \@namedef{HyPsd@ding@32}{\space}
2140 % U+260E BLACK TELEPHONE
2141 \@namedef{HyPsd@ding@37}{\9046\016}% U+260E
2142 % U+261B BLACK RIGHT POINTING INDEX
2143 \@namedef{HyPsd@ding@42}{\9046\033}% U+261B
2144 % U+261E WHITE RIGHT POINTING INDEX
2145 \@namedef{HyPsd@ding@43}{\9046\036}% U+261E
2146 % U+2605 BLACK STAR
2147 \@namedef{HyPsd@ding@72}{\9046\005}% U+2605
2148 % U+25CF BLACK CIRCLE
2149 \@namedef{HyPsd@ding@108}{\9045\317}% U+25CF
2150 % U+25A0 BLACK SQUARE
2151 \@namedef{HyPsd@ding@110}{\9045\240}% U+25A0

```

```

2152 % U+25B2 BLACK UP-POINTING TRIANGLE
2153 \@namedef{HyPsd@ding@115}{\9045\262}% U+25B2
2154 % U+25BC BLACK DOWN-POINTING TRIANGLE
2155 \@namedef{HyPsd@ding@116}{\9045\274}% U+25BC
2156 % U+25C6 BLACK DIAMOND
2157 \@namedef{HyPsd@ding@117}{\9045\306}% U+25C6
2158 % U+25D7 RIGHT HALF BLACK CIRCLE
2159 \@namedef{HyPsd@ding@119}{\9045\327}% U+25D7
2160 \@namedef{HyPsd@ding@168}{\textclubsuitblack}%
2161 \@namedef{HyPsd@ding@169}{\textdiamondsuitblack}%
2162 \@namedef{HyPsd@ding@170}{\textheartsuitblack}%
2163 \@namedef{HyPsd@ding@171}{\textspadesuitblack}%
2164 \@namedef{HyPsd@ding@213}{\textrightarrow}%
2165 \@namedef{HyPsd@ding@214}{\textleftarrow}%
2166 \@namedef{HyPsd@ding@215}{\textupdownarrow}%
2167 \@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.

```

2168 \@ifpackageloaded{subfigure}{%
2169   \ltx@ifundefined{sub@label}{%
2170     \Hy@hypertextnamesfalse
2171   }{%
2172     \renewcommand*{\sub@label}[1]{%
2173       \@bsphack
2174       \subfig@oldlabel{#1}%
2175       \if@filesw
2176         \begingroup
2177           \edef\@currentlabstr{%
2178             \expandafter\strip@prefix\meaning\@currentlabelname
2179           }%
2180           \protected@write\@auxout{}{%
2181             \string\newlabel{sub@#1}{%
2182               {\@nameuse{\@thesub\@capytype}}%
2183               {\thepage}%
2184             }%
2185             \expandafter\strip@period\@currentlabstr
2186             \relax.\relax\@@@%
2187           }%
2188           {\@currentHref}%
2189           {}%
2190         }%
2191       }%
2192     \endgroup
2193   \fi
2194   \@esphack
2195 }%
2196 }%
2197 }{}

```

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.

```
2198 \def\Hy@true{true}
2199 \def\Hy@false{false}
```

Providing dummy definitions.

```
2200 \let\literalps@out\@gobble
2201 \newcommand\pdfbookmark[3][]{ }
2202 \def\Acrobatmenu#1#2{\leavevmode#2}
2203 \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

```
2204 \let\HyperRaiseLinkHook\@empty
2205 \def\HyperRaiseLinkDefault{\baselineskip}
```

\HyperRaiseLinkHook allows the user to reassign \HyperRaiseLinkLength.

```
2206 \newcount\Hy@SavedSpaceFactor
2207 \def\Hy@SaveSpaceFactor{%
2208   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2209 }
2210 \def\Hy@RestoreSpaceFactor{%
2211   \relax
2212   \ifhmode
2213     \ifnum\Hy@SavedSpaceFactor>\z@
2214       \spacefactor=\Hy@SavedSpaceFactor
2215     \fi
2216   \fi
2217 }
2218 \def\Hy@SaveSavedSpaceFactor{%
2219   \edef\Hy@RestoreSavedSpaceFactor{%
2220     \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2221   }%
2222 }
2223 \def\Hy@raisedlink#1{%
2224   \ifvmode
```

```

2225    #1%
2226  \else
2227    \Hy@SaveSpaceFactor
2228    \penalty\@M
2229    \smash{%
2230      \begingroup
2231        \let\HyperRaiseLinkLength\@tempdima
2232        \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2233        \HyperRaiseLinkHook
2234      \expandafter\endgroup
2235      \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2236        \Hy@RestoreSpaceFactor
2237        #1%
2238        \Hy@SaveSpaceFactor
2239      }%
2240    }%
2241    \Hy@RestoreSpaceFactor
2242  \fi
2243 }

```

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

```

\Hy@RestoreLastskip 2244 \def\Hy@SaveLastskip{%
2245   \let\Hy@RestoreLastskip\relax
2246   \ifvmode
2247     \ifdim\lastskip=\z@
2248       \ifnum\lastnodetype=1 %
2249         \let\Hy@RestoreLastskip\relax
2250       \else
2251         \let\Hy@RestoreLastskip\nobreak
2252       \fi
2253     \else
2254       \begingroup
2255         \skip@=-\lastskip
2256         \edef\x{%
2257           \endgroup
2258           \def\noexpand\Hy@RestoreLastskip{%
2259             \noexpand\ifvmode
2260               \noexpand\nobreak
2261               \vskip\the\skip@
2262               \vskip\the\lastskip\relax
2263             \noexpand\fi
2264           }%
2265         }%
2266       \x
2267     \fi
2268   \else
2269     \ifhmode
2270       \ifdim\lastskip=\z@
2271         \let\Hy@RestoreLastskip\nobreak
2272       \else
2273         \begingroup
2274           \skip@=-\lastskip
2275           \edef\x{%
2276             \endgroup

```

```

2277         \def\noexpand\Hy@RestoreLastskip{%
2278             \noexpand\ifhmode
2279                 \noexpand\nobreak
2280                 \hskip\the\skip@
2281                 \hskip\the\lastskip\relax
2282             \noexpand\fi
2283         }%
2284     }%
2285     \x
2286     \fi
2287     \fi
2288     \fi
2289 }%

```

9 Options

```

2290 \SetupKeyvalOptions{%
2291     family=Hyp,%
2292     prefix=HyOpt%
2293 }

```

9.1 Help macros

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

```

\AddToDocumentProperties
\GetDocumentProperties
2294 \ExplSyntaxOn
2295 \@ifundefined{AddToDocumentProperties}
2296 {
2297     \prop_new:N \g__hyp_documentproperties_prop
2298     \NewDocumentCommand\AddToDocumentProperties{O{\currname}mm}
2299     {
2300         \exp_args:NNx
2301         \prop_gput:Nnn \g__hyp_documentproperties_prop
2302         {
2303             \tl_if_blank:eTF {#1}{top-level/}{#1/} #2
2304         }
2305         { #3}
2306     }
2307     \NewExpandableDocumentCommand\GetDocumentProperties{m}
2308     {
2309         \prop_item:Nn \g__hyp_documentproperties_prop {#1}
2310     }
2311 }{}
2312 \ExplSyntaxOff

\IfHyperBooleanExists
2313 \def\IfHyperBooleanExists#1{%
2314     \ltx@ifundefined{Hy@#1false}\ltx@secondoftwo{%
2315         \ltx@ifundefined{KV@Hyp@#1@default}\ltx@secondoftwo\ltx@firstoftwo
2316     }%
2317 }

```

```

2318 \@namedef{KV@Hyp@stoppeearly@default}{}

\IfHyperBoolean
2319 \def\IfHyperBoolean#1{%
2320   \IfHyperBooleanExists{#1}{%
2321     \csname ifHy@#1\endcsname
2322     \expandafter\ltx@firstoftwo
2323   \else
2324     \expandafter\ltx@secondoftwo
2325   \fi
2326 } \ltx@secondoftwo
2327 }

\Hy@boolkey
2328 \def\Hy@boolkey#1#2{%
2329   \edef\Hy@tempa{#2}%
2330   \lowercase\expandafter{%
2331     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2332   }%
2333   \ifx\Hy@tempa\@empty
2334     \let\Hy@tempa\Hy@true
2335   \fi
2336   \ifx\Hy@tempa\Hy@true
2337   \else
2338     \ifx\Hy@tempa\Hy@false
2339     \else
2340       \let\Hy@tempa\relax
2341     \fi
2342   \fi
2343   \ifx\Hy@tempa\relax
2344     \Hy@WarnOptionValue{#2}{#1}{`true' or `false'}%
2345   \else
2346     \Hy@Info{Option `#1' set `\'Hy@tempa'}%
2347     \csname Hy@#1\Hy@tempa\endcsname
2348   \fi
2349 }

\Hy@WarnOptionValue
2350 \def\Hy@WarnOptionValue#1#2#3{%
2351   \Hy@Warning{%
2352     Unexpected value `#1'\MessageBreak
2353     of option `#2' instead of\MessageBreak
2354     #3%
2355   }%
2356 }

\Hy@DisableOption
2357 \def\Hy@DisableOption#1{%
2358   \ltx@ifundefined{KV@Hyp@#1@default}{%
2359     \define@key{Hyp}{#1}%
2360   }{%
2361     \define@key{Hyp}{#1}[]%
2362   }%
2363   {\Hy@WarnOptionDisabled{#1}}%

```



```

2364 }
2365

```

`\Hy@WarnOptionDisabled`

```

2366 \def\Hy@WarnOptionDisabled#1{%
2367   \Hy@Warning{%
2368     Option `#1' has already been used,\MessageBreak
2369     setting the option has no effect%
2370   }%
2371 }

```

`\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`.

```

2372 \def\Hy@CheckOptionValue#1#2#3{%
2373   \begingroup
2374   \edef\x{#1}%
2375   \@onelevel@sanitize\x
2376   \let\y=y%
2377   \def\do##1##2{%
2378     \def\z{##1}%
2379     \@onelevel@sanitize\z
2380     \ifx\x\z
2381       \let\y=n%
2382       \let\do\@gobbletwo
2383     \fi
2384   }%
2385   #3%
2386   \ifx\y y%
2387     \def\do##1##2{%
2388       * `##1'%
2389       \ifx\\##2\\\else\space(##2)\fi
2390     \MessageBreak
2391   }%
2392   \Hy@Warning{%
2393     Values of option `#2':\MessageBreak
2394     #3%
2395     * An empty value disables the option.\MessageBreak
2396     Unknown value `#1'%
2397   }%
2398   \fi
2399 \endgroup
2400 }

```

`\Hy@DefNameKey` `#1`: option name

`#2`: `\do` list with known values, first argument of `\do` is value, second argument is a comment.

```

2401 \def\Hy@DefNameKey#1{%
2402   \expandafter\Hy@@@DefNameKey\csname @#1\endcsname{#1}%
2403 }

```

`\Hy@@@DefNameKey` `#1`: macro for value storage

`#2`: option name

`#3`: `\do` list with known values.

```

2404 \def\Hy@@DefNameKey#1#2#3{%
2405   \define@key{Hyp}{#2}{%
2406     \edef#1{##1}%
2407     \ifx#1\@empty
2408       \else
2409         \Hy@CheckOptionValue{##1}{#2}{#3}%
2410       \fi
2411     }%
2412   \let#1\@empty
2413 }

```

\Hy@UseNameKey

```

2414 \def\Hy@UseNameKey#1#2{%
2415   \ifx#2\@empty
2416     \else
2417       /#1/#2%
2418     \fi
2419 }

```

9.2 Defining the options

```

2420 \define@key{Hyp}{implicit}[true]{%
2421   \Hy@boolkey{implicit}{#1}%
2422 }
2423 \define@key{Hyp}{draft}[true]{%
2424   \Hy@boolkey{draft}{#1}%
2425 }
2426 \define@key{Hyp}{final}[true]{%
2427   \Hy@boolkey{final}{#1}%
2428 }
2429 \let\KV@Hyp@nolinks\KV@Hyp@draft
2430 \def\Hy@ObsoletePaperOption#1{%
2431   \Hy@WarningNoLine{%
2432     Option `#1' is no longer used%
2433   }%
2434   \define@key{Hyp}{#1}[true]{}%
2435 }
2436 \def\Hy@temp#1{%
2437   \define@key{Hyp}{#1}[true]{%
2438     \Hy@ObsoletePaperOption{#1}%
2439   }%
2440 }
2441 \Hy@temp{a4paper}
2442 \Hy@temp{a5paper}
2443 \Hy@temp{b5paper}
2444 \Hy@temp{letterpaper}
2445 \Hy@temp{legalpaper}
2446 \Hy@temp{executivepaper}
2447 \define@key{Hyp}{setpagesize}[true]{%
2448   \Hy@boolkey{setpagesize}{#1}%
2449 }
2450 \define@key{Hyp}{debug}[true]{%
2451   \Hy@boolkey{debug}{#1}%

```

```

2452 }
2453 \define@key{Hyp}{linktopage}[true]{%
2454   \Hy@boolkey{linktopage}{#1}%
2455   \ifHy@linktopage
2456     \let\Hy@linktoc\Hy@linktoc@page
2457   \else
2458     \let\Hy@linktoc\Hy@linktoc@section
2459   \fi
2460 }
2461 \chardef\Hy@linktoc@none=0 %
2462 \chardef\Hy@linktoc@section=1 %
2463 \chardef\Hy@linktoc@page=2 %
2464 \chardef\Hy@linktoc@all=3 %
2465 \ifHy@linktopage
2466   \let\Hy@linktoc\Hy@linktoc@page
2467 \else
2468   \let\Hy@linktoc\Hy@linktoc@section
2469 \fi
2470 \define@key{Hyp}{linktoc}{%
2471   \@ifundefined{Hy@linktoc@#1}{%
2472     \Hy@Warning{%
2473       Unexpected value `#1' of\MessageBreak
2474       option `linktoc' instead of `none',\MessageBreak
2475       `section', `page' or `all'%
2476     }%
2477   }{%
2478     \expandafter\let\expandafter\Hy@linktoc
2479     \csname Hy@linktoc@#1\endcsname
2480   }%
2481 }
2482 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2483 \let\XR@ext\relax
2484 \define@key{Hyp}{verbose}[true]{%
2485   \Hy@boolkey{verbose}{#1}%
2486 }

```

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.

```

2487 \define@key{Hyp}{raiselinks}[true]{%
2488   \Hy@boolkey{raiselinks}{#1}%
2489 }

```

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

```

2490 \def\Hy@setbreaklinks#1{%
2491   \csname breaklinks#1\endcsname
2492 }
2493 \def\Hy@breaklinks@unsupported{%
2494   \ifx\Hy@setbreaklinks\@gobble
2495     \ifHy@breaklinks
2496       \Hy@WarningNoLine{%
2497         You have enabled option `breaklinks'.\MessageBreak
2498         But driver ``\Hy@driver.def' does not support this.\MessageBreak
2499         Expect trouble with the link areas of broken links%

```

```

2500     }%
2501     \fi
2502 \fi
2503 }

2504 \define@key{Hyp}{breaklinks}[true]{%
2505   \Hy@boolkey{breaklinks}{#1}%
2506   \let\Hy@setbreaklinks\@gobble
2507 }

2508 \define@key{Hyp}{localanchorname}[true]{%
2509   \Hy@WarningNoLine{%
2510     Option `localanchorname' is deprecated%
2511   }%
2512   \Hy@boolkey{localanchorname}{#1}%
2513 }

```

Determines whether an automatic anchor is put on each page

```

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

```

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.

```

2517 \define@key{Hyp}{plainpages}[true]{%
2518   \Hy@boolkey{plainpages}{#1}%
2519 }

```

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

```

2520 \define@key{Hyp}{naturalnames}[true]{%
2521   \Hy@boolkey{naturalnames}{#1}%
2522 }

```

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

```

2523 \define@key{Hyp}{hypertextnames}[true]{%
2524   \Hy@boolkey{hypertextnames}{#1}%
2525 }

```

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

```

2526 \define@key{Hyp}{nesting}[true]{%
2527   \Hy@boolkey{nesting}{#1}%
2528 }

```

```

2529 \define@key{Hyp}{destlabel}[true]{%
2530   \Hy@boolkey{destlabel}{#1}%
2531 }

```

```

2532 \define@key{Hyp}{unicode}[true]{%
2533   \Hy@boolkey{unicode}{#1}%
2534   \ifHy@unicode
2535     \def\HyPsd@pdfencoding{unicode}%
2536     \HyPsd@LoadUnicode
2537   \else
2538     \def\HyPsd@pdfencoding{pdfdoc}%
2539   \fi
2540 }

```

```

2541 \Hy@AtBeginDocument{%
2542   \ifx\HyPsd@LoadUnicode\relax
2543   \else
2544     \def\HyPsd@LoadUnicode{%
2545       \Hy@Error{%
2546         Unicode support for bookmarks is not available.\MessageBreak
2547         Activate unicode support by using one of the options\MessageBreak
2548         `unicode', `pdfencoding=unicode', `pdfencoding=auto'\MessageBreak
2549         in the preamble%
2550       }\@ehc
2551       \global\let\HyPsd@LoadUnicode\relax
2552       \global\Hy@unicodetrue
2553       \global\let\Hy@unicodetrue\Hy@unicodetrue
2554     }%
2555   \fi
2556 }

2557 \define@key{Hyp}{pdfencoding}{%
2558   \edef\HyPsd@temp{#1}%
2559   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2560     \let\HyPsd@pdfencoding\HyPsd@temp
2561     \Hy@unicodetrue
2562   \else
2563     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2564       \z@
2565     \else
2566       \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2567         \z@
2568       \else
2569         \@ne
2570       \fi
2571     \fi
2572     \let\HyPsd@pdfencoding\HyPsd@temp
2573     \hypersetup{unicode}%
2574     \ifHy@unicode
2575       \def\HyPsd@pdfencoding{#1}%
2576       \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2577         \HyPsd@LoadStringEnc
2578       \fi
2579     \else
2580       \Hy@Warning{Cannot switch to unicode bookmarks}%
2581       \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2582     \fi
2583   \else
2584     \@onelevel@sanitize\HyPsd@temp
2585     \Hy@Warning{%
2586       Values of option `pdfencoding':\MessageBreak
2587       `pdfdoc', `unicode', `auto'.\MessageBreak
2588       Ignoring unknown value ``\HyPsd@temp'%
2589     }%
2590   \fi
2591 \fi
2592 }
2593 \def\HyPsd@pdfencoding@auto{auto}
2594 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}

```

```

2595 \def\HyPsd@pdfencoding@unicode{unicode}

change 2020-08-14, use unicode by default:
2596 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
2597 \HyPsd@LoadUnicode
2598 \def\HyPsd@LoadStringEnc{%
2599   \RequirePackage{stringenc}[2009/12/15]%
2600   \let\HyPsd@LoadStringEnc\relax
2601 }
2602 \Hy@AtBeginDocument{%
2603   \@ifpackageloaded{stringenc}{%
2604     \let\HyPsd@LoadStringEnc\relax
2605   }{%
2606     \def\HyPsd@LoadStringEnc{%
2607       \Hy@WarningNoLine{%
2608         Missing package `stringenc'. Use `pdfencoding=auto'\MessageBreak
2609         in the preamble or load the package there%
2610       }%
2611     }%
2612   }%
2613 }
2614 \define@key{Hyp}{psdextra}[true]{%
2615   \Hy@boolkey{psdextra}{#1}%
2616   \HyPsd@LoadExtra
2617 }
2618 \def\hypersetup{\kvsetkeys{Hyp}}
2619 \newif\ifHy@setpdfversion
2620 \define@key{Hyp}{pdfversion}{%
2621   \@ifundefined{Hy@pdfversion@#1}{%
2622     \PackageWarning{hyperref}{%
2623       Unsupported PDF version `#1'.\MessageBreak
2624       Valid values: 1.2-1.7, 2.0%
2625     }%
2626   }{%
2627     \Hy@setpdfversiontrue
2628     \@nameuse{Hy@pdfversion@#1}%
2629   }%
2630 }

\Hy@pdfminorversion already used elsewhere to denote \pdfminorversion or
\pdfvariable majorversion} so introduce new names here.
2631 \@namedef{Hy@pdfversion@1.2}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{2}}%
2632 \@namedef{Hy@pdfversion@1.3}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{3}}%
2633 \@namedef{Hy@pdfversion@1.4}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{4}}%
2634 \@namedef{Hy@pdfversion@1.5}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{5}}%
2635 \@namedef{Hy@pdfversion@1.6}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{6}}%
2636 \@namedef{Hy@pdfversion@1.7}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
norversion{7}}%

```

```

2637 \@namedef{Hy@pdfversion@2.0}{\def\Hy@pdf@majorversion{2}\def\Hy@pdf@mi-
    norversion{0}}%
2638 \def\Hy@pdf@majorversion{1}\def\Hy@pdf@minorversion{5}

```

Legacy name, earlier releases assumed 1.x

```

2639 \let\Hy@pdfversion\Hy@pdf@minorversion
2640 \def\Hy@pdf@majorminor@version{\numexpr100*\Hy@pdf@majorversion+\Hy@pdf@mi-
    norversion\relax}
2641 \def\Hy@pdfmajorminor@version{\numexpr100*\Hy@pdfmajorversion+\Hy@pdfmi-
    norversion\relax}

```

if pdfminorversion is defined, make sure pdfmajorversion is too.

```

2642 \@ifundefined{pdfminorversion}{}{%
2643 \@ifundefined{pdfmajorversion}{}%
2644 \newcount\pdfmajorversion
2645 \pdfmajorversion=1
2646 }{}%
2647 }
2648 \ifx\pdfmajorversion\undefined\else
2649 \def\Hy@pdfmajorversion{\pdfmajorversion}
2650 \fi

```

10 Options for different drivers

```

2651 \newif\ifHy@DviMode
2652 \let\Hy@DviErrMsg\ltx@empty
2653 \ifpdf
2654 \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%
2655 \else
2656 \ifxetex
2657 \def\Hy@DviErrMsg{XeTeX is running}%
2658 \else
2659 \ifvtex
2660 \ifnum\OpMode=\z@
2661 \Hy@DviModetrue
2662 \else
2663 \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
2664 \fi
2665 \else
2666 \Hy@DviModetrue
2667 \fi
2668 \fi
2669 \fi
2670 \def\HyOpt@CheckDvi#1{%
2671 \ifHy@DviMode
2672 \expandafter\ltx@firstofone
2673 \else
2674 \Hy@Error{%
2675 Wrong DVI mode driver option `#1',\MessageBreak
2676 because \Hy@DviErrMsg
2677 } \@ehc
2678 \expandafter\ltx@gobble
2679 \fi
2680 }
2681 \DeclareVoidOption{tex4ht}{}%

```

```

2682 \Hy@texhttrue
2683 \kvsetkeys{Hyp}{colorlinks=true}%
2684 \def\BeforeTeXIVht{\RequirePackage{color}}%
2685 \def\Hy@driver{htex4ht}%
2686 \def\MaybeStopEarly{%
2687   \Hy@Message{Stopped early}%
2688   \Hy@AtBeginDocument{%
2689     \PDF@FinishDoc
2690     \gdef\PDF@FinishDoc{}}%
2691   }%
2692 \endinput
2693 }%
2694 }
2695 \DeclareVoidOption{pdftex}{%
2696   \ifpdf
2697     \def\Hy@driver{hpdftex}%
2698     \PassOptionsToPackage{pdftex}{color}%
2699   \else
2700     \Hy@Error{%
2701       Wrong driver option `pdftex',\MessageBreak
2702       because pdfTeX in PDF mode is not detected%
2703     }\@ehc
2704   \fi
2705 }
2706 \DeclareVoidOption{luatex}{%
2707   \ifpdf
2708     \ifx\pdfextension\@undefined
2709       \def\Hy@driver{hpdftex}%
2710       \PassOptionsToPackage{pdftex}{color}%
2711     \else
2712       \def\Hy@driver{hluatex}%
2713       \PassOptionsToPackage{luatex}{color}%
2714     \fi
2715   \else
2716     \Hy@Error{%
2717       Wrong driver option `luatex',\MessageBreak
2718       because luaTeX in PDF mode is not detected%
2719     }\@ehc
2720   \fi
2721 }
2722 \DeclareVoidOption{nativepdf}{%
2723   \HyOpt@CheckDvi{nativepdf}{%
2724     \def\Hy@driver{hdvips}%
2725     \PassOptionsToPackage{dvips}{color}%
2726   }%
2727 }
2728 \DeclareVoidOption{dvipdfm}{%
2729   \HyOpt@CheckDvi{dvipdfm}{%
2730     \def\Hy@driver{hdvipdfm}%
2731   }%
2732 }
2733 \DeclareVoidOption{dvipdfmx}{%
2734   \HyOpt@CheckDvi{dvipdfmx}{%
2735     \def\Hy@driver{hdvipdfm}%

```



```

2736 \PassOptionsToPackage{dvipdfmx}{color}%
2737 }%
2738 }
2739 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2740 \expandafter\ifx\csname if#1\expandafter\endcsname
2741 \csname iftrue\endcsname
2742 \chardef\SpecialDvipdfmxOutlineOpen\@ne
2743 \else
2744 \chardef\SpecialDvipdfmxOutlineOpen\z@
2745 \fi
2746 }
2747 \DeclareVoidOption{xetex}{%
2748 \ifxetex
2749 \def\Hy@driver{hxtex}%
2750 \else
2751 \Hy@Error{%
2752 Wrong driver option `xetex',\MessageBreak
2753 because XeTeX is not detected%
2754 }\@ehc
2755 \fi
2756 }
2757 \DeclareVoidOption{pdfmark}{%
2758 \HyOpt@CheckDvi{pdfmark}{%
2759 \def\Hy@driver{hdvips}%
2760 }%
2761 }
2762 \DeclareVoidOption{dvips}{%
2763 \HyOpt@CheckDvi{dvips}{%
2764 \def\Hy@driver{hdvips}%
2765 \PassOptionsToPackage{dvips}{color}%
2766 }%
2767 }
2768 \DeclareVoidOption{hypertex}{%
2769 \HyOpt@CheckDvi{hypertex}{%
2770 \def\Hy@driver{hypertex}%
2771 }%
2772 }
2773 \let\Hy@MaybeStopNow\relax
2774 \DeclareVoidOption{vtex}{%
2775 \ifvtex
2776 \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2777 \def\Hy@driver{hvtex}%
2778 \else
2779 \ifnum\OpMode=10\relax
2780 \def\Hy@driver{hvtexhtm}%
2781 \def\MaybeStopEarly{%
2782 \Hy@Message{Stopped early}%
2783 \Hy@AtBeginDocument{%
2784 \PDF@FinishDoc
2785 \gdef\PDF@FinishDoc{}%
2786 }%
2787 \endinput
2788 }%
2789 \else

```

```

2790     \Hy@Error{%
2791         Wrong driver option `vtex',\MessageBreak
2792         because of wrong OpMode (\the\OpMode)%
2793     }\@ehc
2794 \fi
2795 \fi
2796 \else
2797     \Hy@Error{%
2798         Wrong driver option `vtex',\MessageBreak
2799         because VTeX is not running%
2800     }\@ehc
2801 \fi
2802 }
2803 \DeclareVoidOption{vtxpdfmark}{%
2804     \ifvtex
2805         \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2806         \def\Hy@driver{hvtexmrk}%
2807     \else
2808         \Hy@Error{%
2809             Wrong driver option `vtxpdfmark',\MessageBreak
2810             because of wrong OpMode (\the\OpMode)%
2811         }\@ehc
2812     \fi
2813 \else
2814     \Hy@Error{%
2815         Wrong driver option `vtxpdfmark,\MessageBreak
2816         because VTeX is not running%
2817     }\@ehc
2818 \fi
2819 }
2820 \DeclareVoidOption{dviwindo}{%
2821     \HyOpt@CheckDvi{dviwindo}{%
2822         \def\Hy@driver{hdviwind}%
2823         \kvsetkeys{Hyp}{colorlinks}%
2824         \PassOptionsToPackage{dviwindo}{color}%
2825     }%
2826 }
2827 \DeclareVoidOption{dvipsone}{%
2828     \HyOpt@CheckDvi{dvipsone}{%
2829         \def\Hy@driver{hdvipson}%
2830         \PassOptionsToPackage{dvipsone}{color}%
2831     }%
2832 }
2833 \DeclareVoidOption{textures}{%
2834     \HyOpt@CheckDvi{textures}{%
2835         \def\Hy@driver{htexture}%
2836     }%
2837 }
2838 \DeclareVoidOption{latex2html}{%
2839     \Hy@Warning{Option `latex2html` is obsolete. \MessageBreak
2840     A current html.sty will do all necessary (re)definitions%
2841 }%
2842 }
2843 \DeclareVoidOption{hitex}{%

```

```

2844 \ifhint
2845 \IfFileExists{hhitex.def}
2846   {\def\Hy@driver{hhitex}}}%
2847   {\Hy@Warning{%
2848     Missing driver file `hhitex.def',\MessageBreak
2849     ignoring hitex driver%
2850   }}%
2851 \else
2852   \Hy@Error{%
2853     Wrong driver option `hitex',\MessageBreak
2854     because HiTeX is not detected%
2855   }\@ehc
2856 \fi
2857 }

```

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

```

2858 \DeclareVoidOption{ps2pdf}{%
2859   \HyOpt@CheckDvi{ps2pdf}{%
2860     \def\Hy@driver{hdvips}%
2861     \PassOptionsToPackage{dvips}{color}%
2862   }}%
2863 }
2864 \let\HyOpt@DriverFallback\ltx@empty
2865 \define@key{Hyp}{driverfallback}{%
2866   \ifHy@DviMode
2867     \def\HyOpt@DriverFallback{#1}%
2868     \Hy@Match\HyOpt@DriverFallback{}{%
2869       ^(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
2870       latex2html|tex4ht)$}%
2871   }{}{%
2872     \Hy@Warning{%
2873       Invalid driver `#1' for option\MessageBreak
2874       `driverfallback'%
2875     }%
2876     \let\HyOpt@DriverFallback\ltx@empty
2877   }%
2878 \fi
2879 }
2880 \let\HyOpt@CustomDriver\ltx@empty
2881 \define@key{Hyp}{customdriver}{%
2882   \IfFileExists{#1.def}{%
2883     \def\HyOpt@CustomDriver{#1}%
2884   }{%
2885     \Hy@Warning{%
2886       Missing driver file `#1.def',\MessageBreak
2887       ignoring custom driver%
2888     }%
2889   }%
2890 }

```

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.

```

2891 \define@key{Hyp}{hyperfigures}[true]{%
2892   \Hy@boolkey{hyperfigures}{#1}%
2893 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

2894 \define@key{Hyp}{hyperfootnotes}[true]{%
2895   \Hy@boolkey{hyperfootnotes}{#1}%
2896 }

```

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

```

2897 \def\back@none{none}
2898 \def\back@section{section}
2899 \def\back@page{page}
2900 \def\back@slide{slide}
2901 \define@key{Hyp}{backref}[section]{%
2902   \lowercase{\def\Hy@tempa{#1}}%
2903   \ifx\Hy@tempa\@empty
2904     \let\Hy@tempa\back@section
2905   \fi
2906   \ifx\Hy@tempa\Hy@false
2907     \let\Hy@tempa\back@none
2908   \fi
2909   \ifx\Hy@tempa\back@slide
2910     \let\Hy@tempa\back@section
2911   \fi
2912   \ifx\Hy@tempa\back@page
2913     \PassOptionsToPackage{hyperpageref}{backref}%
2914     \Hy@backreftrue
2915   \else
2916     \ifx\Hy@tempa\back@section
2917       \PassOptionsToPackage{hyperref}{backref}%
2918       \Hy@backreftrue
2919     \else
2920       \ifx\Hy@tempa\back@none
2921         \Hy@backreffalse
2922       \else
2923         \Hy@WarnOptionValue{#1}{backref}{%
2924           `section', `slide', `page', `none',\MessageBreak
2925           or `false'}%
2926       \fi
2927     \fi
2928   \fi
2929 }
2930 \define@key{Hyp}{pagebackref}[true]{%
2931   \edef\Hy@tempa{#1}%
2932   \lowercase\expandafter{%
2933     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2934   }%
2935   \ifx\Hy@tempa\@empty
2936     \let\Hy@tempa\Hy@true
2937   \fi
2938   \ifx\Hy@tempa\Hy@true
2939     \PassOptionsToPackage{hyperpageref}{backref}%
2940     \Hy@backreftrue
2941   \else

```

```

2942 \ifx\Hy@tempa\Hy@false
2943 \Hy@backreffalse
2944 \else
2945 \Hy@WarnOptionValue{#1}{pagebackref}{`true' or `false'}%
2946 \fi
2947 \fi
2948 }

```

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

```

2949 \define@key{Hyp}{hyperindex}[true]{%
2950 \Hy@boolkey{hyperindex}{#1}%
2951 }

```

Configuration of encap char.

```

2952 \define@key{Hyp}{encap}[|]{%
2953 \def\HyInd@EncapChar{#1}%
2954 }

```

12 Language options

The `\autoref` feature depends on the language.

```

2955 \def\HyLang@afrikaans{%
2956 \def\equationautorefname{Vergelyking}%
2957 \def\footnoteautorefname{Voetnota}%
2958 \def\itemautorefname{Item}%
2959 \def\figureautorefname{Figuur}%
2960 \def\tableautorefname{Tabel}%
2961 \def\partautorefname{Deel}%
2962 \def\appendixautorefname{Bylae}%
2963 \def\chapterautorefname{Hoofstuk}%
2964 \def\sectionautorefname{Afdeling}%
2965 \def\subsectionautorefname{Subafdeling}%
2966 \def\subsubsectionautorefname{Subsubafdeling}%
2967 \def\paragraphautorefname{Paragraaf}%
2968 \def\subparagraphautorefname{Subparagraaf}%
2969 \def\FancyVerbLineautorefname{Lyn}%
2970 \def\theoremautorefname{Teorema}%
2971 \def\pageautorefname{Bladsy}%
2972 }
2973 \def\HyLang@english{%
2974 \def\equationautorefname{Equation}%
2975 \def\footnoteautorefname{footnote}%
2976 \def\itemautorefname{item}%
2977 \def\figureautorefname{Figure}%
2978 \def\tableautorefname{Table}%
2979 \def\partautorefname{Part}%
2980 \def\appendixautorefname{Appendix}%
2981 \def\chapterautorefname{chapter}%
2982 \def\sectionautorefname{section}%
2983 \def\subsectionautorefname{subsection}%
2984 \def\subsubsectionautorefname{subsubsection}%
2985 \def\paragraphautorefname{paragraph}%
2986 \def\subparagraphautorefname{subparagraph}%

```

```

2987 \def\FancyVerbLineautorefname{line}%
2988 \def\theoremautorefname{Theorem}%
2989 \def\pageautorefname{page}%
2990 }
2991 \def\HyLang@french{%
2992 \def\equationautorefname{'equation}%
2993 \def\footnoteautorefname{note}%
2994 \def\itemautorefname{item}%
2995 \def\figureautorefname{figure}%
2996 \def\tableautorefname{tableau}%
2997 \def\partautorefname{partie}%
2998 \def\appendixautorefname{annexe}%
2999 \def\chapterautorefname{chapitre}%
3000 \def\sectionautorefname{section}%
3001 \def\subsectionautorefname{sous-section}%
3002 \def\subsubsectionautorefname{sous-sous-section}%
3003 \def\paragraphautorefname{paragraphe}%
3004 \def\subparagraphautorefname{sous-paragraphe}%
3005 \def\FancyVerbLineautorefname{ligne}%
3006 \def\theoremautorefname{th\`eor\`eme}%
3007 \def\pageautorefname{page}%
3008 }
3009 \def\HyLang@german{%
3010 \def\equationautorefname{Gleichung}%
3011 \def\footnoteautorefname{Fu\ss note}%
3012 \def\itemautorefname{Punkt}%
3013 \def\figureautorefname{Abbildung}%
3014 \def\tableautorefname{Tabelle}%
3015 \def\partautorefname{Teil}%
3016 \def\appendixautorefname{Anhang}%
3017 \def\chapterautorefname{Kapitel}%
3018 \def\sectionautorefname{Abschnitt}%
3019 \def\subsectionautorefname{Unterabschnitt}%
3020 \def\subsubsectionautorefname{Unterunterabschnitt}%
3021 \def\paragraphautorefname{Absatz}%
3022 \def\subparagraphautorefname{Unterabsatz}%
3023 \def\FancyVerbLineautorefname{Zeile}%
3024 \def\theoremautorefname{Theorem}%
3025 \def\pageautorefname{Seite}%
3026 }
3027 \def\HyLang@italian{%
3028 \def\equationautorefname{Equazione}%
3029 \def\footnoteautorefname{nota}%
3030 \def\itemautorefname{punto}%
3031 \def\figureautorefname{Figura}%
3032 \def\tableautorefname{Tabella}%
3033 \def\partautorefname{Parte}%
3034 \def\appendixautorefname{Appendice}%
3035 \def\chapterautorefname{Capitolo}%
3036 \def\sectionautorefname{sezione}%
3037 \def\subsectionautorefname{sottosezione}%
3038 \def\subsubsectionautorefname{sottosottosezione}%
3039 \def\paragraphautorefname{paragrafo}%
3040 \def\subparagraphautorefname{sottoparagrafo}%

```

```

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

```

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`.

```

3081 \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`?

```

3082 \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.

```
3083 % \def\equationautorefname{%
3084 %   \cyr\cyrv\cyrry\cyrr\cyra\cyrrh\cyre\cyrn\cyri\cyre
3085 % }%
```

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

```
3086 \def\footnoteautorefname{%
3087   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
3088 }%
```

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}”

```
3089 % \def\footnoteautorefname{%
3090 %   \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrrh\cyrn\cyro\cyre\ %
3091 %   \cyrp\cyrr\cyri\cyrm\cyre\cyrrh\cyra\cyrn\cyri\cyre
3092 % }%
```

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

```
3093 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
3094 % \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.

```
3095 \def\itemautorefname{\cyr\cyrp.}%
3096 % \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.

```
3097 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
3098 \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.

```
3099 \def\partautorefname{\cyr\cyrrh.}%
3100 \def\chapterautorefname{\cyr\cyrg\cyrl.}%
3101 \def\sectionautorefname{\cyr\cyrr\cyra\cyrrh\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.

```
3102 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyrl.}%
3103 % \def\appendixautorefname{%
3104 %   \cyr\cyrp\cyrr\cyri\cyrl\cyro\cyrrh\cyre\cyrn\cyri\cyre
3105 % }%
```

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.


```

3106 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
3107 \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.

```

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

```

3110 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
3111 % \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.

```

3112 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%

```

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

```

3113 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
3114 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%

```

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

```

3115 % \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 ...

```

3116 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%

```

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

```

3117 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
3118 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%

```

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

```

3119 \def\pageautorefname{\cyr\cyrs.}%
3120 }

```

```

3121 \def\HyLang@spanish{%
3122 \def\equationautorefname{Ecuaci'on}%
3123 \def\footnoteautorefname{Nota a pie de p'agina}%
3124 \def\itemautorefname{Elemento}%
3125 \def\figureautorefname{Figura}%
3126 \def\tableautorefname{Tabla}%
3127 \def\partautorefname{Parte}%
3128 \def\appendixautorefname{Ap'endice}%
3129 \def\chapterautorefname{Cap'itulo}%
3130 \def\sectionautorefname{Secci'on}%
3131 \def\subsectionautorefname{Subsecci'on}%
3132 \def\subsubsectionautorefname{Subsubsecci'on}%
3133 \def\paragraphautorefname{P'arrafo}%
3134 \def\subparagraphautorefname{Subp'arrafo}%

```

```

3135 \def\FancyVerbLineautorefname{L\`inea}%
3136 \def\theoremautorefname{Teorema}%
3137 \def\pageautorefname{P\`agina}%
3138 }

3139 \def\HyLang@catalan{%
3140 \def\equationautorefname{Equaci\`o}%
3141 \def\footnoteautorefname{Nota al peu de p\`agina}%
3142 \def\itemautorefname{Element}%
3143 \def\figureautorefname{Figura}%
3144 \def\tableautorefname{Taula}%
3145 \def\partautorefname{Part}%
3146 \def\appendixautorefname{Ap\`endix}%
3147 \def\chapterautorefname{Cap\`itol}%
3148 \def\sectionautorefname{Secci\`o}%
3149 \def\subsectionautorefname{Subsecci\`o}%
3150 \def\subsubsectionautorefname{Subsubsecci\`o}%
3151 \def\paragraphautorefname{Par\`agraf}%
3152 \def\subparagraphautorefname{Subpar\`agraf}%
3153 \def\FancyVerbLineautorefname{L\`inia}%
3154 \def\theoremautorefname{Teorema}%
3155 \def\pageautorefname{P\`agina}%
3156 }

3157 \def\HyLang@vietnamese{%
3158 \def\equationautorefname{Ph\`uhorn\`}\ohorn\`ng tr\`inh}%
3159 \def\footnoteautorefname{Ch\`u th\`ich}%
3160 \def\itemautorefname{m\`d\`u\`c}%
3161 \def\figureautorefname{H\`inh}%
3162 \def\tableautorefname{B\`h\`a\`ng}%
3163 \def\partautorefname{Ph\`h\`acircumflex\`n}%
3164 \def\appendixautorefname{Ph\`d\`u\`l\`d\`u\`c}%
3165 \def\chapterautorefname{ch\`uhorn\`}\ohorn\`ng}%
3166 \def\sectionautorefname{m\`d\`u\`c}%
3167 \def\subsectionautorefname{m\`d\`u\`c}%
3168 \def\subsubsectionautorefname{m\`d\`u\`c}%
3169 \def\paragraphautorefname{d\`j\`o\`d\`a\`n}%
3170 \def\subparagraphautorefname{d\`j\`o\`d\`a\`n}%
3171 \def\FancyVerbLineautorefname{d\`ong}%
3172 \def\theoremautorefname{D\`J\`d\`i\`nh l\`y}%
3173 \def\pageautorefname{Trang}%
3174 }

```

Greek, see [github issue 52](#)

```

3175 \def\HyLang@greek{%
3176 \def\equationautorefname{\textEpsilon\textxi\acctonos\textiota\textsigma\text-
3177 \textomega\textsigma\textteta}%
3177 \def\footnoteautorefname{\textupsilon\textpi\textomicron\textsigma\text-
3178 \textteta\textmu\textepsilon\acctonos\textiota\textomega\textsigma\textteta}%
3178 \def\itemautorefname{\textalpha\textnu\texttau\textiota\textkappa\textep-
3179 \textilon\acctonos\textiota\textmu\textepsilon\textnu\textomicron}%
3179 \def\figureautorefname{\textSigma\textchi\acctonos\textteta\textmu\textal-
3180 \textpha}%
3180 \def\tableautorefname{\textPi\acctonos\textiota\textnu\textalpha\textkappa\text-
3181 \textalpa}%

```

```

3181 \def\partautorefname{\textMu\acconos\textepsilon\textrho\textomicron\textvar-
sigma}%
3182 \def\appendixautorefname{\textPi\textalpha\textrho\acconos\textalpha\text-
rho\texttau\texteta\textmu\textalpha}%
3183 \def\chapterautorefname{\textkappa\textepsilon\textphi\acconos\textal-
pha\textlambda\textalpha\textiota\textomicron}%
3184 \def\sectionautorefname{\textepsilon\textnu\acconos\textomicron\texttau\text-
eta\texttau\textalpha}%
3185 \def\subsectionautorefname{\textupsilon\textpi\textomicron\textepsilon\textnu\ac-
conos\textomicron\texttau\texteta\texttau\textalpha}%
3186 \def\subsubsectionautorefname{\textupsilon\textpi\textomicron\textupsilon\textpi\textomicron\text-
rho\textalpha\textphi\textomicron\textvarsigma}%
3187 \def\paragraphautorefname{\textpi\textalpha\textrho\acconos\textalpha\textgamma\text-
rho\textalpha\textphi\textomicron\textvarsigma}%
3188 \def\subparagraphautorefname{\textupsilon\textpi\textomicron\textpi\text-
alpha\textrho\acconos\textalpha\textgamma\textrho\textalpha\textphi\textomi-
cron\textvarsigma}%
3189 \def\FancyVerbLineautorefname{\textgamma\textrho\textalpha\textmu\textmu\ac-
conos\texteta}%
3190 \def\theoremautorefname{\textTheta\textepsilon\acconos\textomega\text-
rho\texteta\textmu\textalpha}%
3191 \def\pageautorefname{\textsigma\textepsilon\textlambda\acconos\textiota\textdelta\text-
alpha}%
3192 }

3193 \def\HyLang@dutch{%
3194 \def\equationautorefname{Vergelijking}%
3195 \def\footnoteautorefname{voetnoot}%
3196 \def\itemautorefname{punt}%
3197 \def\figureautorefname{Figuur}%
3198 \def\tableautorefname{Tabel}%
3199 \def\partautorefname{Deel}%
3200 \def\appendixautorefname{Bijlage}%
3201 \def\chapterautorefname{hoofdstuk}%
3202 \def\sectionautorefname{paragraaf}%
3203 \def\subsectionautorefname{deelparagraaf}%
3204 \def\subsubsectionautorefname{deel-deelparagraaf}%
3205 \def\paragraphautorefname{alinea}%
3206 \def\subparagraphautorefname{deelalinea}%
3207 \def\FancyVerbLineautorefname{regel}%
3208 \def\theoremautorefname{Stelling}%
3209 \def\pageautorefname{pagina}%
3210 }

3211 \def\HyLang@norsk{%
3212 \def\equationautorefname{Ligning}%
3213 \def\footnoteautorefname{fotnote}%
3214 \def\itemautorefname{element}%
3215 \def\figureautorefname{Figur}%
3216 \def\tableautorefname{Tabell}%
3217 \def\partautorefname{Del}%
3218 \def\appendixautorefname{Tillegg}%
3219 \def\chapterautorefname{kapittel}%
3220 \def\sectionautorefname{seksjon}%
3221 \def\subsectionautorefname{underseksjon}%
3222 \def\subsubsectionautorefname{under-underseksjon}%
3223 \def\paragraphautorefname{avsnitt}%

```

```

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

```

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

```

3265 \def\HyLang@addto#1#2{%
3266   #2%
3267   \@temptokena{#2}%
3268   \ifx#1\relax
3269     \let#1\@empty
3270   \fi
3271   \ifx#1\@undefined
3272     \edef#1{\the\@temptokena}%
3273   \else
3274     \toks@\expandafter{#1}%

```

```

3275 \edef#1{\the\toks@\the\@temptokena}%
3276 \fi
3277 \@temptokena{}\toks@\@temptokena
3278 }

3279 \def\HyLang@DeclareLang#1#2#3{%
3280 \ifcsname extras#1\endcsname
3281 \expandafter\HyLang@addto
3282 \csname extras#1\expandafter\endcsname
3283 \csname HyLang@#2\endcsname
3284 \begingroup
3285 \edef\x{\endgroup
3286 #3%
3287 }%
3288 \x
3289 \@namedef{HyLang@#1@done}{}%
3290 \fi
3291 \begingroup
3292 \edef\x##1##2{%
3293 \noexpand\ifx##2\relax
3294 \errmessage{No definitions for language #2' found!}%
3295 \noexpand\fi
3296 \endgroup
3297 \noexpand\define@key{Hyp}{#1}[]{%
3298 \noexpand\@ifundefined{HyLang@#1@done}{%
3299 \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3300 #3%
3301 \noexpand\@namedef{HyLang@#1@done}{}%
3302 }{}%
3303 }%
3304 }%
3305 \expandafter\x\csname extras#1\expandafter\endcsname
3306 \csname HyLang@#2\endcsname
3307 }

3308 \HyLang@DeclareLang{english}{english}{}
3309 \HyLang@DeclareLang{UKenglish}{english}{}
3310 \HyLang@DeclareLang{british}{english}{}
3311 \HyLang@DeclareLang{USenglish}{english}{}
3312 \HyLang@DeclareLang{american}{english}{}
3313 \HyLang@DeclareLang{german}{german}{}
3314 \HyLang@DeclareLang{austrian}{german}{}
3315 \HyLang@DeclareLang{ngerman}{german}{}
3316 \HyLang@DeclareLang{naustrian}{german}{}
3317 \HyLang@DeclareLang{nswissgerman}{german}{}
3318 \HyLang@DeclareLang{swissgerman}{german}{}
3319 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3320 \HyLang@DeclareLang{brazil}{portuges}{}
3321 \HyLang@DeclareLang{brazilian}{portuges}{}
3322 \HyLang@DeclareLang{portuguese}{portuges}{}
3323 \HyLang@DeclareLang{spanish}{spanish}{}
3324 \HyLang@DeclareLang{catalan}{catalan}{}
3325 \HyLang@DeclareLang{afrikaans}{afrikaans}{}
3326 \HyLang@DeclareLang{french}{french}{}
3327 \HyLang@DeclareLang{frenchb}{french}{}
3328 \HyLang@DeclareLang{francais}{french}{}

```

```

3329 \HyLang@DeclareLang{acadian}{french}{}
3330 \HyLang@DeclareLang{canadien}{french}{}
3331 \HyLang@DeclareLang{italian}{italian}{}
3332 \HyLang@DeclareLang{magyar}{magyar}{}
3333 \HyLang@DeclareLang{hungarian}{magyar}{}
3334 \HyLang@DeclareLang{greek}{greek}{}
3335 \HyLang@DeclareLang{dutch}{dutch}{}
3336 \HyLang@DeclareLang{norsk}{norsk}{}
3337 \HyLang@DeclareLang{norwegian}{norsk}{}
3338 \HyLang@DeclareLang{danish}{danish}{}
3339 \HyLang@DeclareLang{swedish}{swedish}{}

```

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

```

3340 \DeclareVoidOption{vietnamese}{%
3341   \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3342   \Hy@AtEndOfPackage{%
3343     \@ifundefined{T@PU}{}{}%
3344     \input{puvnenc.def}%
3345   }%
3346 }%
3347 }
3348 \DeclareVoidOption{vietnam}{%
3349   \HyLang@addto\extravietnam\HyLang@vietnamese
3350   \Hy@AtEndOfPackage{%
3351     \@ifundefined{T@PU}{}{}%
3352     \input{puvnenc.def}%
3353   }%
3354 }%
3355 }

```

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

```

3356 \DeclareVoidOption{arabic}{%
3357   \Hy@AtEndOfPackage{%
3358     \@ifundefined{T@PU}{}{}%
3359     \input{puarenc.def}%
3360   }%
3361 }%
3362 }

```

13 Options to change appearance of links

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

```

3363 \define@key{Hyp}{colorlinks}[true]{%
3364   \Hy@boolkey{colorlinks}{#1}%
3365 }
3366 \DeclareVoidOption{hidelinks}{%
3367   \Hy@colorlinksfalse
3368   \Hy@ocgcolorlinksfalse
3369   \Hy@frenchlinksfalse
3370   \def\Hy@colorlink##1{\begingroup}%
3371   \def\Hy@endcolorlink{\endgroup}%
3372   \def\@pdfborder{0 0 0}%
3373   \let\@pdfborderstyle\ltx@empty

```

```

3374 }
3375 \define@key{Hyp}{ocgcolorlinks}[true]{%
3376   \Hy@boolkey{ocgcolorlinks}{#1}%
3377 }
3378 \Hy@AtBeginDocument{%
3379   \begingroup
3380     \@ifundefined{OBJ@OCG@view}{%
3381       \ifHy@ocgcolorlinks
3382         \Hy@Warning{%
3383           Driver does not support `ocgcolorlinks',\MessageBreak
3384           using `colorlinks' instead%
3385         }%
3386       \fi
3387     }{}%
3388   \endgroup
3389 }
3390 \define@key{Hyp}{frenchlinks}[true]{%
3391   \Hy@boolkey{frenchlinks}{#1}%
3392 }

```

14 Bookmarking

```

3393 \begingroup\expandafter\expandafter\expandafter\endgroup
3394 \expandafter\ifx\csname chapter\endcsname\relax
3395   \def\toclevel@part{0}%
3396 \else
3397   \def\toclevel@part{-1}%
3398 \fi
3399 \def\toclevel@chapter{0}
3400 \def\toclevel@section{1}
3401 \def\toclevel@subsection{2}
3402 \def\toclevel@subsubsection{3}
3403 \def\toclevel@paragraph{4}
3404 \def\toclevel@subparagraph{5}
3405 \def\toclevel@figure{0}
3406 \def\toclevel@table{0}

3407 \define@key{Hyp}{bookmarks}[true]{%
3408   \Hy@boolkey{bookmarks}{#1}%
3409 }

3410 \define@key{Hyp}{bookmarksopen}[true]{%
3411   \Hy@boolkey{bookmarksopen}{#1}%
3412 }

```

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.

```

3413 \let\Hy@bookmarksdepth\c@tocdepth
3414 \define@key{Hyp}{bookmarksdepth}[]{%
3415   \begingroup
3416     \edef\x{#1}%
3417     \ifx\x\empty
3418       \global\let\Hy@bookmarksdepth\c@tocdepth
3419     \else
3420       \@ifundefined{toclevel@\x}{%
3421         \@onelevel@sanitize\x
3422         \edef\y{\expandafter\@car\x\@nil}%
3423         \ifcase 0\expandafter\ifx\y-1\fi
3424           \expandafter\ifnum\expandafter`\y>47 %
3425           \expandafter\ifnum\expandafter`\y<58 1\fi\fi\relax
3426         \Hy@Warning{Unknown document division name (\x)}%
3427       \else
3428         \setbox\z@=\hbox{%
3429           \count@=\x
3430           \xdef\Hy@bookmarksdepth{\the\count@}%
3431         }%
3432       \fi
3433     }{%
3434       \setbox\z@=\hbox{%
3435         \count@=\csname toclevel@\x\endcsname
3436         \xdef\Hy@bookmarksdepth{\the\count@}%
3437       }%
3438     }%
3439   \fi
3440 \endgroup
3441 }

```

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

```

3442 \define@key{Hyp}{bookmarksopenlevel}{%
3443   \def\@bookmarksopenlevel{#1}%
3444 }
3445 \def\@bookmarksopenlevel{\maxdimen}
3446 % `bookmarkstype' to specify which `toc' file to mimic
3447 \define@key{Hyp}{bookmarkstype}{%
3448   \def\Hy@bookmarkstype{#1}%
3449 }
3450 \def\Hy@bookmarkstype{toc}

```

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

```

3451 \define@key{Hyp}{bookmarksnumbered}[true]{%
3452   \Hy@boolkey{bookmarksnumbered}{#1}%
3453 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3454 \define@key{Hyp}{CJKbookmarks}[true]{%
3455   \Hy@boolkey{CJKbookmarks}{#1}%
3456 }

3457 \def\Hy@temp#1{%
3458   \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3459 }
3460 \def\Hy@@temp#1#2#3{%

```



```

3461 \define@key{Hyp}{#2color}{%
3462   \HyColor@HyperrefColor{##1}#1%
3463 }%
3464 \def#1{#3}%
3465 }
3466 \Hy@temp{link}{red}
3467 \Hy@temp{anchor}{black}
3468 \Hy@temp{cite}{green}
3469 \Hy@temp{file}{cyan}
3470 \Hy@temp{url}{magenta}
3471 \Hy@temp{menu}{red}
3472 \Hy@temp{run}{\@filecolor}
3473 \define@key{Hyp}{pagecolor}{%
3474   \Hy@WarningPageColor
3475 }
3476 \def\Hy@WarningPageColor{%
3477   \Hy@WarningNoLine{Option `pagecolor' is not available anymore}%
3478   \global\let\Hy@WarningPageColor\relax
3479 }
3480 \define@key{Hyp}{allcolors}{%
3481   \HyColor@HyperrefColor{#1}\@linkcolor
3482   \HyColor@HyperrefColor{#1}\@anchorcolor
3483   \HyColor@HyperrefColor{#1}\@citecolor
3484   \HyColor@HyperrefColor{#1}\@filecolor
3485   \HyColor@HyperrefColor{#1}\@urlcolor
3486   \HyColor@HyperrefColor{#1}\@menucolor
3487   \HyColor@HyperrefColor{#1}\@runcolor
3488 }
3489 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3490 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3491 \let\@baseurl\@empty
3492 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3493 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3494 \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.

```

3495 \let\@pdfpagetransition\relax
3496 \define@key{Hyp}{pdfpagetransition}{%
3497   \def\@pdfpagetransition{#1}%
3498 }

```

`\@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.

```

3499 \let\@pdfpageduration\relax
3500 \define@key{Hyp}{pdfpageduration}{%
3501   \def\@pdfpageduration{#1}%
3502   \Hy@Match\@pdfpageduration{}{%

```

```

3503   ^{([0-9]+\.[0-9]*|[0-9]*\.[0-9]+)$%
3504 }{}{%
3505   \Hy@Warning{%
3506     Invalid value `\'@pdfpageduration'\MessageBreak
3507     of option `pdfpageduration'\MessageBreak
3508     is replaced by an empty value%
3509   }%
3510   \let\@pdfpageduration\ltx@empty
3511 }%
3512 }

```

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).

```

3513 \def\Hy@ColorList{cite,file,link,menu,run,url}
3514 \@for\Hy@temp:=\Hy@ColorList\do{%
3515   \edef\Hy@temp{%
3516     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3517       \noexpand\HyColor@HyperrefBorderColor
3518       {##1}%
3519       \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3520       {hyperref}%
3521       {\Hy@temp bordercolor}%
3522     }%
3523   }%
3524   \Hy@temp
3525 }
3526 \define@key{Hyp}{pagebordercolor}{%
3527   \Hy@WarningPageBorderColor
3528 }
3529 \def\Hy@WarningPageBorderColor{%
3530   \Hy@WarningNoLine{Option `pagebordercolor' is not available anymore}%
3531   \global\let\Hy@WarningPageBorderColor\relax
3532 }
3533 \define@key{Hyp}{allbordercolors}{%
3534   \def\Hy@temp##1##2{%
3535     \HyColor@HyperrefBorderColor{#1}##1{hyperref}{##2bordercolor}%
3536   }%
3537   \Hy@temp\@citebordercolor{cite}%
3538   \Hy@temp\@filebordercolor{file}%
3539   \Hy@temp\@linkbordercolor{link}%
3540   \Hy@temp\@menubordercolor{menu}%
3541   \Hy@temp\@runbordercolor{run}%
3542   \Hy@temp\@urlbordercolor{url}%
3543 }
3544 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{#1}}
3545 \Hy@DefNameKey{pdfhighlight}{%
3546   \do{/I}{Invert}%

```

```

3547 \do{/N}{None}%
3548 \do{/O}{Outline}%
3549 \do{/P}{Push}%
3550 }
3551 \def\Hy@setpdfhighlight{%
3552 \ifx\@pdfhighlight\@empty
3553 \else
3554 /H\@pdfhighlight
3555 \fi
3556 }
3557 \define@key{Hyp}{pdfborder}{%
3558 \let\Hy@temp\@pdfborder
3559 \def\@pdfborder{#1}%
3560 \Hy@Match\@pdfborder{}{%
3561 ^\HyPat@NonNegativeReal/ %
3562 \HyPat@NonNegativeReal/ %
3563 \HyPat@NonNegativeReal/%
3564 ( ?\[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*])?}%
3565 }{}{%
3566 \Hy@Warning{%
3567 Invalid value ` \@pdfborder'\MessageBreak
3568 for option `pdfborder'.\MessageBreak
3569 Option setting is ignored%
3570 }%
3571 \let\@pdfborder\Hy@temp
3572 }%
3573 }
3574 \define@key{Hyp}{pdfborderstyle}{%
3575 \let\Hy@temp\@pdfborderstyle
3576 \def\@pdfborderstyle{#1}%
3577 \Hy@Match\@pdfborderstyle{}{%
3578 ^%
3579 ( */Type */Border%
3580 | */W +\HyPat@NonNegativeReal/%
3581 | */S */[SDBIU]%
3582 | */D *\[ *(\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)?)?}%
3583 )* *$%
3584 }{}{%
3585 \Hy@Warning{%
3586 Invalid value ` \@pdfborderstyle'\MessageBreak
3587 for option `pdfborderstyle'.\MessageBreak
3588 Option setting is ignored%
3589 }%
3590 \let\@pdfborderstyle\Hy@temp
3591 }%
3592 }
3593 \def\Hy@setpdfborder{%
3594 \ifx\@pdfborder\@empty
3595 \else
3596 /Border[\@pdfborder]%
3597 \fi
3598 \ifx\@pdfborderstyle\@empty
3599 \else
3600 /BS<<\@pdfborderstyle>>%

```

```

3601 \fi
3602 }
3603 \Hy@DefNameKey{pdfpagemode}{%
3604 \do{UseNone}{}%
3605 \do{UseOutlines}{}%
3606 \do{UseThumbs}{}%
3607 \do{FullScreen}{}%
3608 \do{UseOC}{PDF 1.5}%
3609 \do{UseAttachments}{PDF 1.6}%
3610 }
3611 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3612 \do{UseNone}{}%
3613 \do{UseOutlines}{}%
3614 \do{UseThumbs}{}%
3615 \do{FullScreen}{}%
3616 \do{UseOC}{PDF 1.5}%
3617 \do{UseAttachments}{PDF 1.6}%
3618 }
3619 \Hy@DefNameKey{pdfdirection}{%
3620 \do{L2R}{Left to right}%
3621 \do{R2L}{Right to left}%
3622 }
3623 \Hy@DefNameKey{pdfviewarea}{%
3624 \do{MediaBox}{}%
3625 \do{CropBox}{}%
3626 \do{BleedBox}{}%
3627 \do{TrimBox}{}%
3628 \do{ArtBox}{}%
3629 }
3630 \Hy@DefNameKey{pdfviewclip}{%
3631 \do{MediaBox}{}%
3632 \do{CropBox}{}%
3633 \do{BleedBox}{}%
3634 \do{TrimBox}{}%
3635 \do{ArtBox}{}%
3636 }
3637 \Hy@DefNameKey{pdfprintarea}{%
3638 \do{MediaBox}{}%
3639 \do{CropBox}{}%
3640 \do{BleedBox}{}%
3641 \do{TrimBox}{}%
3642 \do{ArtBox}{}%
3643 }
3644 \Hy@DefNameKey{pdfprintclip}{%
3645 \do{MediaBox}{}%
3646 \do{CropBox}{}%
3647 \do{BleedBox}{}%
3648 \do{TrimBox}{}%
3649 \do{ArtBox}{}%
3650 }
3651 \Hy@DefNameKey{pdfprintscaling}{%
3652 \do{AppDefault}{}%
3653 \do{None}{}%
3654 }

```

```

3655 \Hy@DefNameKey{pdfduplex}{%
3656   \do{Simplex}{}%
3657   \do{DuplexFlipShortEdge}{}%
3658   \do{DuplexFlipLongEdge}{}%
3659 }
3660 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3661   \do{true}{}%
3662   \do{false}{}%
3663 }
3664 \define@key{Hyp}{pdfprintpagerange}{%
3665   \def\@pdfprintpagerange{#1}%
3666 }
3667 \Hy@DefNameKey{pdfnumcopies}{%
3668   \do{2}{two copies}%
3669   \do{3}{three copies}%
3670   \do{4}{four copies}%
3671   \do{5}{five copies}%
3672 }
3673 \define@key{Hyp}{pdfusetitle}[true]{%
3674   \Hy@boolkey{pdfusetitle}{#1}%
3675 }
3676 \def\HyXeTeX@CheckUnicode{%
3677   \ifxetex
3678     \ifHy@unicode
3679     \else
3680       \Hy@WarningNoLine{%
3681         XeTeX driver only supports unicode.\MessageBreak
3682         Enabling option `unicode'%
3683       }%
3684       \kvsetkeys{Hyp}{unicode}%
3685     \fi
3686   \else
3687     \let\HyXeTeX@CheckUnicode\relax
3688   \fi
3689 }
3690 \def\HyPsd@PrerenderUnicode#1{%
3691   \begingroup
3692     \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3693     \else
3694       \sbox0{%
3695         \let\GenericInfo\@gobbletwo
3696         \let\GenericWarning\@gobbletwo
3697         \let\GenericError\@gobblefour
3698         \PrerenderUnicode{#1}%
3699       }%
3700     \fi
3701   \endgroup
3702 }
3703 \define@key{Hyp}{pdftitle}{%
3704   \AddToDocumentProperties[hyperref]{pdftitle}{#1}%
3705   \HyXeTeX@CheckUnicode
3706   \HyPsd@PrerenderUnicode{#1}%
3707   \pdfstringdef\@pdftitle{#1}%
3708 }

```

```

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

```

```

3763 \else
3764 \ifx\Hy@temp\HyInfo@trapped@unknown
3765 \def\@pdftrapped{Unknown}%
3766 \else
3767 \ifx\Hy@temp\@empty
3768 \else
3769 \Hy@Warning{%
3770     Unsupported value `#1'\MessageBreak
3771     for option `pdftrapped'%
3772 }%
3773 \fi
3774 \def\@pdftrapped{}%
3775 \fi
3776 \fi
3777 \fi
3778 }
3779 \def\HyInfo@trapped@true{true}
3780 \def\HyInfo@trapped@false{false}
3781 \def\HyInfo@trapped@unknown{unknown}
3782 \def\HyInfo@TrappedUnsupported{%
3783 \ifx\@pdftrapped\@empty
3784 \else
3785 \Hy@WarningNoLine{`pdftrapped' is not supported by this driver}%
3786 \gdef\HyInfo@TrappedUnsupported{}}%
3787 \fi
3788 }
3789 \define@key{Hyp}{pdfinfo}{%
3790 \kvsetkeys{pdfinfo}{#1}%
3791 }
3792 \def\Hy@temp#1{%
3793 \lowercase{\Hy@temp@A{#1}}{#1}%
3794 }
3795 \def\Hy@temp@A#1#2{%
3796 \define@key{pdfinfo}{#2}{%
3797 \hypersetup{pdf#1={#1}}}%
3798 }%
3799 }
3800 \Hy@temp{Title}
3801 \Hy@temp{Author}
3802 \Hy@temp{Keywords}
3803 \Hy@temp{Subject}
3804 \Hy@temp{Creator}
3805 \Hy@temp{Producer}
3806 \Hy@temp{CreationDate}
3807 \Hy@temp{ModDate}
3808 \Hy@temp{Trapped}
3809 \newif\ifHyInfo@AddonUnsupported
3810 \kv@set@family@handler{pdfinfo}{%
3811 \HyInfo@AddonHandler{#1}{#2}%
3812 }
3813 \let\HyInfo@do\relax
3814 \def\HyInfo@AddonHandler#1#2{%
3815 \ifx\kv@value\relax
3816 \Hy@Warning{%

```

```

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

```



```

3871 \edef\x{%
3872 \toks@{%
3873 \the\toks@
3874 /\HyInfo@Key(\csname HyInfo@Value@##1\endcsname)%
3875 }%
3876 }%
3877 \x
3878 }%
3879 \HyInfo@AddonList
3880 \edef\x{\endgroup
3881 \def\noexpand\HyInfo@Addons{\the\toks@}%
3882 }%
3883 \x
3884 \fi
3885 }
3886 \global\let\HyInfo@AddonList\ltx@empty

3887 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \\\}
3888 \define@key{Hyp}{pdflinkmargin}{\setpdflinkmargin{#1}}
3889 \let\setpdflinkmargin@gobble
3890 \def\calculate@pdfview#1 #2\{\%
3891 \def\@pdfview{#1}%
3892 \ifx\#2\%
3893 \def\@pdfviewparams{-32768}%
3894 \else
3895 \def\@pdfviewparams{#2}%
3896 \fi
3897 }
3898 \def\Hy@number#1{%
3899 \the\numexpr#1\relax
3900 }%
3901 \define@key{Hyp}{pdfstartpage}{%
3902 \ifx\#1\%
3903 \let\@pdfstartpage\ltx@empty
3904 \else
3905 \edef\@pdfstartpage{\Hy@number{#1}}%
3906 \fi
3907 }%
3908 \define@key{Hyp}{pdfstartview}{%
3909 \ifx\#1\%
3910 \let\@pdfstartview\ltx@empty
3911 \else
3912 \def\@pdfstartview{/#1}%
3913 \fi
3914 }
3915 \def\HyPat@NonNegativeReal/{%
3916 \ *([0-9]+\.[0-9]*|[0-9]*\.[0-9]+) *%
3917 }
3918 \define@key{Hyp}{pdfremotestartview}{%
3919 \ifx\#1\%
3920 \def\@pdfremotestartview{/Fit}%
3921 \else
3922 \edef\@pdfremotestartview{#1}%
3923 \Hy@Match\@pdfremotestartview{}{%
3924 ^{XYZ(%

```

```

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

```

```

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

```

Test according to ABNF of RFC 3066.

```

4014 \Hy@Match\@pdflang{icase}{%
4015   ~%
4016   [a-z]{1,8}%
4017   (-[a-z0-9]{1,8})*%
4018   $%
4019 }{%

```

Test according to ABNF of RFC 5646.

```

4020 \Hy@Match\@pdflang{icase}{%
4021   ~%
4022   (%
4023     % langtag
4024     (% language
4025       [a-z]{2,3}%
4026       ([a-z]{3}(-[a-z]{3}){0,2})?% extlang
4027       |[a-z]{4}% reserved for future use
4028       |[a-z]{5,8}% registered language subtag
4029     )%

```

```

4030      (-[a-z]{4})?% script
4031      (-([a-z]{2}|[0-9]{3}))?% region
4032      (-([a-z]{5,8}|[0-9][a-z0-9]{3}))% variant
4033      (-[0-9a-wyz](-[a-z0-9]{2,8})+)% extension
4034      (-x(-[a-z0-9]{1,8})+)?% privateuse
4035      % privateuse
4036      |x(-[a-z0-9]{1,8})+)%
4037      % grandfathered/irregular
4038      |en-GB-oed%
4039      |i-(ami|bnn|default|enochian|hak|klinton|lux|%
4040      mingo|navajo|pwn|tao|tay|tsu)%
4041      |sgn-(BE-FR|BE-NL|CH-DE)%
4042      % grandfathered/regular
4043      |art-lojban%
4044      |cel-gaulish%
4045      |no-(bok|nyn)%
4046      |zh-(guoyu|hakka|min|min-nan|xiang)%
4047      )%
4048      $%
4049      }{%

```

Test for unique extensions.

```

4050      \Hy@Match{-\@pdflang}{icase}{-[a-wyz0-9]-}{%
4051      \Hy@Match\@pdflang{icase}{~x-}{}{%
4052      % remove privateuse
4053      \edef\Hy@temp{-\@pdflang}%
4054      \Hy@Match\Hy@temp{icase}{{%
4055      ~%
4056      (%
4057      (-[a-wyz0-9]|-[a-z0-9]{2,8})%
4058      )%
4059      -x-%
4060      }{%
4061      \edef\Hy@temp{%
4062      \expandafter\strip@prefix\pdfastmatch1%
4063      }%
4064      }{}%
4065      \Hy@Match\Hy@temp{icase}{{%
4066      (-[a-wyz0-9]-).*\ltx@backslashchar1%
4067      }{%
4068      \Hy@Warning{%
4069      Invalid language identifier `#1'\MessageBreak
4070      for option `pdflang', because it violates\MessageBreak
4071      well-formedness defined in RFC 4646\MessageBreak
4072      by duplicate singleton subtags%
4073      }%
4074      \let\@pdflang\relax
4075      }{}%
4076      }%
4077      }{}%

```

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

```

4078      \ifx\@pdflang\relax
4079      \else
4080      \Hy@Match\@pdflang{icase}{%

```

```

4081      ~%
4082      [a-zA-Z]{2}-%
4083      (%
4084          aa|AA|%
4085          [qQ][m-zA-Z]|%
4086          [xX][a-zA-Z]|%
4087          zz|ZZ%
4088      )%
4089      (-|$)%
4090      }{%
4091      \Hy@Warning{%
4092          Invalid language identifier `#1'\MessageBreak
4093          for option `pdflang' because of invalid country code%
4094          \MessageBreak
4095          in second subtag (RFC 3066)%
4096      }%
4097      \let\@pdflang\relax
4098      }{}%
4099      \fi
4100      }{%
4101      \Hy@Warning{%
4102          Invalid language identifier `#1'\MessageBreak
4103          for option `pdflang', because it violates\MessageBreak
4104          well-formedness defined in RFC 5646%
4105      }%
4106      \let\@pdflang\relax
4107      }%
4108      }{%
4109      \Hy@Warning{%
4110          Invalid language identifier `#1'\MessageBreak
4111          for option `pdflang' (RFC 3066)%
4112      }%
4113      \let\@pdflang\relax
4114      }%
4115      \fi
4116      \fi
4117      }
4118      \define@key{Hyp}{pdfpagelabels}[true]{%
4119          \Hy@boolkey{pdfpagelabels}{#1}%
4120      }
4121      \define@key{Hyp}{pdfescapeform}[true]{%
4122          \Hy@boolkey{pdfescapeform}{#1}%
4123      }

```

Default values:

```

4124 \def\@linkbordercolor{1 0 0}
4125 \def\@urlbordercolor{0 1 1}
4126 \def\@menubordercolor{1 0 0}
4127 \def\@filebordercolor{0 .5 .5}
4128 \def\@runbordercolor{0 .7 .7}
4129 \def\@citebordercolor{0 1 0}
4130 \def\@pdfhighlight{/I}
4131 \let\@pdftitle\tx@empty
4132 \let\@pdfauthor\tx@empty
4133 \let\@pdfproducer\relax

```

```

4134 \def\@pdfcreator{LaTeX with hyperref}
4135 \let\@pdfcreationdate\ltx@empty
4136 \let\@pdfmoddate\ltx@empty
4137 \let\@pdfsubject\ltx@empty
4138 \let\@pdfkeywords\ltx@empty
4139 \let\@pdftrapped\ltx@empty
4140 \let\@pdfpagescrop\ltx@empty
4141 \def\@pdfstartview{/Fit}
4142 \def\@pdfremotestartview{/Fit}
4143 \def\@pdfstartpage{1}
4144 \let\@pdfprintpagerange\ltx@empty
4145 \let\@pdflang\relax
4146 \let\PDF@SetupDoc\@empty
4147 \let\PDF@FinishDoc\@empty
4148 \let\phantomsection\@empty
4149 \let\special@paper\@empty
4150 \def\HyperDestNameFilter#1{#1}
4151 \Hy@AtBeginDocument{%
4152   \begingroup
4153     \edef\x{\ifdim\stockheight>z@ \stockheight\else\paperheight\fi}%
4154     \dimen@=\x\relax
4155     \ifdim\dimen@>z@
4156     \else
4157       \dimen@=11in\relax
4158       \Hy@WarningNoLine{%
4159         Height of page (\expandafter\string\x) %
4160         is invalid (\the\x),\MessageBreak
4161         using 11in%
4162       }%
4163       \fi
4164       \dimen@=0.99626401\dimen@
4165       \xdef\Hy@pageheight{\strip@pt\dimen@}%
4166   \endgroup
4167 }
4168 \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.

```

4169 \let\hyper@normalise\ExecuteOptions
4170 \let\ExecuteOptions\hypersetup
4171 \Hy@RestoreCatcodes
4172 \InputIfFileExists{hyperref.cfg}{\|}{\|}
4173 \Hy@SetCatcodes
4174 \let\ExecuteOptions\hyper@normalise
4175 \ifx\Hy@MaybeStopNow\relax
4176 \else
4177   \Hy@stoppedearlytrue
4178   \expandafter\Hy@MaybeStopNow
4179 \fi
4180 \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.

```

4181 \SetupKeyvalOptions{family=Hyp}

```

```

4182 \DeclareLocalOptions{%
4183   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4184 }

    Add option tex4ht if package tex4ht is loaded.
4185 \@ifpackagewith{hyperref}{tex4ht}{%
4186 }{%
4187   \@ifpackageloaded{tex4ht}{%
4188     \PassOptionsToPackage{tex4ht}{hyperref}%
4189   }{%
4190     \ltx@ifundefined{HCode}{%
4191     }{%
4192       \begingroup
4193       \def\Hy@pkg{tex4ht}%
4194       \def\Hy@temp@A#1\RequirePackage[#2]#3#4\Hy@NIL{%
4195       \def\Hy@param{#2#3}%
4196       \ifx\Hy@param\ltx@empty
4197         \expandafter\ltx@gobble
4198       \else
4199         \def\Hy@param{#3}%
4200         \ifx\Hy@param\Hy@pkg
4201           \PassOptionsToPackage{#2}{tex4ht}%
4202           \expandafter\expandafter\expandafter\@gobble
4203         \else
4204           \expandafter\expandafter\expandafter\ltx@firstofone
4205         \fi
4206       \fi
4207       {\Hy@temp@A#4\Hy@NIL}%
4208     }%
4209     \expandafter
4210     \Hy@temp@A\@documentclasshook\RequirePackage[]{}\Hy@NIL
4211   \endgroup
4212   \PassOptionsToPackage{tex4ht}{hyperref}%
4213 }%
4214 }%
4215 }

4216 \let\ReadBookmarks\relax
4217 \ProcessKeyvalOptions{Hyp}

```

After processing options.

15.1 Package xspace support

```

4218 \def\Hy@xspace@end{}
4219 \ltx@ifundefined{xspaceaddeceptions}{%
4220   \Hy@AtBeginDocument{%
4221     \ltx@ifundefined{xspaceaddeceptions}{%
4222     }{%
4223       \def\Hy@xspace@end{%
4224         \ltx@gobble{end for xspace}%
4225       }%
4226       \xspaceaddeceptions{%
4227         \Hy@xspace@end,\hyper@linkend,\hyper@anchorend
4228       }%

```

```

4229 }%
4230 }%
4231 }{%
4232 \def\Hy@xspace@end{%
4233 \ltx@gobble{end for xspace}%
4234 }%
4235 \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4236 }

```

15.2 Option draft

```

4237 \Hy@AtBeginDocument{%
4238 \ifHy@draft
4239 \let\hyper@@anchor\@gobble
4240 \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%
4241 \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4242 \def\hyper@anchorend{\Hy@xspace@end}%
4243 \let\hyper@linkstart\@gobbletwo
4244 \def\hyper@linkend{\Hy@xspace@end}%
4245 \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4246 \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4247 \def\hyper@link@[#1]#2#3#4{#4\Hy@xspace@end}%
4248 \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%
4249 \let\PDF@SetupDoc\@empty
4250 \let\PDF@FinishDoc\@empty
4251 \let\ReadBookmarks\relax
4252 \let\WriteBookmarks\relax
4253 \Hy@WarningNoLine{Draft mode on}%
4254 \fi
4255 \Hy@DisableOption{draft}%
4256 \Hy@DisableOption{nolinks}%
4257 \Hy@DisableOption{final}%
4258 }

```

15.3 PDF/A

```

4259 \Hy@DisableOption{pdfa}
4260 \ifHy@pdfa
4261 \ifnum \Hy@pdf@majorminor@version < 104
4262 \kvsetkeys{Hyp}{pdfversion=1.4}%
4263 \fi
4264 \Hy@DisableOption{pdfversion}%
4265 \def\Hy@Acrobatmenu#1#2{%
4266 \leavevmode
4267 \begingroup
4268 \edef\x{#1}%
4269 \@onelevel@sanitize\x
4270 \ifx\x\Hy@NextPage
4271 \let\y=Y%
4272 \else
4273 \ifx\x\Hy@PrevPage
4274 \let\y=Y%
4275 \else
4276 \ifx\x\Hy@FirstPage
4277 \let\y=Y%

```



```

4278     \else
4279     \ifx\x\Hy@LastPage
4280     \let\y=Y%
4281     \else
4282     \let\y=N%
4283     \fi
4284     \fi
4285     \fi
4286     \fi
4287     \expandafter\endgroup
4288     \ifx\y Y%
4289     \else
4290     \Hy@Error{%
4291     PDF/A: Named action `#1' is not permitted%
4292     }\@ehc
4293     {#2}%
4294     \expandafter\@gobble
4295     \fi
4296     }%
4297     \def\Hy@temp#1{%
4298     \expandafter\def\csname Hy@#1\endcsname{#1}%
4299     \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4300     }%
4301     \Hy@temp{NextPage}%
4302     \Hy@temp{PrevPage}%
4303     \Hy@temp{FirstPage}%
4304     \Hy@temp{LastPage}%
4305     \else
4306     \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4307     \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.

```

4308 \def\Hy@wrapper@babel#1#2{%
4309 \begingroup
4310 \Hy@safe@activetrue
4311 \set@display@protect
4312 \edef\x{#2}%
4313 \@onelevel@sanitize\x
4314 \toks@{#1}%
4315 \edef\x{\endgroup\the\toks@\x}}%
4316 \x
4317 }
4318 \def\Hy@WrapperDef#1{%
4319 \begingroup
4320 \escapechar=\m@ne
4321 \xdef\Hy@gtemp{%
4322 \expandafter\noexpand\csname HyWrap@\string#1\endcsname
4323 }%

```

```

4324 \endgroup
4325 \edef#1{%
4326   \noexpand\Hy@wrapper@babel
4327   \expandafter\noexpand\Hy@gtemp
4328 }%
4329 \expandafter\def\Hy@gtemp
4330 }

4331 \ifHy@hyperfigures
4332 \Hy@Info{Hyper figures ON}%
4333 \else
4334 \Hy@Info{Hyper figures OFF}%
4335 \fi
4336 \ifHy@nesting
4337 \Hy@Info{Link nesting ON}%
4338 \else
4339 \Hy@Info{Link nesting OFF}%
4340 \fi
4341 \ifHy@hyperindex
4342 \Hy@Info{Hyper index ON}%
4343 \else
4344 \Hy@Info{Hyper index OFF}%
4345 \fi
4346 \ifHy@plainpages
4347 \Hy@Info{Plain pages ON}%
4348 \else
4349 \Hy@Info{Plain pages OFF}%
4350 \fi
4351 \ifHy@backref
4352 \Hy@Info{Backreferencing ON}%
4353 \else
4354 \Hy@Info{Backreferencing OFF}%
4355 \fi
4356 \ifHy@implicit
4357 \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4358 \else
4359 \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4360 \def\MaybeStopEarly{%
4361   \Hy@Message{Stopped early}%
4362   \Hy@AtBeginDocument{%
4363     \PDF@FinishDoc
4364     \gdef\PDF@FinishDoc{}}%
4365   }%
4366   \endinput
4367 }%
4368 \Hy@AtBeginDocument{%
4369   \let\autoref\ref
4370   \let\autopageref\pageref
4371   \ifx\@pdfpagemode\@empty
4372     \gdef\@pdfpagemode{UseNone}%
4373   \fi
4374   \global\Hy@backreffalse
4375 }%
4376 \Hy@AtEndOfPackage{%
4377   \global\let\ReadBookmarks\relax

```

```

4378 \global\let\WriteBookmarks\relax
4379 }%
4380 \fi
4381 \Hy@DisableOption{implicit}

```

15.4.1 Driver loading

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

```

4382 \@ifundefined{stockwidth}{\newdimen\stockwidth}{}
4383 \@ifundefined{stockheight}{\newdimen\stockheight}{}

4384 \Hy@AtEndOfPackage{%
4385 \ifpackageloaded{tex4ht}{%
4386 \def\Hy@driver{htex4ht}%
4387 \Hy@texhttrue
4388 }{}%

```

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.

```

4389 \ifx\Hy@driver\@empty
4390 \else
4391 \ifx\pdfextension\@undefined
4392 \def\Hy@temp{hpdfTeX}%
4393 \else
4394 \def\Hy@temp{hluatex}%
4395 \fi
4396 \ifpdf
4397 \ifx\Hy@driver\Hy@temp
4398 \else
4399 \Hy@WarningNoLine{%
4400 Wrong driver ``\Hy@driver.def';\MessageBreak
4401 pdfTeX is running in PDF mode.\MessageBreak
4402 Forcing driver ``\Hy@temp.def'%
4403 }%
4404 \let\Hy@driver\Hy@temp
4405 \fi
4406 \else
4407 \ifx\Hy@driver\Hy@temp
4408 \Hy@WarningNoLine{%
4409 Wrong driver ``\Hy@driver.def';\MessageBreak
4410 pdfTeX is not running in PDF mode.\MessageBreak
4411 Using default driver%
4412 }%
4413 \let\Hy@driver\@empty
4414 \fi
4415 \fi
4416 \fi
4417 \ifHy@texht
4418 \else
4419 \ifx\Hy@driver\@empty
4420 \else
4421 \def\Hy@temp{hxetex}%
4422 \ifxetex
4423 \ifx\Hy@driver\Hy@temp
4424 \else

```

```

4425     \Hy@WarningNoLine{%
4426       Wrong driver ``\Hy@driver.def';\MessageBreak
4427       XeTeX is running.\MessageBreak
4428       Forcing driver ``\Hy@temp.def' for XeTeX%
4429     }%
4430     \let\Hy@driver\Hy@temp
4431   \fi
4432 \fi
4433 \fi
4434 \fi
4435 \ifx\Hy@driver\@empty
4436 \else
4437   \def\Hy@temp{hhtex}%
4438   \ifhint
4439     \ifx\Hy@driver\Hy@temp
4440     \else
4441       \Hy@WarningNoLine{%
4442         Wrong driver ``\Hy@driver.def';\MessageBreak
4443         hitex is running.\MessageBreak
4444         Forcing driver ``\Hy@temp.def'%
4445       }%
4446       \let\Hy@driver\Hy@temp
4447     \fi
4448   \fi
4449 \fi
4450 \ifx\Hy@driver\@empty
4451 \else
4452   \def\Hy@temp{hvtexhtm}%
4453   \ifnum\ifvtex\OpMode\else\m@ne\fi=10 %
4454     \ifx\Hy@driver\Hy@temp
4455     \else
4456       \Hy@WarningNoLine{%
4457         Wrong driver ``\Hy@driver.def';\MessageBreak
4458         VTeX is running in HTML mode.\MessageBreak
4459         Forcing driver ``\Hy@temp.def'%
4460       }%
4461       \let\Hy@driver\Hy@temp
4462     \fi
4463   \else
4464     \ifx\Hy@driver\Hy@temp
4465       \Hy@WarningNoLine{%
4466         Wrong driver ``\Hy@driver.def';\MessageBreak
4467         VTeX is not running in HTML mode.\MessageBreak
4468         Using default driver%
4469       }%
4470       \let\Hy@driver\@empty
4471     \fi
4472   \fi
4473 \fi

```

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

```

4474 \let\HyOpt@DriverType\ltx@empty
4475 \ifx\HyOpt@CustomDriver\ltx@empty
4476   \ifx\Hy@driver\@empty
4477     \def\HyOpt@DriverType{ (autodetected)}%

```

```

4478 \providecommand*{\Hy@defaultdriver}{hdvips}%
4479 \ifpdf
4480 \ifx\pdfextension\@undefined
4481 \def\Hy@driver{hpdftex}%
4482 \else
4483 \def\Hy@driver{hluatex}%
4484 \fi
4485 \else
4486 \ifxetex
4487 \def\Hy@driver{hxetex}%
4488 \else
4489 \ifnum\ifvtex\OpMode\else\m@ne\fi=10 %
4490 \def\Hy@driver{hvtexhtm}%
4491 \def\MaybeStopEarly{%
4492 \Hy@Message{Stopped early}%
4493 \Hy@AtBeginDocument{%
4494 \PDF@FinishDoc
4495 \gdef\PDF@FinishDoc{}}%
4496 }%
4497 \endinput
4498 }%
4499 \else
4500 \ifhint
4501 \def\Hy@driver{hhitex}
4502 \else
4503 \ifnum\ifvtex\OpMode\else\m@ne\fi=\@ne
4504 \def\Hy@driver{hvtex}%
4505 \else
4506 \ifnum\ifvtex\OpMode\else\m@ne\fi=\tw@
4507 \def\Hy@driver{hvtex}%
4508 \else
4509 \ifx\HyOpt@DriverFallback\ltx@empty
4510 \let\Hy@driver\Hy@defaultdriver
4511 \def\HyOpt@DriverType{ (default)}%
4512 \else
4513 \begingroup
4514 \toks@{\expandafter{\HyOpt@DriverFallback}}%
4515 \edef\x{\endgroup
4516 \noexpand\kvsetkeys{Hyp}{\the\toks@}}%
4517 }%
4518 \x
4519 \ifx\Hy@driver\ltx@empty
4520 \let\Hy@driver\Hy@defaultdriver
4521 \def\HyOpt@DriverType{ (default)}%
4522 \else
4523 \def\HyOpt@DriverType{ (fallback)}%
4524 \fi
4525 \fi
4526 \fi
4527 \fi
4528 \fi
4529 \fi
4530 \fi
4531 \fi

```

```

4532 \ifx\Hy@driver\Hy@defaultdriver
4533 \def\Hy@temp{hdvwind}%
4534 \ifx\Hy@temp\Hy@driver
4535 \kvsetkeys{Hyp}{colorlinks}%
4536 \PassOptionsToPackage{dviwindo}{color}%
4537 \fi
4538 \fi
4539 \fi
4540 \else
4541 \def\HyOpt@DriverType{ (custom)}%
4542 \let\Hy@driver\HyOpt@CustomDriver
4543 \fi
4544 \Hy@InfoNoLine{Driver\HyOpt@DriverType: \Hy@driver}%
4545 \chardef\Hy@VersionChecked=0 %
4546 \input{\Hy@driver.def}%
4547 \ifcase\Hy@VersionChecked
4548 \Hy@VersionCheck{\Hy@driver.def}%
4549 \fi
4550 \let\@unprocessedoptions\relax
4551 \Hy@RestoreCatcodes
4552 \Hy@DisableOption{tex4ht}%
4553 \Hy@DisableOption{pdftex}%
4554 \Hy@DisableOption{nativepdf}%
4555 \Hy@DisableOption{dvipdfm}%
4556 \Hy@DisableOption{dvipdfmx}%
4557 \Hy@DisableOption{dvipdfmx-outline-open}%
4558 \Hy@DisableOption{pdfmark}%
4559 \Hy@DisableOption{dvips}%
4560 \Hy@DisableOption{hypertex}%
4561 \Hy@DisableOption{vtex}%
4562 \Hy@DisableOption{vtexpdfmark}%
4563 \Hy@DisableOption{dviwindo}%
4564 \Hy@DisableOption{dvipsone}%
4565 \Hy@DisableOption{textures}%
4566 \Hy@DisableOption{latex2html}%
4567 \Hy@DisableOption{ps2pdf}%
4568 \Hy@DisableOption{xetex}%
4569 \Hy@DisableOption{driverfallback}%
4570 \Hy@DisableOption{customdriver}%
4571 \Hy@DisableOption{pdfversion}%
4572 }

```

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.

```

4573 \newif\ifHy@DvipdfmxOutlineOpen
4574 \ifxetex
4575 \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4576 \else
4577 \chardef\SpecialDvipdfmxOutlineOpen\@ne
4578 \Hy@DvipdfmxOutlineOpenttrue
4579 \fi
4580 \fi
4581 \begingroup\expandafter\expandafter\expandafter\endgroup

```

```

4582 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4583 \else
4584 \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4585 \Hy@DvipdfmxOutlineOpentru
4586 \fi
4587 \fi

```

15.4.2 Bookmarks

```

4588 \def\WriteBookmarks{0}
4589 \def\@bookmarkopenstatus#1{%
4590 \ifHy@bookmarksopen

```

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

```

4591 \ifnum#1<\expandafter\@firstofone\expandafter
4592 {\number\@bookmarkopenlevel} % explicit space
4593 \else
4594 -%
4595 \fi
4596 \else
4597 -%
4598 \fi
4599 }
4600 \ifHy@bookmarks
4601 \Hy@Info{Bookmarks ON}%
4602 \ifx\@pdfpagemode\@empty
4603 \def\@pdfpagemode{UseOutlines}%
4604 \fi
4605 \else
4606 \let\@bookmarkopenstatus\ltx@gobble
4607 \Hy@Info{Bookmarks OFF}%
4608 \Hy@AtEndOfPackage{%
4609 \global\let\ReadBookmarks\relax
4610 \global\let\WriteBookmarks\relax
4611 }%
4612 \ifx\@pdfpagemode\@empty
4613 \def\@pdfpagemode{UseNone}%
4614 \fi
4615 \fi
4616 \Hy@DisableOption{bookmarks}

```

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

```

4617 \def\Hy@CatcodeWrapper#1{%
4618 \let\Hy@endWrap\ltx@empty
4619 \def\TMP@EnsureCode##1##2{%
4620 \edef\Hy@endWrap{%
4621 \Hy@endWrap
4622 \catcode##1 \the\catcode##1\relax
4623 }%
4624 \catcode##1 ##2\relax
4625 }%
4626 \TMP@EnsureCode{10}{12}% ^^J
4627 \TMP@EnsureCode{33}{12}% !
4628 \TMP@EnsureCode{34}{12}% "

```

```

4629 \TMP@EnsureCode{36}{3}% $(math)
4630 \TMP@EnsureCode{38}{4}% & (alignment)
4631 \TMP@EnsureCode{39}{12}% '
4632 \TMP@EnsureCode{40}{12}% (
4633 \TMP@EnsureCode{41}{12}% )
4634 \TMP@EnsureCode{42}{12}% *
4635 \TMP@EnsureCode{43}{12}% +
4636 \TMP@EnsureCode{44}{12}% ,
4637 \TMP@EnsureCode{45}{12}% -
4638 \TMP@EnsureCode{46}{12}% .
4639 \TMP@EnsureCode{47}{12}% /
4640 \TMP@EnsureCode{58}{12}% :
4641 \TMP@EnsureCode{59}{12}% ;
4642 \TMP@EnsureCode{60}{12}% <
4643 \TMP@EnsureCode{61}{12}% =
4644 \TMP@EnsureCode{62}{12}% >
4645 \TMP@EnsureCode{63}{12}% ?
4646 \TMP@EnsureCode{91}{12}% [
4647 \TMP@EnsureCode{93}{12}% ]
4648 \TMP@EnsureCode{94}{7}% ^ (superscript)
4649 \TMP@EnsureCode{95}{8}% _ (subscript)
4650 \TMP@EnsureCode{96}{12}% `
4651 \TMP@EnsureCode{124}{12}% |
4652 \TMP@EnsureCode{126}{13}% ~ (active)
4653 #1\relax
4654 \Hy@EndWrap
4655 }

```

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

```

4656 \Hy@AtBeginDocument{%
4657   \ifHy@ocgcolorlinks
4658     \kvsetkeys{Hyp}{colorlinks}%
4659     \ifHy@pdfa
4660       \Hy@Warning{%
4661         PDF/A: Optional Content Groups are prohibited,\MessageBreak
4662         using `colorlinks' instead of `ocgcolorlinks'%
4663       }%
4664       \Hy@ocgcolorlinksfalse
4665     \fi
4666   \fi
4667   \ifHy@ocgcolorlinks
4668   \else
4669     \Hy@DisableOption{ocgcolorlinks}%
4670   \fi
4671   \ifHy@colorlinks
4672     \def\@pdfborder{0 0 0}%
4673     \let\@pdfborderstyle\@empty
4674     \Hy@CatcodeWrapper{%
4675       \RequirePackage{color}%
4676     }%
4677     \def\Hy@colorlink#1{%
4678       \begingroup
4679       \HyColor@UseColor#1%
4680     }%

```



```

4681 \def\Hy@endcolorlink{\endgroup}%
4682 \Hy@Info{Link coloring ON}%
4683 \else
4684 \ifHy@frenchlinks
4685 \def\Hy@colorlink#1{\begingroup\fontshape{\scdefault}\selectfont}%
4686 \def\Hy@endcolorlink{\endgroup}%
4687 \Hy@Info{French linking ON}%
4688 \else

```

for grouping consistency:

```

4689 \def\Hy@colorlink#1{\begingroup}%
4690 \def\Hy@endcolorlink{\endgroup}%
4691 \Hy@Info{Link coloring OFF}%
4692 \fi
4693 \fi
4694 \Hy@DisableOption{colorlinks}%
4695 \Hy@DisableOption{frenchlinks}%
4696 \ifHy@texht
4697 \else

```

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

```

4698 \ifHy@implicit
4699 \let \T@Ref\HyRef@Ref
4700 \def\@refstar#1{%
4701 \NR@ref@showkeys{#1}%
4702 \HyRef@StarSetRef{#1}\@firstoffive
4703 }
4704 \def\@pagerefstar#1{%
4705 \NR@ref@showkeys{#1}%
4706 \HyRef@StarSetRef{#1}\@secondoffive
4707 }
4708 \def\@namerefstar#1{%
4709 \NR@ref@showkeys{#1}%
4710 \HyRef@StarSetRef{#1}\@thirdoffive
4711 }
4712 \def\@Refstar#1{%
4713 \NR@ref@showkeys{#1}%
4714 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
4715 }%
4716 \else
4717 \fi
4718 \fi
4719 }
4720 \Hy@AtBeginDocument{%
4721 \ifx\ReadBookmarks\relax
4722 \else
4723 \Hy@CatcodeWrapper\ReadBookmarks
4724 \fi
4725 }
4726 \ifHy@backref
4727 \RequirePackage{backref}%
4728 \else
4729 \let\Hy@backout\@gobble
4730 \fi

```

```

4731 \Hy@DisableOption{backref}
4732 \Hy@DisableOption{pagebackref}
4733 \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.

```

4734 \begingroup
4735 \endlinechar=-1 %
4736 \catcode`\^^A=14 %
4737 \catcode`\^^M\active
4738 \catcode`\%\active
4739 \catcode`\#\active
4740 \catcode`\_\active
4741 \catcode`\$\active
4742 \catcode`\&\active
4743 \gdef\hyper@normalise{^^A
4744 \begingroup
4745 \catcode`\^^M\active
4746 \def^^M{ }^^A
4747 \catcode`\%\active
4748 \let%\@percentchar
4749 \let%\@percentchar
4750 \catcode`\#\active
4751 \def#{\hyper@hash}^^A
4752 \def#{\hyper@hash}^^A
4753 \@makeother\&^^A
4754 \edef&{\string&}^^A
4755 \edef\&{\string&}^^A
4756 \edef\textunderscore{\string_}^^A
4757 \let_\textunderscore
4758 \catcode`\_\active
4759 \let_\textunderscore
4760 \let~\hyper@tilde
4761 \let~\hyper@tilde
4762 \let\textasciitilde\hyper@tilde
4763 \let\\@backslashchar
4764 \edef${\string$}^^A
4765 \Hy@safe@activetrue
4766 \hyper@n@rmalise
4767 }^^A
4768 \catcode`\#=6 ^^A
4769 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4770 \gdef\hyper@n@rmalise#1#2{^^A
4771 \def\Hy@tempa{#2}^^A
4772 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4773 \ltx@ReturnAfterElseFi{^^A

```

```

4774     \hyper@@normalise{#1}^^A
4775   }^^A
4776   \else
4777     \ltx@ReturnAfterFi{^^A
4778     \hyper@@normalise{#1}{#2}^^A
4779   }^^A
4780   \fi
4781 }^^A
4782 \gdef\hyper@@normalise#1#2{^^A
4783   \edef\Hy@tempa{^^A
4784     \endgroup
4785     \noexpand#1{\Hy@RemovePercentCr#2%^~M\@nil}^^A
4786   }^^A
4787   \Hy@tempa
4788 }^^A
4789 \gdef\Hy@RemovePercentCr#1%^~M#2\@nil{^^A
4790   #1^^A
4791   \ifx\limits#2\limits
4792   \else
4793     \ltx@ReturnAfterFi{^^A
4794     \Hy@RemovePercentCr #2\@nil
4795   }^^A
4796   \fi
4797 }^^A
4798 \endgroup
4799 \providecommand*\hyper@chars{%
4800   \let\#\hyper@hash
4801   \let\%\@percentchar
4802   \Hy@safe@activetrue
4803 }

4804 \def\hyperlink#1#2{%
4805   \hyper@@link{}{#1}{#2}%
4806 }

4807 \def\Hy@VerboseLinkStart#1#2{%
4808   \ifHy@verbose
4809     \begingroup
4810     \Hy@safe@activetrue
4811     \xdef\Hy@VerboseGlobalTemp{(#1) `#2'}%
4812     \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4813     \xdef\Hy@VerboseGlobalTemp{%
4814       \Hy@VerboseGlobalTemp, %
4815       line \the\inputlineno
4816     }%
4817     \endgroup
4818     \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4819     \@onelevel@sanitize\Hy@VerboseLinkInfo
4820   \fi
4821 }

4822 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4823 \def\Hy@VerboseLinkStop{%
4824   \ifHy@verbose
4825     \begingroup
4826     \edef\x{\endgroup

```

```

4827     \write\m@ne{%
4828         Package `hyperref' Info: %
4829         End of reference \Hy@VerboseLinkInfo.%
4830     }%
4831 }%
4832 \x
4833 \fi
4834 }

4835 \def\Hy@VerboseAnchor#1{%
4836     \ifHy@verbose
4837     \begingroup
4838         \Hy@safe@activetrue
4839         \Hy@Info{Anchor `\'HyperDestNameFilter{#1}'}%
4840     \endgroup
4841 \fi
4842 }

4843 \def\Hy@AllowHyphens{%
4844     \relax
4845     \ifhmode
4846         \penalty\@M
4847         \hskip\z@skip
4848     \fi
4849 }

4850 \DeclareRobustCommand*\href[1][]{%
4851     \begingroup
4852     \setkeys{href}{#1}%
4853     \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4854 }
4855 \def\Hy@href#{%
4856     \hyper@normalise\href@
4857 }
4858 \begingroup
4859     \catcode`\$=6 %
4860     \catcode`\#=12 %
4861     \gdef\href@#1{\expandafter\href@split$1##\}%
4862     \gdef\href@split$1##$2##$3\\$4{%
4863         \hyper@@link{$1}{$2}{$3}{$4}%
4864     \endgroup
4865 }%
4866 \endgroup

```

Option ‘page’.

```

4867 \define@key{href}{page}{%
4868     \def\Hy@href@page{#1}%
4869 }
4870 \let\Hy@href@page\@empty
4871 \newcount\c@Hy@tempcnt
4872 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4873 \def\Hy@MakeRemoteAction{%
4874     \ifx\Hy@href@page\@empty
4875         \def\Hy@href@page{0}%
4876     \else
4877         \setcounter{Hy@tempcnt}{\Hy@href@page}%

```

```

4878 \ifnum\c@Hy@tempcnt<\@ne
4879 \Hy@Warning{%
4880   Invalid page number (\theHy@tempcnt)\MessageBreak
4881   for remote PDF file.\MessageBreak
4882   Using page 1%
4883 }%
4884 \def\Hy@href@page{0}%
4885 \else
4886 \global\advance\c@Hy@tempcnt\m@ne
4887 \edef\Hy@href@page{\theHy@tempcnt}%
4888 \fi
4889 \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.

```

4890 \ifx\Hy@href@nextactionraw\@empty
4891 \else
4892 \Hy@pdfnewwindowsettrue
4893 \Hy@pdfnewwindowtrue
4894 \fi
4895 }

```

Option ‘pdfremotestartview’.

```

4896 \define@key{href}{pdfremotestartview}{%
4897 \setkeys{Hyp}{pdfremotestartview={#1}}}%
4898 }

```

Option ‘pdfnewwindow’.

```

4899 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
4900 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default

```

Option ‘ismap’.

```

4901 \newif\ifHy@href@ismap
4902 \define@key{href}{ismap}[true]{%
4903 \ltx@ifundefined{Hy@href@ismap#1}{%
4904 \Hy@Error{%
4905   Invalid value (#1) for key `ismap'.\MessageBreak
4906   Permitted values are `true' or `false'.\MessageBreak
4907   Ignoring `ismap'%
4908 }}\@ehc
4909 }{%
4910 \csname Hy@href@ismap#1\endcsname
4911 }%
4912 }

```

Option ‘nextactionraw’.

```

4913 \let\Hy@href@nextactionraw\@empty
4914 \define@key{href}{nextactionraw}{%
4915 \edef\Hy@href@nextactionraw{#1}%
4916 \ifx\Hy@href@nextactionraw\@empty
4917 \else
4918 \Hy@Match\Hy@href@nextactionraw{}{%
4919   ~(\HyPat@ObjRef/|<<.*[/S[/|. +>>| %
4920   \[( ?\HyPat@ObjRef/|<<.*[/S[/|. +>>)+ ?])$%
4921   }-}{%
4922 \Hy@Warning{Invalid value for `nextactionraw':\MessageBreak

```

```

4923     \Hy@href@nextactionraw\MessageBreak
4924     The action is discarded%
4925   }%
4926 }%
4927 \ifx\Hy@href@nextactionraw\@empty
4928 \else
4929   \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
4930 \fi
4931 \fi
4932 }
4933 \def\HyPat@ObjRef/{.+}

```

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

```

4934 \RequirePackage{url}
4935 \let\HyOrg@url\url
4936 \def\Hurl{\begingroup \Url}
4937 \DeclareRobustCommand*{\nolinkurl}{\hyper@normalise\nolinkurl@}
4938 \def\nolinkurl@#1{\Hurl{#1}}
4939 \DeclareRobustCommand*{\url}{\hyper@normalise\url@}
4940 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}

4941 \DeclareRobustCommand*{\hyperimage}{\hyper@normalise\hyper@image}
4942 \providecommand\hyper@image[2]{#2}

4943 \def\hypertarget#1#2{%
4944   \ifHy@nesting
4945     \hyper@@anchor{#1}{#2}%
4946   \else
4947     \hyper@@anchor{#1}{\relax}#2%
4948   \fi
4949 }

```

`\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.

```

4950 \DeclareRobustCommand*{\hyperref}{%
4951   \@ifnextchar[{\Hy@babelnormalise\label@hyperref}\@hyperref
4952 }
4953 \def\Hy@babelnormalise#1[#2]{%
4954   \begingroup
4955     \Hy@safe@activestruer
4956     \let\protect\@unexpandable@protect
4957     \edef\Hy@tempa{%
4958       \endgroup
4959       \noexpand#1[{#2}]}%
4960   }%
4961   \Hy@tempa
4962 }
4963 \def\@hyperref{\hyper@normalise\@hyperref}
4964 \def\@hyperref#1#2#3{%
4965   \edef\ref@one{\ifx\\#2\\\else#2.\fi#3}%

```

```

4966 \expandafter\tryhyper@link\ref@one\{\#1}%
4967 }
4968 \def\tryhyper@link#1\#2{%
4969 \hyper@@link{#2}{#1}%
4970 }

4971 \def\hyperdef{\@ifnextchar[{\label@hyperdef}{\@hyperdef}}
4972 \def\@hyperdef#1#2#3{% , category, name, text
4973 \ifx\#1\%
4974 \def\Hy@AnchorName{#2}%
4975 \else
4976 \def\Hy@AnchorName{#1.#2}%
4977 \fi
4978 \ifHy@nesting
4979 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
4980 \else
4981 \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
4982 \fi
4983 }

```

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.

```

4984 \let\hyperrefundefinedlink\@firstofone
4985 \def\label@hyperref[#1]{%
4986 \expandafter\label@@hyperref\csname r@#1\endcsname{#1}%
4987 }%
4988 \def\label@@hyperref#1#2#3{%
4989 \ifx#1\relax
4990 \protect\G@refundefinedtrue
4991 \@latex@warning{%
4992 Hyper reference `#2' on page \thepage \space undefined%
4993 }%
4994 \begingroup
4995 \hyperrefundefinedlink{#3}%
4996 \endgroup
4997 \else
4998 \hyper@@link{\expandafter\@fifthoffive#1}%
4999 {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
5000 \fi
5001 }
5002 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
5003 % anchor text
5004 \@bsphack
5005 \ifx\#2\%
5006 \def\Hy@AnchorName{#3}%
5007 \else
5008 \def\Hy@AnchorName{#2.#3}%
5009 \fi
5010 \if@files@w
5011 \protected@write\@auxout{}{%
5012 \string\newlabel{#1}{\{\}\}\{\Hy@AnchorName\}\}%
5013 }%
5014 \fi
5015 \@esphack

```

```

5016 \ifHy@nesting
5017   \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
5018 \else
5019   \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#4%
5020 \fi
5021 }

```

`\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`

```

5022 \ExplSyntaxOn
5023 \cs_new:Npn \hyperget #1 #2
5024 {
5025   \use:c { __hyp_get_#1:n } { #2}
5026 }
5027
5028 \cs_new:Npn \__hyp_get_anchor:n #1
5029 {
5030   \HyperDestNameFilter
5031   {
5032     \cs_if_exist:cTF {r@#1}
5033     {
5034       \tl_item:cn {r@#1}{4}
5035     }
5036     {
5037       Doc-Start
5038     }
5039   }
5040 }
5041 \cs_new:Npn \__hyp_get_pageanchor:n #1
5042 {
5043   \HyperDestNameFilter
5044   {
5045     \cs_if_exist:cTF {r@#1}
5046     {
5047       page. \tl_item:cn {r@#1}{2}
5048     }
5049     {
5050       Doc-Start
5051     }
5052   }
5053 }
5054 \cs_new:Npn \__hyp_get_currentanchor:n #1
5055 {
5056   \HyperDestNameFilter { \@currentHref }
5057 }
5058 \ExplSyntaxOff

```

16.1 Link box support for XeTeX


```

5059 \newdimen\XeTeXLinkMargin
5060 \setlength{\XeTeXLinkMargin}{2pt}
5061 \ifxetex
5062   \font\XeTeXLink@font=pzdr at 1sp\relax
5063   \newcommand*{\XeTeXLink@space}{%
5064     \begingroup
5065       \XeTeXLink@font
5066       \@xxxii
5067     \endgroup
5068   }%
5069   \newcommand{\XeTeXLinkBox}[1]{%
5070     \begingroup
5071       \leavevmode
5072       \sbox\z@{#1}%
5073       \begingroup
5074         \dimen@=\dp\z@
5075         \advance\dimen@\XeTeXLinkMargin
5076         \setbox\tw@=\llap{%
5077           \hb@xt@\XeTeXLinkMargin{%
5078             \lower\dimen@\hbox{\XeTeXLink@space}%
5079           \hss
5080         }%
5081       }%
5082       \dp\tw@=\dp\z@
5083       \ht\tw@=\ht\z@
5084       \copy\tw@
5085     \endgroup
5086     \copy\z@
5087     \dimen@=\ht\z@
5088     \advance\dimen@\XeTeXLinkMargin
5089     \setbox\tw@=\rlap{%
5090       \hb@xt@\XeTeXLinkMargin{%
5091         \hss
5092         \raise\dimen@\hbox{\XeTeXLink@space}%
5093       }%
5094     }%
5095     \dp\tw@=\dp\z@
5096     \ht\tw@=\ht\z@
5097     \copy\tw@
5098   \endgroup
5099 }%
5100 \else
5101   \newcommand*{\XeTeXLinkBox}[1]{%
5102     \begingroup
5103       \leavevmode
5104       \sbox\z@{#1}%
5105       \copy\z@
5106     \endgroup
5107   }%
5108 \fi

```

17 Underlying basic hypertext macros

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

```

5109 \def\hyper@link{\let\Hy@reserved@a\relax
5110 \ifnextchar{\hyper@link@}{\hyper@link@[link]}%
5111 }
5112 % #1: type
5113 % #2: URL
5114 % #3: destination name
5115 % #4: text
5116 \def\hyper@link@[#1]#2#3#4{%
5117 \ltx@ifempty{#4}{% link text
5118   \Hy@Warning{Suppressing empty link}%
5119 }{%
5120   \begingroup
5121     \protected@edef\Hy@tempa{#2}%
5122     \edef\Hy@tempb{#3}%
5123     \ifx\Hy@tempa\ltx@empty
5124       \ifx\Hy@tempb\ltx@empty
5125         \Hy@Warning{Suppressing link with empty target}%
5126         \toks@{%
5127           \endgroup
5128           \ltx@secondoftwo
5129         }%
5130       \else
5131         \toks@{%
5132           \endgroup
5133           \hyper@link{#1}%
5134         }%
5135       \fi
5136     \else
5137       \toks@{%
5138         \endgroup
5139         \expandafter\hyper@readexternallink#2\\{#1}%
5140       }%
5141     \fi
5142     \Hy@safe@activesfalse
5143     \toks@\expandafter{%
5144       \the\expandafter\toks@
5145       \expandafter{\Hy@tempb}{#4}%
5146     }%
5147     \the\toks@
5148   }%
5149 }

```

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.

```

5150 \def\hyper@readexternallink#1\\#2#3#4{%

```

```

5151 \begingroup
5152 \let\\\relax
5153 \expandafter\endgroup
5154 \expandafter\@hyper\@readexternallink#1\{\#2}\{\#3}\{\#4}%
5155 }
5156 \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.

```

5157 \@hyper\@readexternallink{\#2}\{\#3}\{\#4}\#1::\{\#1}%
5158 }

```

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

```

5159 \def\@pdftempwordfile{file}%
5160 \def\@pdftempwordrun{run}%
5161 \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:**

```

5162 \ifx\\\#6\\\%
5163 \@hyper\linkfile file:\#7\\\{\#3}\{\#2}\{\#7}%
5164 \else
5165 \ifx\\\#4\\\%
5166 \@hyper\linkfile file:\#7\\\{\#3}\{\#2}\{\#7}%
5167 \else

```

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

```

5168 \def\@pdftempa{\#4}%
5169 \ifx\@pdftempa\@pdftempwordfile
5170 \@hyper\linkfile\#7\\\{\#3}\{\#2}\{\#7}%
5171 \else

```

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

```

5172 \ifx\@pdftempa\@pdftempwordrun
5173 \ifHy@pdfa
5174 \Hy@Error{%
5175 PDF/A: Launch action is prohibited%
5176 }\@ehc
5177 \begingroup
5178 \leavevmode
5179 \#2%
5180 \endgroup

```

```

5181      \else
5182      \@hyper@launch#7\{\#3}\#2}%
5183      \fi
5184      \else

```

otherwise its a URL

```

5185      \hyper@linkurl{\#3}\#7\ifx\#2\else\hyper@hash#2\fi}%
5186      \fi
5187      \fi
5188      \fi
5189      \fi
5190 }

```

By default, turn run: into file:

```

5191 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
5192   \hyper@linkurl{\#2}{%
5193     \Hy@linkfileprefix
5194     #1%
5195     \ifx\#3\%
5196     \else
5197       \hyper@hash
5198       #3%
5199     \fi
5200   }%
5201 }

```

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

```

5202 \def\@hyper@linkfile file:#1\#2#3#4{%
5203   %file url,link string, name, original uri
5204   \filename@parse{\#1}%
5205   \ifx\filename@ext\relax
5206     \edef\filename@ext{\XR@ext}%
5207   \fi
5208   \def\use@file{\filename@area\filename@base.\filename@ext}%
5209   \Hy@ifStringEndsWith\filename@ext\XR@ext{%
5210     \hyper@linkfile{\#2}{\use@file}\#3}%
5211   }{%
5212     \ifx\@baseurl\@empty
5213       \hyper@linkurl{\#2}{%
5214         #4\ifx\#3\else\hyper@hash#3\fi
5215       }%
5216     \else
5217       \hyper@linkurl{\#2}{\use@file\ifx\#3\else\hyper@hash#3\fi}%
5218     \fi
5219   }%
5220 }

5221 \def\Hy@ifStringEndsWith#1#2{%
5222   \begingroup
5223   \edef\x{\#1}%
5224   \@onelevel@sanitize\x
5225   \edef\x{.\x}%
5226   \edef\y{\#2}%
5227   \@onelevel@sanitize\y
5228   \edef\y{.\y}%

```

```

5229 \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
5230 \endgroup
5231 \ifx\relax##2\relax
5232 \expandafter\ltx@secondoftwo
5233 \else
5234 \expandafter\ltx@firstoftwo
5235 \fi
5236 }%
5237 \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
5238 }

5239 \def\Hy@StringLocalhost{localhost}
5240 \@onelevel@sanitize\Hy@StringLocalhost
5241 \def\Hy@CleanupFile#1{%
5242 \edef#1{#1}%
5243 \expandafter\Hy@@CleanupFile#1\hbox{//\hbox\@nil{#1}%
5244 }
5245 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5246 \begingroup
5247 \toks@{\endgroup}%
5248 \def\x{#1}%
5249 \ifx\x\@empty
5250 \def\x{#2}%
5251 \ifx\x\@empty
5252 \toks@{\endgroup\def#5{/#3}}%
5253 \else
5254 \@onelevel@sanitize\x
5255 \ifx\x\Hy@StringLocalhost
5256 \toks@{\endgroup\def#5{/#3}}%
5257 \fi
5258 \fi
5259 \fi
5260 \the\toks@
5261 }

```

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.

```

5262 \long\def\hyper@@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5263 \long\def\@hyper@@@anchor#1\relax#2#3\relax{%
5264 \ifx\#1\%
5265 #2\Hy@Warning{Ignoring empty anchor}%
5266 \else
5267 \def\anchor@spot{#2#3}%
5268 \let\put@me@back\@empty
5269 \ifx\relax#2\relax
5270 \else
5271 \ifHy@nesting
5272 \else
5273 \ifcat a\noexpand#2\relax
5274 \else

```

```

5275     \ifcat 0\noexpand#2 \relax
5276     \else
5277 %     \typeout{Anchor start is not alphanumeric %
5278 %         on input line\the\inputlineno%
5279 %     }%
5280     \let\anchor@spot\@empty
5281     \def\put@me@back{#2#3}%
5282     \fi
5283     \fi
5284     \fi
5285     \fi
5286     \ifHy@activeanchor
5287     \anchor@spot
5288     \else
5289     \hyper@anchor{#1}%
5290     \fi
5291     \expandafter\put@me@back
5292     \fi
5293     \let\anchor@spot\@empty
5294 }
5295 \let\anchor@spot\ltx@empty

```

18 Option ‘destlabel’

```

5296 \ifHy@destlabel

```

```

\hyper@newdestlabel

```

```

5297 \def\hyper@newdestlabel#1#2{%
5298 \begingroup
5299 \Hy@safe@activetrue
5300 \edef\x{\endgroup
5301 \noexpand\@newl@bel{HyDL}{#1}{#2}%
5302 }%
5303 \x
5304 }%

```

```

\hyper@destlabel@hook

```

```

5305 \providecommand*\hyper@destlabel@hook{}%

```

```

\Hy@DestRename

```

```

5306 \newcommand*\Hy@DestRename[2]{%
5307 \ltx@ifundefined{HyDL!#1}{%
5308 \begingroup
5309 \Hy@safe@activetrue
5310 \edef\dest@name{#1}%
5311 \edef\label@name{#2}%
5312 \hyper@destlabel@hook
5313 \Hy@IsNotEmpty{dest@name}{%
5314 \Hy@IsNotEmpty{label@name}{%
5315 \global\expandafter
5316 \let\csname HyDL!#1\endcsname\ltx@empty
5317 \if@files
5318 \protected@write\@auxout{}{%

```

```

5319         \string\hyper@newdestlabel
5320         {#1}%
5321         {\label@name}%
5322     }%
5323     \fi
5324 }%
5325 }%
5326 \endgroup
5327 }{}%
5328 }%

```

\HyperDestRename

```

5329 \newcommand*{\HyperDestRename}[2]{%
5330     \AtBeginDocument{%
5331         \Hy@DestRename{#1}{#2}%
5332     }%
5333 }%
5334 \AtBeginDocument{%
5335     \let\HyperDestRename\Hy@DestRename
5336 }%

```

\Hy@IsNotEmpty

```

5337 \def\Hy@IsNotEmpty#1{%
5338     \ltx@ifundefined{#1}\ltx@gobble{%
5339         \expandafter\ifx\csname#1\endcsname\ltx@empty
5340         \expandafter\ltx@gobble
5341     \else
5342         \expandafter\ltx@firstofone
5343     \fi
5344 }%
5345 }%
5346 \ltx@GlobalAppendToMacro\label@hook{%
5347     \HyperDestRename\@currentHref\label@name
5348 }%

```

\HyperDestLabelReplace

```

5349 \def\HyperDestLabelReplace#1{%
5350     \ltx@ifundefined{HyDL@#1}{%
5351         #1%
5352     }{%
5353         \csname HyDL@#1\endcsname
5354     }%
5355 }%

```

\HyperDestNameFilter

```

5356 \let\HyperDestNameFilter\HyperDestLabelReplace
5357 \else

```

\hyper@newdestlabel

```

5358 \let\hyper@newdestlabel\ltx@gobbletwo

```

\HyperDestLabelReplace

```

5359 \let\HyperDestLabelReplace\ltx@firstofone

```

\HyperDestRename

```
5360 \let\HyperDestRename\ltx@gobbletwo
```

```
5361 \fi
```

```
5362 \Hy@DisableOption{destlabel}
```

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

```
5363 \AddToHook{include/before}
```

```
5364 {\immediate\write\@partaux{\string\providecommand\string\hyper@newdest-  
label[2]{}}}
```

```
5365 \AddToHook{begindocument}
```

```
5366 {\immediate\write\@mainaux{\string\providecommand\string\hyper@newdest-  
label[2]{}}}
```

19 Forms creation

Allow for creation of PDF or HTML forms. The effects here are limited somewhat by the need to support both output formats, so it may not be as clever as something which only wants to make PDF forms.

I (Sebastian) could not have started this without the encouragement of T V Raman.

19.1 Field flags

The field flags are organized in a bit set.

```
5367 \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

```
5368 \def\HyField@NewFlag#1#2{%
```

```
5369 \lowercase{\HyField@NewOption{#2}}%
```

```
5370 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
```

```
5371 }
```

\HyField@NewFlagOnly

```
5372 \def\HyField@NewFlagOnly#1#2{%
```

```
5373 \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
```

```
5374 }
```

\HyField@NewOption #1: option name

```
5375 \def\HyField@NewOption#1{%
```

```
5376 \expandafter\newif\csname ifFld@#1\endcsname
```

```
5377 \define@key{Field}{#1}[true]{%
```

```
5378 \lowercase{\Field@boolkey{##1}}{#1}%
```



```

5379 }%
5380 }

```

`\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
5381 \def\HyField@NewBitsetFlag#1#2#3#4{%
5382   \begingroup
5383     \count@=#4\relax
5384     \advance\count@\m@ne
5385     \def\x##1{%
5386       \endgroup
5387       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5388       \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
5389         \expandafter\edef\csname HyField@#3@#1\endcsname{%
5390           (\number#4) #2%
5391         }%
5392       \else
5393         \expandafter\edef\csname HyField@#3@#1\endcsname{%
5394           \csname HyField@#3@#1\endcsname
5395             /#2%
5396         }%
5397       \fi
5398     }%
5399   \expandafter\x\expandafter{\the\count@}%
5400 }

```

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

```

5401 \def\HyField@UseFlag#1#2{%
5402   \lowercase{\HyField@@UseFlag{#2}}{#1}%
5403 }

```

`\HyField@@UseFlag`

```

5404 \def\HyField@@UseFlag#1#2{%
5405   \bitsetSetValue{HyField@#2}{%
5406     \csname HyField@#2@#1\endcsname
5407   }{%
5408     \csname ifFld@#1\endcsname 1\else 0\fi
5409   }%
5410 }

```

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

```

5411 \def\HyField@SetFlag#1#2{%
5412   \lowercase{\HyField@@SetFlag{#2}}{#1}%
5413 }

```

`\HyField@@SetFlag`

```

5414 \def\HyField@@SetFlag#1#2{%
5415   \bitsetSetValue{HyField@#2}{%
5416     \csname HyField@#2@#1\endcsname
5417   }{1}%
5418 }

```

\HyField@PrintFlags

```
5419 \def\HyField@PrintFlags#1#2{%
5420   \ifHy@verbose
5421     \begingroup
5422     \let\Hy@temp\@empty
5423     \let\MessageBreak\relax
5424     \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5425     \bitsetGetSetBitList{HyField@#1}\do{%
5426       \edef\Hy@temp{%
5427         \Hy@temp
5428         \csname HyField@#1@\x\endcsname\MessageBreak
5429       }%
5430     }%
5431   \edef\x{\endgroup
5432     \noexpand\Hy@Info{%
5433       Field flags: %
5434       \expandafter\ifx\@car#1\@nil S\else/\fi
5435       #1 %
5436       \bitsetGetDec{HyField@#1} %
5437       (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5438       \Hy@temp
5439       for #2%
5440     }%
5441   }\x
5442 \fi
5443 }
```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```
5444 \HyField@NewFlag{Ff}{ReadOnly}{1}
5445 \HyField@NewFlag{Ff}{Required}{2}
5446 \HyField@NewFlag{Ff}{NoExport}{3}
```

“Table 8.75 Field flags specific to button fields”

```
5447 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5448 \HyField@NewFlag{Ff}{Radio}{16}
5449 \HyField@NewFlag{Ff}{Pushbutton}{17}
5450 \HyField@NewFlag{Ff}{RadiosInUnison}{26}
```

“Table 8.77 Field flags specific to text fields”

```
5451 \HyField@NewFlag{Ff}{Multiline}{13}
5452 \HyField@NewFlag{Ff}{Password}{14}
5453 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5454 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5455 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5456 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5457 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5
```

“Table 8.79 field flags specific to choice fields”

```
5458 \HyField@NewFlag{Ff}{Combo}{18}
5459 \HyField@NewFlag{Ff}{Edit}{19}
5460 \HyField@NewFlag{Ff}{Sort}{20}
5461 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5462 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
```

5463 \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.

```
5464 \newif\ifFld@popdown
5465 \define@key{Field}{popdown}[true]{%
5466   \lowercase{\Field@boolkey{#1}}{popdown}%
5467 }
```

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.

```
5468 \HyField@NewFlag{F}{Invisible}{1}
5469 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5470 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5471 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5472 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5473 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5474 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5475 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5476 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

5477 \ifHy@pdfa
5478   \def\HyField@PDFAFFlagWarning#1#2{%
5479     \Hy@Warning{%
5480       PDF/A: Annotation flag `#1' must\MessageBreak
5481       be set to `#2'%
5482     }%
5483   }%
5484   \Fld@invisiblefalse
5485   \def\Fld@invisibletrue{%
5486     \HyField@PDFAFFlagWarning{invisible}{false}%
5487   }%
5488   \Fld@hiddenfalse
5489   \def\Fld@hiddentrue{%
5490     \HyField@PDFAFFlagWarning{hidden}{false}%
5491   }%
5492   \Fld@printtrue
5493   \def\Fld@printfalse{%
5494     \HyField@PDFAFFlagWarning{print}{true}%
5495   }%
5496   \Fld@nozoomtrue
5497   \def\Fld@nozoomfalse{%
5498     \HyField@PDFAFFlagWarning{nozoom}{true}%
5499   }%
5500   \Fld@norotatetrue
5501   \def\Fld@norotatefalse{%
5502     \HyField@PDFAFFlagWarning{norotate}{true}%
5503   }%
5504   \Fld@noviewfalse
5505   \def\Fld@noviewtrue{%
5506     \HyField@PDFAFFlagWarning{noview}{false}%
```

```

5507 }%
5508 \fi

```

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

```

5509 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5510 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5511 \HyField@NewFlag{Submit}{GetMethod}{4}
5512 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5513 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5514 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5515 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5516 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5517 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5518 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5519 \HyField@NewFlag{Submit}{ExclFKey}{12}
5520 \HyField@NewFlag{Submit}{EmbedForm}{14}

5521 \define@key{Field}{export}{%
5522   \lowercase{\def\Hy@temp{#1}}%
5523   \@ifundefined{Fld@export@\Hy@temp}{%
5524     \@onelevel@sanitize\Hy@temp
5525     \Hy@Error{%
5526       Unknown export format `'\Hy@temp'.\MessageBreak
5527       Known formats are `FDF', `HTML', `XFDF', and `PDF'%
5528     }\@ehc
5529   }%
5530   \let\Fld@export\Hy@temp
5531 }%
5532 }
5533 \def\Fld@export{fdf}
5534 \@namedef{Fld@export@fdf}{0}%
5535 \@namedef{Fld@export@html}{1}%
5536 \@namedef{Fld@export@xfdf}{2}%
5537 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

`\HyField@FlagsSubmit`

```

5538 \def\HyField@FlagsSubmit{%
5539   \bitsetReset{HyField@Submit}%
5540   \ifcase\@nameuse{Fld@export@\Fld@export} %
5541     % FDF
5542     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5543     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5544     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5545     \HyField@UseFlag{Submit}{IncludeAnnotations}%
5546     \HyField@UseFlag{Submit}{CanonicalFormat}%
5547     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5548     \HyField@UseFlag{Submit}{ExclFKey}%
5549     \HyField@UseFlag{Submit}{EmbedForm}%
5550   \or % HTML
5551     \HyField@SetFlag{Submit}{ExportFormat}%
5552     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5553     \HyField@UseFlag{Submit}{GetMethod}%

```

```

5554 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5555 \HyField@UseFlag{Submit}{CanonicalFormat}%
5556 \or % XFDF
5557 \HyField@SetFlag{Submit}{XFDF}%
5558 \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5559 \HyField@UseFlag{Submit}{SubmitCoordinates}%
5560 \HyField@UseFlag{Submit}{CanonicalFormat}%
5561 \or % PDF
5562 \HyField@SetFlag{Submit}{SubmitPDF}%
5563 \HyField@UseFlag{Submit}{GetMethod}%
5564 \fi
5565 \HyField@PrintFlags{Submit}{submit button field}%
5566 \bitsetIsEmpty{HyField@Submit}{%
5567 \let\Fld@submitflags\ltx@empty
5568 }{%
5569 \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
5570 }%
5571 }

```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5572 \def\HyField@FlagsAnnot#1{%
5573 \bitsetReset{HyField@F}%
5574 \HyField@UseFlag{F}{Invisible}%
5575 \HyField@UseFlag{F}{Hidden}%
5576 \HyField@UseFlag{F}{Print}%
5577 \HyField@UseFlag{F}{NoZoom}%
5578 \HyField@UseFlag{F}{NoRotate}%
5579 \HyField@UseFlag{F}{NoView}%
5580 \HyField@UseFlag{F}{Locked}%
5581 \HyField@UseFlag{F}{ToggleNoView}%
5582 \HyField@UseFlag{F}{LockedContents}%
5583 \HyField@PrintFlags{F}{#1}%
5584 \bitsetIsEmpty{HyField@F}{%
5585 \let\Fld@annotflags\ltx@empty
5586 }{%
5587 \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
5588 }%
5589 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5590 \def\HyField@FlagsPushButton{%
5591 \HyField@FlagsAnnot{push button field}%
5592 \bitsetReset{HyField@Ff}%
5593 \HyField@UseFlag{Ff}{ReadOnly}%
5594 \HyField@UseFlag{Ff}{Required}%
5595 \HyField@UseFlag{Ff}{NoExport}%
5596 \HyField@SetFlag{Ff}{PushButton}%
5597 \HyField@PrintFlags{Ff}{push button field}%
5598 \bitsetIsEmpty{HyField@Ff}{%

```

```

5599 \let\Fld@flags\ltx@empty
5600 }{%
5601 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5602 }%
5603 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

```

5604 \def\HyField@FlagsCheckBox{%
5605 \HyField@FlagsAnnot{check box field}%
5606 \bitsetReset{HyField@Ff}%
5607 \HyField@UseFlag{Ff}{ReadOnly}%
5608 \HyField@UseFlag{Ff}{Required}%
5609 \HyField@UseFlag{Ff}{NoExport}%
5610 \HyField@PrintFlags{Ff}{check box field}%
5611 \bitsetIsEmpty{HyField@Ff}{%
5612 \let\Fld@flags\ltx@empty
5613 }{%
5614 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5615 }%
5616 }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```

5617 \def\HyField@FlagsRadioButton{%
5618 \HyField@FlagsAnnot{radio button field}%
5619 \bitsetReset{HyField@Ff}%
5620 \HyField@UseFlag{Ff}{ReadOnly}%
5621 \HyField@UseFlag{Ff}{Required}%
5622 \HyField@UseFlag{Ff}{NoExport}%
5623 \HyField@UseFlag{Ff}{NoToggleToOff}%
5624 \HyField@SetFlag{Ff}{Radio}%
5625 \HyField@UseFlag{Ff}{RadiosInUnison}%
5626 \HyField@PrintFlags{Ff}{radio button field}%
5627 \bitsetIsEmpty{HyField@Ff}{%
5628 \let\Fld@flags\ltx@empty
5629 }{%
5630 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5631 }%
5632 }

```

19.1.7 Text fields

\HyField@FlagsText

```

5633 \def\HyField@FlagsText{%
5634 \HyField@FlagsAnnot{text field}%
5635 \bitsetReset{HyField@Ff}%
5636 \HyField@UseFlag{Ff}{ReadOnly}%
5637 \HyField@UseFlag{Ff}{Required}%
5638 \HyField@UseFlag{Ff}{NoExport}%
5639 \HyField@UseFlag{Ff}{Multiline}%

```

```

5640 \HyField@UseFlag{Ff}{Password}%
5641 \HyField@UseFlag{Ff}{FileSelect}%
5642 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5643 \HyField@UseFlag{Ff}{DoNotScroll}%
5644 \ifFld@comb
5645 \ifcase0\ifFld@multiline
5646 \else\ifFld@password
5647 \else\ifFld@fileselect
5648 \else 1\fi\fi\fi\relax
5649 \Hy@Error{%
5650 Field option `comb' cannot used together with\MessageBreak
5651 `multiline', `password', or `fileselect'%
5652 }\@ehc
5653 \else
5654 \HyField@UseFlag{Ff}{Comb}%
5655 \fi
5656 \fi
5657 \HyField@UseFlag{Ff}{RichText}%
5658 \HyField@PrintFlags{Ff}{text field}%
5659 \bitsetIsEmpty{HyField@Ff}{%
5660 \let\Fld@flags\ltx@empty
5661 }{%
5662 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5663 }%
5664 }

```

19.1.8 Choice fields

\HyField@FlagsChoice

```

5665 \def\HyField@FlagsChoice{%
5666 \HyField@FlagsAnnot{choice field}%
5667 \bitsetReset{HyField@Ff}%
5668 \HyField@UseFlag{Ff}{ReadOnly}%
5669 \HyField@UseFlag{Ff}{Required}%
5670 \HyField@UseFlag{Ff}{NoExport}%
5671 \HyField@UseFlag{Ff}{Combo}%
5672 \ifFld@combo
5673 \HyField@UseFlag{Ff}{Edit}%
5674 \fi
5675 \HyField@UseFlag{Ff}{Sort}%
5676 \HyField@UseFlag{Ff}{MultiSelect}%
5677 \ifFld@combo
5678 \ifFld@edit
5679 \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5680 \fi
5681 \fi
5682 \HyField@UseFlag{Ff}{CommitOnSelChange}%
5683 \HyField@PrintFlags{Ff}{choice field}%
5684 \bitsetIsEmpty{HyField@Ff}{%
5685 \let\Fld@flags\ltx@empty
5686 }{%
5687 \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5688 }%
5689 }

```

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`.

```

5690 \def\HyField@PDFChoices#1{%
5691   \begingroup
5692     \global\let\Fld@choices\ltx@empty
5693     \let\HyTmp@optlist\ltx@empty
5694     \let\HyTmp@optitem\relax
5695     \count@=0 %
5696     \kv@parse{#1}{%
5697       \Hy@pdfstringdef\kv@key\kv@key
5698       \ifx\kv@value\relax
5699         \ifnum\Hy@pdf@majorminor@version<103 % implementation note 122, PDF spec 1.7
5700           \xdef\Fld@choices{\Fld@choices(\kv@key)(\kv@key)}%
5701         \else
5702           \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5703         \fi
5704       \else
5705         \Hy@pdfstringdef\kv@value\kv@value
5706         \xdef\Fld@choices{\Fld@choices[\kv@value](\kv@key)}%
5707       \fi
5708       \edef\HyTmp@optlist{%
5709         \HyTmp@optlist
5710         \HyTmp@optitem{\the\count@}{\kv@key}0%
5711       }%
5712       \advance\count@ by 1 %
5713       \@gobbletwo
5714     }%
5715     \xdef\Fld@choices{/Opt{\Fld@choices}}%
5716     \ifFld@multiselect
5717       \HyField@@PDFChoices{DV}\Fld@default
5718       \HyField@@PDFChoices{V}\Fld@value
5719     \else
5720       \ifx\Fld@default\relax
5721       \else
5722         \pdfstringdef\Hy@gtemp\Fld@default
5723         \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5724       \fi
5725       \ifx\Fld@value\relax
5726       \else
5727         \pdfstringdef\Hy@gtemp\Fld@value
5728         \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5729       \fi
5730     \fi
5731   \endgroup
5732 }
```

`\HyField@@PDFChoices`

```

5733 \def\HyField@@PDFChoices#1#2{%
5734   \ifx#2\relax
5735   \else
```



```

5736 \count@=0 %
5737 \def\HyTmp@optitem##1##2##3{%
5738 \def\HyTmp@key{##2}%
5739 \ifx\HyTmp@key\Hy@gtemp
5740 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5741 \HyTmp@optlist
5742 \HyTmp@optitem{##1}{##2}1%
5743 }%
5744 \let\HyTmp@found=Y%
5745 \else
5746 \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5747 \HyTmp@optlist
5748 \HyTmp@optitem{##1}{##2}##3%
5749 }%
5750 \fi
5751 }%
5752 \expandafter\comma@parse\expandafter{#2}{%
5753 \pdfstringdef\Hy@gtemp\comma@entry
5754 \let\HyTmp@found=N %
5755 \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5756 \HyTmp@optlist
5757 \ifx\HyTmp@found Y%
5758 \advance\count@ by 1 %
5759 \else
5760 \@onelevel@sanitize\comma@entry
5761 \PackageWarning{hyperref}{%
5762 \string\ChoiceBox: Ignoring value `\'comma@entry',%
5763 \MessageBreak
5764 it cannot be found in the choices%
5765 }%
5766 \fi
5767 \@gobble
5768 }%
5769 \def\HyTmp@optitem##1##2##3{%
5770 \ifnum##3=1 %
5771 (##2)%
5772 \fi
5773 }%
5774 \ifcase\count@
5775 \or
5776 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5777 \else
5778 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5779 \ifx#1V%
5780 \def\HyTmp@optitem##1##2##3{%
5781 \ifnum##3=1 %
5782 \@firstofone{ ##1}%
5783 \fi
5784 }%
5785 \edef\HyTmp@optlist{\HyTmp@optlist}%
5786 \xdef\Fld@choices{%
5787 \Fld@choices
5788 /I\expandafter\@firstofone\HyTmp@optlist}%
5789 }%

```

```

5790     \fi
5791     \fi
5792 \fi
5793 }

```

19.3 Forms

\HyField@SetKeys

```

5794 \def\HyField@SetKeys{%
5795   \kvsetkeys{Field}%
5796 }

5797 \newif\ifFld@checked
5798 \newif\ifFld@disabled
5799 \Fld@checkedfalse
5800 \Fld@disabledfalse
5801 \newcount\Fld@menulength
5802 \newdimen\Fld@Width
5803 \newdimen\Fld@charsize
5804 \Fld@charsize=10\p@
5805 \def\Fld@maxlen{0}
5806 \def\Fld@align{0}
5807 \def\Fld@color{0 0 0 rg}
5808 \def\Fld@bcolor{1 1 1}
5809 \def\Fld@bordercolor{1 0 0}
5810 \def\Fld@bordersep{1\p@}
5811 \def\Fld@borderwidth{1}
5812 \def\Fld@borderstyle{S}
5813 \def\Fld@cbsymbol{4}
5814 \def\Fld@radiosymbol{H}
5815 \def\Fld@rotation{0}
5816 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
5817 \def\endForm{\@endForm}
5818 \newif\ifForm@html
5819 \Form@htmlfalse
5820 \def\Form@boolkey#1#2{%
5821   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5822 }
5823 \define@key{Form}{action}{%
5824   \hyper@normalise\Hy@DefFormAction{#1}%
5825 }
5826 \def\Hy@DefFormAction{\def\Form@action}
5827 \def\enc@@html{html}
5828 \define@key{Form}{encoding}{%
5829   \def\Hy@tempa{#1}%
5830   \ifx\Hy@tempa\enc@@html
5831     \Form@htmltrue
5832     \def\Fld@export{html}%
5833   \else
5834     \Hy@Warning{%
5835       Form `encoding' key with \MessageBreak
5836       unknown value `#1'%
5837     }%
5838     \Form@htmlfalse

```

```

5839 \fi
5840 }
5841 \define@key{Form}{method}{%
5842 \lowercase{\def\Hy@temp{#1}}%
5843 \@ifundefined{Form@method@\Hy@temp}{%
5844 \onelevel@sanitize\Hy@temp
5845 \Hy@Error{%
5846 Unknown method `\'Hy@temp'.\MessageBreak
5847 Known values are `post' and `get'%
5848 }\@ehc
5849 }{%
5850 \let\Form@method\Hy@temp
5851 \ifcase\@nameuse{Form@method@\Hy@temp} %
5852 \Fld@getmethodfalse
5853 \else
5854 \Fld@getmethodtrue
5855 \fi
5856 }%
5857 }
5858 \def\Form@method{}
5859 \@namedef{Form@method@post}{0}
5860 \@namedef{Form@method@get}{1}

5861 \newif\ifHyField@NeedAppearances
5862 \def\HyField@NeedAppearancesfalse{%
5863 \global\let\ifHyField@NeedAppearances\iffalse
5864 }
5865 \def\HyField@NeedAppearancetrue{%
5866 \global\let\ifHyField@NeedAppearances\iftrue
5867 }
5868 \HyField@NeedAppearancetrue
5869 \define@key{Form}{NeedAppearances}[true]{%
5870 \edef\Hy@tempa{#1}%
5871 \ifx\Hy@tempa\Hy@true
5872 \HyField@NeedAppearancetrue
5873 \else
5874 \ifx\Hy@tempa\Hy@false
5875 \HyField@NeedAppearancesfalse
5876 \else
5877 \Hy@Error{%
5878 Unexpected value `\'Hy@tempa'.\MessageBreak
5879 of option `NeedAppearances' instead of\MessageBreak
5880 `true' or `false'%
5881 }\@ehc
5882 \fi
5883 \fi
5884 }
5885 \def\Field@boolkey#1#2{%
5886 \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5887 }
5888 \ifHy@texht
5889 \newtoks\Field@toks
5890 \Field@toks={ }%
5891 \def\Field@addtoks#1#2{%
5892 \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%

```

```

5893 \@@processme
5894 }%
5895 \else
5896 \def\Hy@WarnHTMLFieldOption#1{%
5897 \Hy@Warning{%
5898 HTML field option `#1'\MessageBreak
5899 is ignored%
5900 }%
5901 }%
5902 \fi
5903 \def\Fld@checkequals#1=#2=#3\\{%
5904 \def\@currDisplay{#1}%
5905 \ifx\\#2\\%
5906 \def\@currValue{#1}%
5907 \else
5908 \def\@currValue{#2}%
5909 \fi
5910 \expandafter\Hy@pdfstringdef\expandafter\@currValue\expandafter{\@currValue}%
5911 }
5912 \define@key{Field}{loc}{%
5913 \def\Fld@loc{#1}%
5914 }
5915 \define@key{Field}{checked}[true]{%
5916 \lowercase{\Field@boolkey{#1}}{checked}%
5917 }
5918 \define@key{Field}{disabled}[true]{%
5919 \lowercase{\Field@boolkey{#1}}{disabled}%
5920 }
5921 \ifHy@texht
5922 \define@key{Field}{accesskey}{%
5923 \Field@addtoks{accesskey}{#1}%
5924 }%
5925 \define@key{Field}{tabkey}{%
5926 \Field@addtoks{tabkey}{#1}%
5927 }%
5928 \else
5929 \define@key{Field}{accesskey}{%
5930 \Hy@WarnHTMLFieldOption{accesskey}%
5931 }%
5932 \define@key{Field}{tabkey}{%
5933 \Hy@WarnHTMLFieldOption{tabkey}%
5934 }%
5935 \fi
5936 \define@key{Field}{name}{%
5937 \def\Fld@name{#1}%
5938 }
5939 \let\Fld@altname\relax
5940 \define@key{Field}{altname}{%
5941 \def\Fld@altname{#1}%
5942 }
5943 \let\Fld@mappingname\relax
5944 \define@key{Field}{mappingname}{%
5945 \def\Fld@mappingname{#1}%
5946 }

```

```

5947 \define@key{Field}{width}{%
5948   \def\Fld@width{#1}%
5949   \Field@Width#1\setbox0=\hbox{m}%
5950 }
5951 \define@key{Field}{maxlen}{%
5952   \def\Fld@maxlen{#1}%
5953 }
5954 \define@key{Field}{menulength}{%
5955   \Fld@menulength=#1\relax
5956 }
5957 \define@key{Field}{height}{%
5958   \def\Fld@height{#1}%
5959 }
5960 \define@key{Field}{charsize}{%
5961   \setlength{\Fld@charsize}{#1}%
5962 }
5963 \define@key{Field}{borderwidth}{%
5964   \Hy@defaultbp\Fld@borderwidth{#1}%
5965 }
5966 \def\Hy@defaultbp#1#2{%
5967   \begingroup
5968   \afterassignment\Hy@defaultbpAux
5969   \dimen@=#2bp\relax{#1}{#2}%
5970 }
5971 \def\Hy@defaultbpAux#1\relax#2#3{%
5972   \ifx!#1!%
5973     \endgroup
5974     \def#2{#3}%
5975   \else
5976     \edef\x{\endgroup
5977       \def\noexpand#2{%
5978         \strip@pt\dimexpr\dimen@*800/803\relax
5979       }%
5980     }\x
5981   \fi
5982 }%
5983 \define@key{Field}{borderstyle}{%
5984   \let\Hy@temp\Fld@borderstyle
5985   \def\Fld@borderstyle{#1}%
5986   \Hy@Match\Fld@borderstyle{}{%
5987     ^[SDBIU]$%
5988   }{}{%
5989     \Hy@Warning{%
5990       Invalid value `\'@pdfborderstyle'\MessageBreak
5991       for option `pdfborderstyle'. Valid values:\MessageBreak
5992       \space\space S (Solid), D (Dashed), B (Beveled),\MessageBreak
5993       \space\space I (Inset), U (Underline)\MessageBreak
5994       Option setting is ignored%
5995     }%
5996     \let\Fld@borderstyle\Hy@temp
5997   }%
5998 }
5999 \define@key{Field}{bordersep}{%
6000   \def\Fld@bordersep{#1}%

```

```

6001 }
6002 \define@key{Field}{default}{%
6003   \Hy@pdfstringdef\Fld@default{#1}%
6004 }
6005 \define@key{Field}{align}{%
6006   \def\Fld@align{#1}%
6007 }
6008 \define@key{Field}{value}{%
6009   \Hy@pdfstringdef\Fld@value{#1}%
6010 }
6011 \define@key{Field}{checkboxsymbol}{%
6012   \Fld@DingDef\Fld@cbsymbol{#1}%
6013 }
6014 \define@key{Field}{radiosymbol}{%
6015   \Fld@DingDef\Fld@radiosymbol{#1}%
6016 }
6017 \def\Fld@DingDef#1#2{%
6018   \let\Fld@temp\ltx@empty
6019   \Fld@@@DingDef#2\ding{ }\@nil
6020   \let#1\Fld@temp
6021 }
6022 \def\Fld@@@DingDef#1\ding#2#3\@nil{%
6023   \expandafter\def\expandafter\Fld@temp\expandafter{%
6024     \Fld@temp
6025     #1%
6026   }%
6027   \ifx\\#3\\%
6028     \expandafter\@gobble
6029   \else
6030     \begingroup
6031     \lccode`0=#2\relax
6032     \lowercase{\endgroup
6033       \expandafter\def\expandafter\Fld@temp\expandafter{%
6034         \Fld@temp
6035         0%
6036       }%
6037     }%
6038     \expandafter\@firstofone
6039   \fi
6040   {%
6041     \Fld@@@DingDef#3\@nil
6042   }%
6043 }

6044 \define@key{Field}{rotation}{%
6045   \def\Fld@rotation{#1}%
6046 }

6047 \define@key{Field}{backgroundcolor}{%
6048   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
6049 }
6050 \define@key{Field}{bordercolor}{%
6051   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
6052 }
6053 \define@key{Field}{color}{%

```

```

6054 \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
6055 }

6056 \let\Fld@onclick@code\ltx@empty
6057 \let\Fld@format@code\ltx@empty
6058 \let\Fld@validate@code\ltx@empty
6059 \let\Fld@calculate@code\ltx@empty
6060 \let\Fld@keystroke@code\ltx@empty
6061 \let\Fld@onfocus@code\ltx@empty
6062 \let\Fld@onblur@code\ltx@empty
6063 \let\Fld@onmousedown@code\ltx@empty
6064 \let\Fld@onmouseup@code\ltx@empty
6065 \let\Fld@onenter@code\ltx@empty
6066 \let\Fld@onexit@code\ltx@empty
6067 \def\Hy@temp#1{%
6068   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
6069 }
6070 \def\Hy@@temp#1#2{%
6071   \ifHy@pdfa
6072     \define@key{Field}{#2}{%
6073       \Hy@Error{%
6074         PDF/A: Additional action `#2' is prohibited%
6075       }\@ehc
6076     }%
6077   \else
6078     \define@key{Field}{#2}{%
6079       \def#1{##1}%
6080     }%
6081   \fi
6082 }
6083 \Hy@temp{keystroke}
6084 \Hy@temp{format}
6085 \Hy@temp{validate}
6086 \Hy@temp{calculate}
6087 \Hy@temp{onfocus}
6088 \Hy@temp{onblur}
6089 \Hy@temp{onenter}
6090 \Hy@temp{onexit}

6091 \let\Fld@calculate@sortkey\ltx@empty
6092 \define@key{Field}{calculatesortkey}[1]{%
6093   \def\Fld@calculate@sortkey{#1}%
6094 }

6095 \ifHy@texht
6096   \def\Hy@temp#1{%
6097     \define@key{Field}{#1}{%
6098       \Field@addtoks{#1}{##1}%
6099     }%
6100   }%
6101 \else
6102   \def\Hy@temp#1{%
6103     \define@key{Field}{#1}{%
6104       \Hy@WarnHTMLFieldOption{#1}%
6105     }%
6106   }%

```

```

6107 \fi
6108 \Hy@temp{ondblclick}
6109 \Hy@temp{onmousedown}
6110 \Hy@temp{onmouseup}
6111 \Hy@temp{onmouseover}
6112 \Hy@temp{onmousemove}
6113 \Hy@temp{onmouseout}
6114 \Hy@temp{onkeydown}
6115 \Hy@temp{onkeyup}
6116 \Hy@temp{onselect}
6117 \Hy@temp{onchange}
6118 \Hy@temp{onkeypress}
6119 \ifHy@texht
6120   \define@key{Field}{onclick}{%
6121     \Field@addtoks{onclick}{#1}%
6122   }%
6123 \else
6124   \ifHy@pdfa
6125     \define@key{Field}{onclick}{%
6126       \Hy@Error{%
6127         PDF/A: Action `onclick' is prohibited%
6128       } \@ehc
6129     }%
6130   \else
6131     \define@key{Field}{onclick}{%
6132       \def\Fld@onclick@code{#1}%
6133     }%
6134   \fi
6135 \fi

6136 \DeclareRobustCommand\TextField{%
6137   \@ifnextchar[{\@TextField}{\@TextField[]}%
6138 }
6139 \DeclareRobustCommand\ChoiceMenu{%
6140   \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
6141 }
6142 \DeclareRobustCommand\CheckBox{%
6143   \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
6144 }
6145 \DeclareRobustCommand\PushButton{%
6146   \@ifnextchar[{\@PushButton}{\@PushButton[]}%
6147 }
6148 \DeclareRobustCommand\Gauge{%
6149   \@ifnextchar[{\@Gauge}{\@Gauge[]}%
6150 }
6151 \DeclareRobustCommand\Submit{%
6152   \@ifnextchar[{\@Submit}{\@Submit[]}%
6153 }
6154 \DeclareRobustCommand\Reset{%
6155   \@ifnextchar[{\@Reset}{\@Reset[]}%
6156 }
6157 \def\LayoutTextField#1#2{% label, field
6158   \def\Hy@temp{#1}%
6159   \ifx\Hy@temp\@empty
6160     #2%

```



```

6161 \else
6162   #1 #2%
6163 \fi
6164 }
6165 \def\LayoutChoiceField#1#2{% label, field
6166   \def\Hy@temp{#1}%
6167   \ifx\Hy@temp\@empty
6168     #2%
6169   \else
6170     #1 #2%
6171   \fi
6172 }
6173 \def\LayoutCheckField#1#2{% label, field
6174   \def\Hy@temp{#1}%
6175   \ifx\Hy@temp\@empty
6176     #2%
6177   \else
6178     #1 #2%
6179   \fi
6180 }
6181 \def\LayoutPushButtonField#1{% button
6182   #1%
6183 }
6184 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6185 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6186 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6187 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6188 \def\MakeButtonField#1{%
6189   \sbox0{%
6190     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
6191   }%
6192   \@tempdima\ht0 %
6193   \advance\@tempdima by \Fld@borderwidth bp %
6194   \advance\@tempdima by \Fld@borderwidth bp %
6195   \ht0\@tempdima
6196   \@tempdima\dp0 %
6197   \advance\@tempdima by \Fld@borderwidth bp %
6198   \advance\@tempdima by \Fld@borderwidth bp %
6199   \dp0\@tempdima
6200   \box0\relax
6201 }
6202 \def\DefaultHeightofSubmit{14pt}
6203 \def\DefaultWidthofSubmit{2cm}
6204 \def\DefaultHeightofReset{14pt}
6205 \def\DefaultWidthofReset{2cm}
6206 \def\DefaultHeightofCheckBox{\normalbaselineskip}
6207 \def\DefaultWidthofCheckBox{\normalbaselineskip}
6208 \def\DefaultHeightofChoiceMenu{\normalbaselineskip}
6209 \def\DefaultWidthofChoiceMenu{\normalbaselineskip}
6210 \def\DefaultHeightofText{\normalbaselineskip}
6211 \def\DefaultHeightofTextMultiline{4\normalbaselineskip}
6212 \def\DefaultWidthofText{3cm}
6213 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
6214 \def\DefaultOptionsofReset{print,name=Reset,noexport}

```

```

6215 \def\DefaultOptionsofPushButton{print}
6216 \def\DefaultOptionsofCheckBox{print}
6217 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

6218 \def\DefaultOptionsofListBox{print}
6219 \def\DefaultOptionsofComboBox{print,edit,sort}
6220 \def\DefaultOptionsofPopdownBox{print}
6221 \def\DefaultOptionsofRadio{print,notoggletooff}

```

20 Setup

```

6222 \ifHy@hyperfigures
6223 \Hy@Info{Hyper figures ON}%
6224 \else
6225 \Hy@Info{Hyper figures OFF}%
6226 \fi
6227 \ifHy@nesting
6228 \Hy@Info{Link nesting ON}%
6229 \else
6230 \Hy@Info{Link nesting OFF}%
6231 \fi
6232 \ifHy@hyperindex
6233 \Hy@Info{Hyper index ON}%
6234 \else
6235 \Hy@Info{Hyper index OFF}%
6236 \fi
6237 \ifHy@backref
6238 \Hy@Info{backreferencing ON}%
6239 \else
6240 \Hy@Info{backreferencing OFF}%
6241 \fi
6242 \ifHy@colorlinks
6243 \Hy@Info{Link coloring ON}%
6244 \else
6245 \Hy@Info{Link coloring OFF}%
6246 \fi
6247 \ifHy@ocgcolorlinks
6248 \Hy@Info{Link coloring with OCG ON}%
6249 \else
6250 \Hy@Info{Link coloring with OCG OFF}%
6251 \fi
6252 \ifHy@pdfa
6253 \Hy@Info{PDF/A mode ON}%
6254 \else
6255 \Hy@Info{PDF/A mode OFF}%
6256 \fi

```

21 Low-level utility macros

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

```

6257 \edef\hyper@hash{\string#}

```

```

6258 \edef\hyper@tilde{\string~}
6259 \edef\hyper@quote{\string"}

```

Support \label before \begin{document}.

```

6260 \def\@currentHref{Doc-Start}
6261 \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.

```

6262 \Hy@AtBeginDocument{%
6263   \Hy@pdfstringtrue
6264   \PDF@SetupDoc
6265   \let\PDF@SetupDoc\@empty
6266   \Hy@DisableOption{pdfpagescrop}%
6267   \Hy@DisableOption{pdfpagemode}%
6268   \Hy@DisableOption{pdfnonfullscreenpagemode}%
6269   \Hy@DisableOption{pdfdirection}%
6270   \Hy@DisableOption{pdfviewarea}%
6271   \Hy@DisableOption{pdfviewclip}%
6272   \Hy@DisableOption{pdfprintarea}%
6273   \Hy@DisableOption{pdfprintclip}%
6274   \Hy@DisableOption{pdfprintscaling}%
6275   \Hy@DisableOption{pdfduplex}%
6276   \Hy@DisableOption{pdfpicktraybypdfsize}%
6277   \Hy@DisableOption{pdfprintpagerange}%
6278   \Hy@DisableOption{pdfnumcopies}%
6279   \Hy@DisableOption{pdfstartview}%
6280   \Hy@DisableOption{pdfstartpage}%
6281   \Hy@DisableOption{pdftoolbar}%
6282   \Hy@DisableOption{pdfmenubar}%
6283   \Hy@DisableOption{pdfwindowui}%
6284   \Hy@DisableOption{pdffitwindow}%
6285   \Hy@DisableOption{pdfcenterwindow}%
6286   \Hy@DisableOption{pdfdisplaydoctitle}%
6287   \Hy@DisableOption{pdfpagelayout}%
6288   \Hy@DisableOption{pdflang}%
6289   \Hy@DisableOption{baseurl}%
6290   \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
6291   \Hy@pdfstringfalse
6292 }

```

Ignore star from referencing macros: This is only needed if LaTeX doesn't define the starred variants itself.

```

6293 \@ifundefined{@kernel@ref}
6294 {\LetLtxMacro\NoHy@OrgRef\ref
6295  \DeclareRobustCommand*\ref{%
6296   \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6297  }
6298  \LetLtxMacro\NoHy@OrgPageRef\pageref
6299  \DeclareRobustCommand*\pageref{%
6300   \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6301  }}

```

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.

```

6302 \def\NoHyper{%
6303   \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6304   \def\hyper@@anchor##1##2{##2\Hy@xspace@end}%
6305   \global\let\hyper@livelink\hyper@link
6306   \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
6307   \let\hyper@anchor\ltx@gobble
6308   \let\hyper@anchorstart\ltx@gobble
6309   \def\hyper@anchorend{\Hy@xspace@end}%
6310   \let\hyper@linkstart\ltx@gobbletwo
6311   \def\hyper@linkend{\Hy@xspace@end}%
6312   \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6313   \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6314   \let\Hy@backout\@gobble
6315 }
6316 \def\stop@hyper{%
6317   \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6318   \let\Hy@backout\@gobble
6319   \let\hyper@@anchor\ltx@gobble
6320   \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
6321   \let\hyper@anchor\ltx@gobble
6322   \let\hyper@anchorstart\ltx@gobble
6323   \def\hyper@anchorend{\Hy@xspace@end}%
6324   \let\hyper@linkstart\ltx@gobbletwo
6325   \def\hyper@linkend{\Hy@xspace@end}%
6326   \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6327   \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6328 }
6329 \def\endNoHyper{%
6330   \global\let\hyper@link\hyper@livelink
6331 }
6332 \end{package}

```

23 Package nohyperref

This package is introduced by Sebastian Rahtz.

Package `nohyperref` is a dummy package that defines some low level and some top-level commands. It is done for `jadetex`, which calls `hyperref` low-level commands, but it would also be useful with people using normal `hyperref`, who really do not want the package loaded at all.

Some low-level commands:

```

6333 \*nohyperref
6334 \RequirePackage{letltxmacro}[2008/06/13]
6335 \let\hyper@@anchor\@gobble
6336 \def\hyper@link##1##2##3{##3}%
6337 \let\hyper@anchorstart\@gobble
6338 \let\hyper@anchorend\@empty

```

```

6339 \let\hyper@linkstart\@gobbletwo
6340 \let\hyper@linkend\@empty
6341 \def\hyper@linkurl#1#2{#1}%
6342 \def\hyper@linkfile#1#2#3{#1}%
6343 \def\hyper@link@[#1]#2#3{#1}%
6344 \let\PDF@SetupDoc\@empty
6345 \let\PDF@FinishDoc\@empty
6346 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

6347 \def\Acrobatmenu#1#2{\leavevmode#2}
6348 \let\pdfstringdefDisableCommands\@gobbletwo
6349 \let\texorpdfstring\@firstoftwo
6350 \let\pdfbookmark\@undefined
6351 \newcommand\pdfbookmark[3]{}{}
6352 \let\phantomsection\@empty
6353 \let\hypersetup\@gobble
6354 \let\hyperbaseurl\@gobble
6355 \newcommand*{\href}[3]{}{#3}
6356 \let\hyperdef\@gobbletwo
6357 \let\hyperlink\@gobble
6358 \let\hypertarget\@gobble
6359 \def\hyperref{%
6360   \@ifnextchar{\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6361 }
6362 \long\def\@gobbleopt[#1]{}
6363 \let\hyperpage\@empty

```

Ignore star from referencing macros. This is only needed in older formats.

```

6364 \@if@t@r\fmtversion{2022-06-01}
6365 {}%
6366 {%
6367   \LetLtxMacro\NoHy@OrgRef\ref
6368   \DeclareRobustCommand*{\ref}{%
6369     \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6370   }
6371   \LetLtxMacro\NoHy@OrgPageRef\pageref
6372   \DeclareRobustCommand*{\pageref}{%
6373     \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6374   }%
6375 }
6376 \</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.

```

6377 (*package)
6378 \@if@t@r\fmtversion{2023-06-01}{}
6379 {

```

```
6380 \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.

```
6381 \if@filesw
6382 \immediate\write\@auxout{%
6383 \string\providecommand\string\HyperFirstAtBeginDocument{%
6384 \string\AtBeginDocument}^^J%
6385 \string\HyperFirstAtBeginDocument{%
6386 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6387 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6388 \string\gdef\string\newlabel\string#1\string#2{%
6389 \string\newlabelxx{\string#1}\string#2}^^J%
6390 \string\gdef\string\newlabelxx%
6391 \string#1\string#2\string#3\string#4\string#5\string#6{%
6392 \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.

```
6393 \string\AtEndDocument{%
6394 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6395 \string\let\string\newlabel\string\oldnewlabel^^J%
6396 \string\fi%
6397 }^^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.

```
6398 \string\fi%
6399 }^^J%
6400 \string\global\string\let\string\hyper@last\relax^^J%
6401 \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6402 }%
6403 \fi
6404 \let\HyperFirstAtBeginDocument\ltx@firstofone
```

Now the code to deal with adding the hyperref package to a document with aux and toc written the standard way.

If hyperref was used last time, do nothing. change 2022-03-28: removed the test for an old toc. `\contentsline` has now always four arguments.

```
6405 \ifx\hyper@last\@undefined
6406 \def\newlabel#1#2{\@newl@bel r{#1}{#2}{-}{-}{-}}%
6407 \fi
6408 }
6409 }
```

25 Title strings

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

```
6410 \ifHy@pdfusetitle
```

```

6411 \let\HyOrg@title\title
6412 \let\HyOrg@author\author
6413 \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
6414 \def\Hy@scanopttitle[#1]{%
6415   \gdef\Hy@title{#1}%
6416   \HyOrg@title{#1}%
6417 }%
6418 \def\Hy@scantitle#1{%
6419   \gdef\Hy@title{#1}%
6420   \HyOrg@title{#1}%
6421 }%
6422 \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6423 \def\Hy@scanoptauthor[#1]{%
6424   \gdef\Hy@author{#1}%
6425   \HyOrg@author{#1}%
6426 }%
6427 \def\Hy@scanauthor#1{%
6428   \gdef\Hy@author{#1}%
6429   \HyOrg@author{#1}%
6430 }%

```

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.

```

6431 \begingroup
6432   \def\process@me#1\@nil#2{%
6433     \expandafter\let\expandafter\x\csname @#2\endcsname
6434     \edef\y{\expandafter\strip@prefix\meaning\x}%
6435     \def\c##1#1##2\@nil{%
6436       \ifx\\##1\\%
6437         \else
6438           \expandafter\gdef\csname Hy@#2\endcsname
6439             \expandafter{\x}%
6440         \fi
6441       }%
6442     \expandafter\c\y\relax#1\@nil
6443   }%
6444   \expandafter\process@me\string\@latex@\@nil{title}%
6445   \expandafter\process@me\string\@latex@\@nil{author}%
6446 \endgroup
6447 \fi
6448 \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.

```

6449 \def\Hy@UseMaketitleString#1{%

```

```

6450 \ltx@ifundefined{Hy@#1}{-}{%
6451   \begingroup
6452   \let\Hy@saved@hook\pdfstringdefPreHook
6453   \pdfstringdefDisableCommands{%
6454     \expandafter\let\expandafter\\\csname Hy@newline@#1\endcsname
6455     \let\newline\\%
6456     \def\and{; }%
6457     \let\thanks\@gobble%
6458   }%
6459   \expandafter\ifx\csname @pdf#1\endcsname\@empty
6460     \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6461       \csname Hy@#1\endcsname\@empty
6462     }%
6463   \fi
6464   \global\let\pdfstringdefPreHook\Hy@saved@hook
6465 \endgroup
6466 }%
6467 }
6468 \def\Hy@newline@title#1{ #1}
6469 \def\Hy@newline@author#1{, #1}
6470 \def\Hy@UseMaketitleInfos{%
6471   \Hy@UseMaketitleString{title}%
6472   \Hy@UseMaketitleString{author}%
6473 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```

6474 \RequirePackage{atbegshi}[2007/09/09]
6475 \let\Hy@EveryPageHook\ltx@empty
6476 \let\Hy@EveryPageBoxHook\ltx@empty
6477 \let\Hy@FirstPageHook\ltx@empty
6478 \AtBeginShipout{%
6479   \Hy@EveryPageHook
6480   \ifx\Hy@EveryPageBoxHook\ltx@empty
6481   \else
6482     \setbox\AtBeginShipoutBox=\vbox{%
6483       \offinterlineskip
6484       \Hy@EveryPageBoxHook
6485       \box\AtBeginShipoutBox
6486     }%
6487   \fi
6488 }
6489 \ltx@iffileloaded{hpdfetex.def}{%
6490   \AtBeginShipout{%
6491     \Hy@FirstPageHook
6492     \global\let\Hy@FirstPageHook\ltx@empty
6493   }%
6494 }{%

```



```

6495 \AtBeginShipoutFirst{%
6496   \Hy@FirstPageHook
6497 }%
6498 }
6499 \g@addto@macro\Hy@FirstPageHook{%
6500   \PDF@FinishDoc
6501   \global\let\PDF@FinishDoc\ltx@empty
6502 }

```

27.1 PDF /PageLabels

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

```

6503 \ifHy@pdfpagelabels
6504   \begingroup\expandafter\expandafter\expandafter\endgroup
6505   \expandafter\ifx\csname thepage\endcsname\relax
6506     \Hy@pdfpagelabelsfalse
6507     \Hy@WarningNoLine{%
6508       Option 'pdfpagelabels' is turned off\MessageBreak
6509       because \string\thepage\space is undefined%
6510     }%
6511     \csname fi\endcsname
6512     \csname iffalse\expandafter\endcsname
6513     \fi

```

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

```

6514 \def\thispdfpagelabel#1{%
6515   \gdef\HyPL@thisLabel{#1}%
6516 }%
6517 \global\let\HyPL@thisLabel\relax

```

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

```

6518 \let\HyPL@Labels\ltx@empty

```

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

```

6519 \newcount\Hy@abspage
6520 \Hy@abspage=0 %

```

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

```

6521 \def\HyPL@LastType{init}%
6522 \def\HyPL@LastNumber{0}%
6523 \let\HyPL@LastPrefix\ltx@empty

```

Definitions for the PDF names of the \LaTeX pendants.

```

6524 \def\HyPL@arabic{D}%
6525 \def\HyPL@Roman{R}%
6526 \def\HyPL@roman{r}%
6527 \def\HyPL@Alph{A}%
6528 \def\HyPL@alph{a}%
6529 \let\HyPL@SlidesSetPage\ltx@empty
6530 \ltx@ifclassloaded{slides}{%
6531   \def\HyPL@SlidesSetPage{%

```

```

6532 \advance\c@page\ltx@one
6533 \ifnum\value{page}>\ltx@one
6534 \protected@edef\HyPL@SlidesOptionalPage{%
6535 \Hy@SlidesFormatOptionalPage{\thepage}%
6536 }%
6537 \else
6538 \let\HyPL@SlidesOptionalPage\ltx@empty
6539 \fi
6540 \advance\c@page-\ltx@one
6541 \def\HyPL@page{%
6542 \csname the\Hy@SlidesPage\endcsname
6543 \HyPL@SlidesOptionalPage
6544 }%
6545 }%
6546 }{}%

```

`\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.

```

6547 \def\HyPL@EveryPage{%
6548 \begingroup
6549 \ifx\HyPL@thisLabel\relax
6550 \let\HyPL@page\thepage
6551 \HyPL@SlidesSetPage
6552 \else
6553 \let\HyPL@page\HyPL@thisLabel
6554 \global\let\HyPL@thisLabel\relax
6555 \fi
6556 \let\HyPL@Type\relax
6557 \ifnum\c@page>0 %
6558 \ifx\HyPL@SlidesSetPage\ltx@empty
6559 \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6560 \fi
6561 \fi
6562 \let\Hy@temp Y%
6563 \ifx\HyPL@Type\HyPL@LastType
6564 \else
6565 \let\Hy@temp N%
6566 \fi
6567 \ifx\HyPL@Type\relax
6568 \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6569 \else
6570 \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6571 \fi
6572 \ifx\HyPL@Prefix\HyPL@LastPrefix
6573 \else
6574 \let\Hy@temp N%
6575 \fi
6576 \if Y\Hy@temp
6577 \advance\c@page by -1 %
6578 \ifnum\HyPL@LastNumber=\the\c@page\relax
6579 \else
6580 \let\Hy@temp N%
6581 \fi
6582 \Hy@StepCount\c@page

```

```

6583 \fi
6584 \if N\Hy@temp
6585 \ifx\HyPL@Type\relax
6586 \HyPL@StorePageLabel{/P(\HyPL@Prefix)}%
6587 \else
6588 \HyPL@StorePageLabel{%
6589 \ifx\HyPL@Prefix\@empty
6590 \else
6591 /P(\HyPL@Prefix)%
6592 \fi
6593 /S/\csname HyPL\HyPL@Type\endcsname
6594 \ifnum\the\c@page=1 %
6595 \else
6596 \space/St \the\c@page
6597 \fi
6598 }%
6599 \fi
6600 \fi
6601 \xdef\HyPL@LastNumber{\the\c@page}%
6602 \global\let\HyPL@LastType\HyPL@Type
6603 \global\let\HyPL@LastPrefix\HyPL@Prefix
6604 \endgroup
6605 \Hy@GlobalStepCount\Hy@abspage
6606 }%

```

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

```

6607 \def\HyPL@CheckThePage#1\@nil{%
6608 \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6609 }%

```

`\HyPL@@CheckThePage` The first check is, is `\thepage` is defined such as in \LaTeX , e. g.: `\csname @arabic\endcsname\c@page`. In the current implemenation the check fails, if there is another `\csname` before.

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

```

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

```

```

6630      \toks@\expandafter{\Hy@temp}%
6631      \edef\Hy@next{\endgroup
6632      \noexpand\HyPL@@@CheckThePage\the\toks@
6633      \noexpand\HyPL@found\relax\noexpand\@nil
6634      }%
6635      \fi
6636      \Hy@next
6637      \fi
6638      }%

```

\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`.

```

6639      \def\HyPL@Format#1#2{%
6640      \ifx\HyPL@found\@undefined
6641      \expandafter\ifx\csname c@#2\endcsname\c@page
6642      \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6643      \else
6644      \expandafter\noexpand\csname#1\endcsname{#2}%
6645      \fi
6646      \else
6647      \expandafter\noexpand\csname#1\endcsname{#2}%
6648      \fi
6649      }%

```

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

```

6650      \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6651      \def\Hy@tempa{#3}%
6652      \def\Hy@tempb{\HyPL@found\relax}%
6653      \ifx\Hy@tempa\Hy@tempb
6654      \def\HyPL@Type{#2}%
6655      \def\HyPL@Prefix{#1}%
6656      \fi
6657      }%

```

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

```

6658      \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`.

```

6659      \def\HyPL@Useless{0<</S/D>>}%
6660      \@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.

```

6661      \def\HyPL@SetPageLabels{%
6662      \@onelevel@sanitize\HyPL@Labels
6663      \ifx\HyPL@Labels\@empty
6664      \else
6665      \ifx\HyPL@Labels\HyPL@Useless
6666      \else

```

```

6667     \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6668     \fi
6669   \fi
6670 }%

6671 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6672 \fi

Option ‘pdfpagelabels’ has been used and is now disabled.
6673 \Hy@DisableOption{pdfpagelabels}
6674 \end{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
6675 (*pdfTeX)
6676 \pdf@ifdraftmode{%
6677   \let\Hy@PutCatalog\ltx@gobble
6678 }{%
6679   \let\Hy@PutCatalog\pdfcatalog
6680 }
6681 \end{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.

```

6682 (*vTeX)
6683 \providecommand*\XR@ext}{pdf}
6684 \edef\Hy@VTeXversion{%
6685   \ifx\VTeXversion\@undefined
6686     \z@
6687   \else
6688     \ifx\VTeXversion\relax
6689       \z@
6690     \else
6691       \VTeXversion
6692     \fi
6693   \fi
6694 }
6695 \begingroup
6696   \ifnum\Hy@VTeXversion<660 %
6697     \gdef\Hy@PutCatalog#1{%
6698       \Hy@WarningNoLine{%
6699         VTeX 6.59g or above required for pdfpagelabels%
6700       }%
6701     }%
6702   \else
6703     \gdef\Hy@PutCatalog#1{%
6704       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil

```

```

6705 }%
6706 \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6707   \ifx\#2\%
6708     \else
6709       \immediate\special{!pdfpagelabels #2}%
6710     \fi
6711 }%
6712 \fi
6713 \endgroup
6714 \</vtex>

6715 \<*pdftex | vtex>

```

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

```

6716 \ifHy@pdfpagelabels
6717   \def\HyPL@StorePageLabel#1{%
6718     \toks@{\expandafter{\HyPL@Labels}}%
6719     \xdef\HyPL@Labels{%
6720       \the\toks@
6721       \the\Hy@abspage<<#1>>%
6722     }%
6723 }%

```

Package `atveryend` is used to get behind the final `\clearpage` and to avoid a `\clearpage` in `\AtEndDocument`. Then the PDF catalog entry for `\PageLabels` is set.

```

6724 \RequirePackage{atveryend}[2009/12/07]%
6725 \AtVeryEndDocument{%
6726   \HyPL@SetPageLabels
6727 }%

6728 \fi
6729 \</pdftex | vtex>

```

27.1.2 xetex

```

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

```

```

6749 \define@key{Hyp}{pdfencoding}{%
6750   \edef\HyPsd@temp{#1}%
6751   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6752     \let\HyPsd@pdfencoding\HyPsd@temp
6753   \else
6754     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6755       \let\HyPsd@pdfencoding\HyPsd@temp
6756     \else
6757       \Hy@Warning{%
6758         XeTeX driver only supports\MessageBreak
6759         `pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6760         setting `pdfencoding=\HyPsd@temp'%
6761       }%
6762     \fi
6763   \fi
6764 }
6765 \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:

```

6766 \def\setpdfinkmargin#1{%
6767   \begingroup
6768   \setlength{\dimen@}{#1}%
6769   \special{dvipdfmx:config g \strip@pt\dimen@}%
6770 \endgroup}
6771 \</xetex>

```

set the pdf version

```

6772 \<dvipdfm | xetex>
6773 \special{pdf:majorversion \Hy@pdf@majorversion}
6774 \special{pdf:minorversion \Hy@pdf@minorversion}
6775 \</dvipdfm | xetex>

```

27.1.3 pdfmarkbase, dvipdfm, xetex

```

6776 \<*pdfmarkbase>
6777 \begingroup
6778 \<@ifundefined{headerps@out}{}{}%
6779 \toks@\expandafter{\Hy@FirstPageHook}%
6780 \xdef\Hy@FirstPageHook{%
6781   \noexpand\headerps@out{%
6782     systemdict /pdfmark known%
6783     {%
6784       userdict /?pdfmark systemdict /exec get put%
6785     }{%
6786       userdict /?pdfmark systemdict /pop get put %
6787       userdict /pdfmark systemdict /cleartomark get put%
6788     }%
6789   }%
6790   \the\toks@
6791 }%
6792 }%
6793 }%
6794 \endgroup
6795 \</pdfmarkbase>

```

\Hy@PutCatalog

```

6796 <dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfmark{docview <<#1>>}}
6797 <*pdfmarkbase>
6798 \def\Hy@PutCatalog#1{%
6799   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} <<#1>>}}%
6800 }
6801 </pdfmarkbase>

6802 <*pdfmarkbase | dvipdfm | xetex>
6803 \ifHy@pdfpagelabels

```

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

```

6804 \def\HyPL@StorePageLabel#1{%
6805   \if@filesw
6806     \begingroup
6807       \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%
6808       \immediate\write\@mainaux{%
6809         \string\HyPL@Entry{\Hy@tempa}%
6810       }%
6811     \endgroup
6812   \fi
6813 }%

```

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.

```

6814 \Hy@AtBeginDocument{%
6815   \if@filesw
6816     \immediate\write\@mainaux{%
6817       \string\providecommand\string*\string\HyPL@Entry[1]{}%
6818     }%
6819   \fi
6820   \ifx\HyPL@Labels\@empty
6821     \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6822   \else
6823     \HyPL@SetPageLabels
6824   \fi
6825   \let\HyPL@Entry\@gobble
6826 }%

```

\HyPL@Entry

```

6827 \def\HyPL@Entry#1{%
6828   \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6829     \HyPL@Labels
6830     #1%
6831   }%
6832 }%

6833 \fi
6834 </pdfmarkbase | dvipdfm | xetex>
6835 <*packageEnd>

6836 \ifx\MaybeStopEarly\relax
6837 \else

```



```

6838 \Hy@stoppedearlytrue
6839 \expandafter\MaybeStopEarly
6840 \fi
6841 \Hy@stoppedearlyfalse

```

28 Automated L^AT_EX hypertext cross-references

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

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

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

Start with a fallback for equations

```

6842 \def\Hy@CounterExists#1{%
6843   \begingroup\expandafter\expandafter\expandafter\endgroup
6844   \expandafter\ifx\csname c@#1\endcsname\relax
6845     \expandafter\@gobble
6846   \else
6847     \begingroup\expandafter\expandafter\expandafter\endgroup
6848     \expandafter\ifx\csname the#1\endcsname\relax
6849       \expandafter\expandafter\expandafter\@gobble
6850     \else
6851       \expandafter\expandafter\expandafter\@firstofone
6852     \fi
6853   \fi
6854 }
6855 \Hy@CounterExists{section}{%
6856   \providecommand\theHequation{\theHsection.\arabic{equation}}}%
6857 }
6858 \providecommand\theHequation{\arabic{equation}}}%
6859 \Hy@CounterExists{part}{%
6860   \providecommand\theHpart{\arabic{part}}}%
6861 }
6862 \ltx@ifundefined{thechapter}{%
6863   \providecommand\theHsection  {\arabic{section}}}%
6864   \providecommand\theHfigure   {\arabic{figure}}}%
6865   \providecommand\theHtable    {\arabic{table}}}%
6866 }{%
6867   \providecommand\theHchapter  {\arabic{chapter}}}%

```

```

6868 \providecommand\theHfigure    {\theHchapter.\arabic{figure}}%
6869 \providecommand\theHtable     {\theHchapter.\arabic{table}}%
6870 \providecommand\theHsection    {\theHchapter.\arabic{section}}%
6871 }
6872 \providecommand\theHsubsection {\theHsection.\arabic{subsection}}
6873 \providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6874 \providecommand\theHparagraph  {\theHsubsubsection.\arabic{paragraph}}
6875 \providecommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
6876 \providecommand\theHtheorem    {\theHsection.\arabic{theorem}}
6877 \providecommand\theHthm        {\theHsection.\arabic{thm}}

```

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

```

6878 \let\H@item\item
6879 \newcounter{Item}
6880 \def\theHItem{\arabic{Item}}
6881 \def\item{%
6882   \@hyper@itemfalse
6883   \if@nmbrrlist\@hyper@itemtrue\fi
6884   \H@item
6885 }
6886 \providecommand\theHenumi      {\theHItem}
6887 \providecommand\theHenumii     {\theHItem}
6888 \providecommand\theHenumiii    {\theHItem}
6889 \providecommand\theHenumiv     {\theHItem}
6890 \providecommand\theHHfootnote  {\arabic{Hfootnote}}
6891 \providecommand\theHmpfootnote{\arabic{mpfootnote}}
6892 \@ifundefined{theHHmpfootnote}{%
6893   \let\theHHmpfootnote\theHHfootnote
6894 }{}

```

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.

```

6895 \let\H@refstepcounter\refstepcounter
6896 \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`

```

6897 \newif\if@hyper@item
6898 \newif\if@skiphyperref
6899 \@hyper@itemfalse
6900 \@skiphyperreffalse
6901 \ExplSyntaxOn
6902 \def\refstepcounter#1{%
6903   \legacy_if:nF {Hy@pdfstring}
6904   {
6905     \H@refstepcounter{#1}%
6906     \bool_lazy_and:nnT
6907       { \l__hyp_target_create_bool }

```

```

6908 { ! \legacy_if_p:n{@skiphyperref} }
6909 {
6910   \legacy_if:nTF {@hyper@item}
6911   {
6912     \stepcounter{Item}%
6913     \hyper@refstepcounter{Item}%
6914     \@hyper@itemfalse
6915   }
6916   {
6917     \hyper@refstepcounter{#1}%
6918   }
6919 }
6920 }
6921 }
6922 \ExplSyntaxOff
6923 \let\Hy@saved@refstepcounter\refstepcounter

```

AMST_{EX} 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.

```

6924 \newif\ifmeasuring@\measuring@false
6925 \newcommand\Hy@ifnotmeasuring[1]{#1}
6926 \AddToHook{package/amsmath/after}
6927 {
6928   \renewcommand\Hy@ifnotmeasuring[1]
6929   {\ifmeasuring@ \else #1\fi}
6930 }

```

`\hyper@refstepcounter`

```

6931 \def\hyper@refstepcounter#1{%
6932   \HyCnt@ProvideTheHCounter{#1}%
6933   \hyper@makecurrent{#1}%
6934   \Hy@ifnotmeasuring
6935   {\Hy@raisedlink{%
6936     \hyper@anchorstart{\@currentHref}\hyper@anchorend
6937   }}%
6938 }

```

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

```

6939 \def\HyCnt@ProvideTheHCounter#1{%
6940   \@ifundefined{theH#1}{%
6941     \expandafter\def\csname theH#1\endcsname{}%
6942     \def\Hy@temp{\@elt{#1}}%
6943     \ltx@onelevel@sanitize\Hy@temp
6944     \let\HyOrg@elt\@elt
6945     \edef\@elt{%
6946       \noexpand\HyCnt@LookForParentCounter

```

```

6947 \expandafter\noexpand\csname theH#1\endcsname
6948 }%
6949 \cl@ckpt
6950 \let\@elt\HyOrg@elt
6951 \expandafter
6952 \ltx@LocalAppendToMacro\csname theH#1\expandafter\endcsname
6953 \expandafter{%
6954 \expandafter\@arabic\csname c@#1\endcsname
6955 }%
6956 }{}%
6957 }

```

\Hy@LookForParentCounter

```

6958 \def\HyCnt@LookForParentCounter#1#2{%
6959 \expandafter\let\expandafter\Hy@temp@A\csname cl@#2\endcsname
6960 \ltx@ifundefined{cl@#2}{%
6961 }{%
6962 \ltx@onelevel@sanitize\Hy@temp@A
6963 \edef\Hy@temp@A{%
6964 \noexpand\in@{\Hy@temp}{\Hy@temp@A}%
6965 }\Hy@temp@A
6966 \ifin@
6967 \ltx@ifundefined{theH#2}{%
6968 \expandafter\ltx@LocalAppendToMacro\expandafter#1%
6969 \expandafter{%
6970 \expandafter\@arabic\csname c@#2\endcsname.%
6971 }%
6972 }{}%
6973 \expandafter\ltx@LocalAppendToMacro\expandafter#1%
6974 \expandafter{%
6975 \csname theH#2\endcsname.%
6976 }%
6977 }%
6978 \fi
6979 }%
6980 }

```

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`.

```

6981 \begingroup\expandafter\expandafter\expandafter\endgroup
6982 \expandafter\ifx\csname chapter\endcsname\relax
6983 \def\Hy@chapterstring{section}%
6984 \else
6985 \def\Hy@chapterstring{chapter}%
6986 \fi
6987 \def\Hy@appendixstring{appendix}
6988 \def\Hy@chapapp{\Hy@chapterstring}
6989 \ltx@ifundefined{appendix}{%
6990 }{%
6991 \let\HyOrg@appendix\appendix

```

```

6992 \def\Hy@AlphNoErr#1{%
6993   \ifnum\value{#1}>26 %
6994     Alph\number\value{#1}%
6995   \else
6996     \ifnum\value{#1}<1 %
6997       Alph\number\value{#1}%
6998     \else
6999       \Alph{#1}%
7000     \fi
7001   \fi
7002 }%
7003 \def\appendix{%
7004   \ltx@ifundefined{chapter}{%
7005     \gdef\theHsection{\Hy@AlphNoErr{section}}%
7006   }{%
7007     \gdef\theHchapter{\Hy@AlphNoErr{chapter}}%
7008   }%
7009   \xdef\Hy@chapapp{\Hy@appendixstring}%
7010   \HyOrg@appendix
7011 }%
7012 }

```

\Hy@Test@alph

```

7013 \def\Hy@Test@alph#1{%
7014   \ifcase#1\or
7015     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
7016     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
7017     u\or v\or w\or x\or y\or z%
7018   \else
7019     \@ctrerr
7020   \fi
7021 }

```

\Hy@Test@Alph

```

7022 \def\Hy@Test@Alph#1{%
7023   \ifcase#1\or
7024     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
7025     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
7026     U\or V\or W\or X\or Y\or Z%
7027   \else
7028     \@ctrerr
7029   \fi
7030 }

```

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

```

7031 \NewHook{__hyp/target/setname }
7032 \define@key{Hyp}{next-anchor}{%
7033   \AddToHookNext{__hyp/target/setname}%
7034   {\Hy@MakeCurrentHref{#1}}%
7035 }

```

\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.

```

7036 \def\hyper@makecurrent#1{%
7037   \begingroup
7038     \Hy@safe@activetrue
7039     \edef\Hy@param{#1}%
7040     \ifx\Hy@param\Hy@chapterstring
7041       \let\Hy@param\Hy@chapapp
7042     \fi
7043     \ifHy@hypertextnames
7044       \let\@number\@firstofone
7045       \def\@fnsymbol##1{fnsymbol\number##1}%
7046       \def\@arabic##1{\number##1}%
7047       \ifx\@alph\Hy@Test@alph
7048       \else
7049         \def\@alph{alph\number}%
7050       \fi
7051       \ifx\@Alph\Hy@Test@Alph
7052       \else
7053         \def\@Alph{Alph\number}%
7054       \fi
7055       \ifHy@naturalnames
7056         \let\textlatin\@firstofone
7057         \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
7058       \else
7059         \xdef\HyperGlobalCurrentHref{%
7060           \csname
7061             the%
7062             \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
7063             #1%
7064           \endcsname
7065         }%
7066       \fi
7067       \xdef\HyperGlobalCurrentHref{%
7068         \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
7069       }%
7070     \else
7071       \Hy@GlobalStepCount\Hy@linkcounter
7072       \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
7073     \fi
7074   \endgroup
7075   \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7076   \ifHy@localanchorname
7077     \let\@currentHref\HyperLocalCurrentHref
7078   \else
7079     \global\let\@currentHref\HyperGlobalCurrentHref
7080   \fi
7081   \UseHook{__hyp/target/setname}%
7082 }

```

\Hy@MakeCurrentHref

```

7083 \def\Hy@MakeCurrentHref#1{%
7084   \edef\HyperLocalCurrentHref{#1}%
7085   \@onelevel@sanitize\HyperLocalCurrentHref
7086   \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
7087   \let\HyperLocalCurrentHref\HyperGlobalCurrentHref

```

```

7088 \ifHy@localanchorname
7089 \let\@currentHref\HyperLocalCurrentHref
7090 \else
7091 \global\let\@currentHref\HyperGlobalCurrentHref
7092 \fi
7093 }

```

`\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.

```

7094 \def\Hy@MakeCurrentHrefAuto#1{%
7095 \Hy@GlobalStepCount\Hy@linkcounter
7096 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
7097 \UseHook{__hyp/target/setname}}

```

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

```

7098 \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.

```

7099 \def\hypergetref#1{\getrefbykeydefault{#1}{}}{??}}
7100 \def\hypergetpageref#1{\getrefbykeydefault{#1}{page}}{0}}

```

30 Package titlesec and titletoc support

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

Package titlesec support:

```

7101 \@ifpackageloaded{titlesec}{%
7102 \def\ttl@Hy@steplink#1{%
7103 \Hy@MakeCurrentHrefAuto{#1*}%
7104 \edef\ttl@Hy@saveanchor{%
7105 \noexpand\Hy@raisedlink{%
7106 \noexpand\hyper@anchorstart{\@currentHref}%
7107 \noexpand\hyper@anchorend
7108 \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
7109 \noexpand\ttl@Hy@PatchSaveWrite
7110 }%
7111 }%
7112 }%
7113 \def\ttl@Hy@PatchSaveWrite{%
7114 \begingroup
7115 \toks@\expandafter{\ttl@savewrite}%
7116 \edef\x{\endgroup
7117 \def\noexpand\ttl@savewrite{%
7118 \let\noexpand\@currentHref
7119 \noexpand\ttl@Hy@SavedCurrentHref
7120 \the\toks@
7121 }%

```

```

7122 }%
7123 \x
7124 }%
7125 \def\ttl@Hy@refstepcounter#1{%
7126 \let\ttl@b\Hy@raisedlink
7127 \def\Hy@raisedlink##1{%
7128 \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
7129 }%
7130 \refstepcounter{#1}%
7131 \let\Hy@raisedlink\ttl@b
7132 }%
7133 }{}

```

31 Package varioref support

Package nameref uses five arguments for the ref system. Fix provided by Felix Neubauer (felix.neubauer@gmx.net). This fix will no longer be needed with latex 2021-11-15.

```

7134 \@if@t@r\fmtversion{2021-11-15}
7135 {}%
7136 {
7137 \AtBeginDocument{%
7138 \def\Hy@varioref@undefined{{??}{??}{}}{}%
7139 \@ifpackageloaded{varioref}{%
7140 \def\vref@pagenum#1#2{%
7141 \@ifundefined{r@#2}{%
7142 \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
7143 }{}%
7144 \edef#1{\getpagerefnumber{#2}}%
7145 }%
7146 }{}
7147 }
7148 }

```

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

```

7149 \@ifpackageloaded{longtable}{%
7150 \@ifundefined{hyper@nopatch@longtable}{%
7151 \begingroup
7152 \def\y{\LT@array}%
7153 \@ifundefined{scr@LT@array}{%
7154 \@ifundefined{adl@LT@array}{\def\y{\adl@LT@array}}%
7155 }{\def\y{\scr@LT@array}}%
7156 \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
7157 \expandafter\endgroup
7158 \expandafter\def\y[##1]##2{%

```



```

7159 \H@refstepcounter{#1}%
7160 \hyper@makecurrent{table}%
7161 \let\Hy@LT@currentHref\@currentHref
7162 #2\@sharp####4%
7163 }%
7164 }%
7165 \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil
Patch of \LT@start: add anchor before first line after \vskip\LTpre
7166 \begingroup
7167 \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
7168 \endgroup
7169 \def\LT@start{%
7170 #1%
7171 \ifvoid\LT@foot#2\fi
7172 \let\@currentHref\Hy@LT@currentHref
7173 \Hy@raisedlink{%
7174 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7175 }%
7176 #3%
7177 }%
7178 }%
7179 \expandafter\x\LT@start\@nil
7180 }{}
7181 }{}

```

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 40). 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`

```

7182 \let\new@refstepcounter\refstepcounter
7183 \let\H@equation\equation
7184 \let\H@endequation\endequation
7185 \@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.

```

7186 \@ifpackageloaded{amsmath}{-}{%
7187 \def\equation{%
7188 \let\refstepcounter\H@refstepcounter
7189 \H@equation
7190 \hyper@makecurrent{equation}%

```

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

```

7191 \mathopen{%
7192 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}%

```

```

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

```

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.

```

7206 \newif\if@eqnstar
7207 \@eqnstarfalse
7208 \let\H@eqnarray\eqnarray
7209 \let\H@endeqnarray\endeqnarray
7210 \@ifundefined{hyper@nopatch@mathenv}{%
7211   \def\eqnarray{%
7212     \let\Hy@reserved@a\relax
7213     \def\@currentHref{}%
7214     \H@eqnarray
7215     \if@eqnstar
7216     \else
7217       \ifx\\\@currentHref\\%
7218       \else
7219         \hyper@makecurrent{equation}%
7220         \mathopen{%
7221           \Hy@raisedlink{%
7222             \hyper@anchorstart{\@currentHref}\hyper@anchorend
7223           }%
7224         }%
7225       \fi
7226     \fi
7227   }
7228   \def\endeqnarray{%
7229     \H@endeqnarray
7230   }
7231 }{}

```

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.

```

7232 \@namedef{eqnarray*}{%
7233   \protected\def\@eqncr{\nonumber\@seqncr}\@eqnstartrue\eqnarray
7234 }
7235 \@namedef{endeqnarray*}{%
7236   \nonumber\endeqnarray\@eqnstarfalse

```

7237 }

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

```

7238 \ltx@ifundefined{subeqnarray}{-}{%
7239   \let\H@subeqnarray\subeqnarray
7240   \let\H@endsubeqnarray\endsubeqnarray
7241   \def\subeqnarray{%
7242     \let\Hy@reserved@a\relax
7243     \H@subeqnarray
7244     \hyper@makecurrent{equation}%
7245     \hyper@anchorstart{\@currentHref}{-}\hyper@anchorend
7246   }%
7247   \def\endsubeqnarray{%
7248     \H@endsubeqnarray
7249   }%
7250   \providecommand\theHsubequation{\theHequation\alph{subequation}}%
7251 }
```

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

```

7252 \def\make@stripped@name#1{%
7253   \begingroup
7254     \escapechar\m@ne
7255     \global\let\newname\@empty
7256     \protected@edef\Hy@tempa{#1}%
7257     \edef\@tempb{%
7258       \noexpand\@tfor\noexpand\Hy@tempa:=%
7259       \expandafter\strip@prefix\meaning\Hy@tempa
7260     }%
7261     \@tempb\do{%
7262       \if{\Hy@tempa\else
7263         \if}\Hy@tempa\else
7264         \xdef\newname{\newname\Hy@tempa}%
7265       \fi
7266     }%
7267   }%
7268 \endgroup
7269 }
```

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.

```

7270 \AddToHook{cmd/subequations/before}
7271 {%
7272   \stepcounter{equation}%
7273   \protected@edef\theHparentequation{\theHequation}%
7274   \addtocounter{equation}{-1}%
7275 }
7276
7277 \AddToHook{cmd/subequations/after}
7278 {%
7279   \def\theHequation{\theHparentequation\alph{equation}}%
7280   \ignorespaces
7281 }
```

Support for theorems. We move the target into the para hook to avoid spacing problem. The patch will not apply to `cleveref` but hopefully it does the right thing anyway. `\@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

```

7282 \newcommand\Hy@theorem@refstepcounter[1]
7283 {%
7284   \H@refstepcounter{#1}%
7285   \hyper@makecurrent{#1}%
7286   \global\let\Hy@dth@currentHref\@currentHref
7287   \AddToHookNext{cmd/item/before}
7288     {\AddToHookNext{para/begin}
7289       {\let\Hy@tempa\@currentHref
7290         \MakeLinkTarget*\Hy@dth@currentHref}%
7291       \global\let\@currentHref\Hy@tempa
7292     }%
7293   }%
7294 }
```

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

```

7295 \AddToHook{package/amsthm/after}
7296 {
7297   \renewcommand\Hy@theorem@refstepcounter[1]
7298   {%
7299     \H@refstepcounter{#1}%
7300     \hyper@makecurrent{#1}%
7301     \global\let\Hy@dth@currentHref\@currentHref
7302     \AddToHookNext{cmd/deferred@thm@head/before}
7303     {\AddToHookNext{para/begin}
7304       {\let\Hy@tempa\@currentHref
7305         \MakeLinkTarget*\Hy@dth@currentHref}%
7306       \global\let\@currentHref\Hy@tempa
7307     }%
7308   }%
7309 }
7310 }
7311 \@ifundefined{hyper@nopatch@thm}{%
7312 \AtBeginDocument{%
7313   \@ifpackageloaded{cleveref}
7314     {\AddToHook{cmd/@thm/before}{\ifhmode\unskip\fi}}
7315   {%
7316     \ifpatchable\@thm{\refstepcounter}
7317       {\patchcmd\@thm{\refstepcounter}{\Hy@theorem@refstepcounter}{}}
7318     {}%
7319   }}}
```

34 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.

```

7320 \@ifundefined{hyper@nopatch@footnote}{%
7321 \ifHy@hyperfootnotes
7322 \newcounter{Hfootnote}%
7323 \let\H@@footnotetext\@footnotetext
7324 \let\H@@footnotemark\@footnotemark
7325 \def\@xfootnotenext[#1]{%
7326 \begingroup
7327 \csname c@\@mpfn\endcsname #1\relax
7328 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7329 \endgroup
7330 \ifx\@footnotetext\@mpfootnotetext
7331 \expandafter\H@\@mpfootnotetext
7332 \else
7333 \expandafter\H@@@footnotetext
7334 \fi
7335 }%
7336 \def\@xfootnotemark[#1]{%
7337 \begingroup
7338 \c@footnote #1\relax
7339 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7340 \endgroup
7341 \H@@@footnotemark
7342 }%
7343 \let\H@\@mpfootnotetext\@mpfootnotetext
7344 \long\def\@mpfootnotetext#1{%
7345 \H@\@mpfootnotetext{%
7346 \ifHy@nesting
7347 \expandafter\ltx@firstoftwo
7348 \else
7349 \expandafter\ltx@secondoftwo
7350 \fi
7351 {%
7352 \expandafter\hyper@@@anchor\expandafter{%
7353 \Hy@footnote@currentHref
7354 }{\ignorespaces #1}%
7355 }{%
7356 \Hy@raisedlink{%
7357 \expandafter\hyper@@@anchor\expandafter{%
7358 \Hy@footnote@currentHref
7359 }{\relax}%
7360 }\ignorespaces #1%
7361 }%
7362 }%
7363 }%
7364 \long\def\@footnotetext#1{%
7365 \H@@@footnotetext{%
7366 \ifHy@nesting
7367 \expandafter\ltx@firstoftwo
7368 \else
7369 \expandafter\ltx@secondoftwo
7370 \fi

```

```

7371 {%
7372   \expandafter\hyper@@anchor\expandafter{%
7373     \Hy@footnote@currentHref
7374   }\ignorespaces #1}%
7375 }{%
7376   \Hy@raisedlink{%
7377     \expandafter\hyper@@anchor\expandafter{%
7378       \Hy@footnote@currentHref
7379     }\relax}%
7380 }%
7381 \let\@currentHref\Hy@footnote@currentHref
7382 \let\@currentlabelname\@empty
7383 \ignorespaces #1%
7384 }%
7385 }%
7386 }%

```

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.

```

7387 \def\@footnotemark{%
7388   \leavevmode
7389   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7390   \stepcounter{Hfootnote}%
7391   \global\let\Hy@saved@currentHref\@currentHref
7392   \hyper@makecurrent{Hfootnote}%
7393   \global\let\Hy@footnote@currentHref\@currentHref
7394   \global\let\@currentHref\Hy@saved@currentHref
7395   \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7396   \@makefnmark
7397   \hyper@linkend
7398   \ifhmode\spacefactor\@x@sf\fi
7399   \relax
7400 }%

```

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

```

7401 \@ifpackageloaded{tabularx}{%
7402   \let\HyOrg@TX@endtabularx\TX@endtabularx
7403   \def\Hy@tabularx@hook{%
7404     \let\@footnotetext\H@@footnotetext
7405     \let\@footnotemark\H@@footnotemark
7406     \let\@mpfootnotetext\H@@mpfootnotetext
7407   }%
7408   \begingroup
7409     \toks@\expandafter{\TX@endtabularx}%
7410     \xdef\Hy@gtemp{%
7411       \noexpand\Hy@tabularx@hook
7412       \the\toks@
7413     }%
7414   \endgroup
7415   \let\TX@endtabularx\Hy@gtemp
7416 }{}%

```

Support for footnotes in p columns of longtable. Here `\footnote` commands are splitted into `\footnotemark` and a call of `\footnotetext` with the optional argument, that is not supported by hyperref. The result is a link by `\footnotemark` without valid anchor

```

7417 \ifpackageloaded{longtable}{%
7418   \CheckCommand{\LT@p@ftntext}[1]{%
7419     \edef\@tempa{%
7420       \the\LT@p@ftn
7421       \noexpand\footnotetext[\the\c@footnote]%
7422     }%
7423     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7424   }%
7425 \long\def\LT@p@ftntext#1{%
7426   \edef\@tempa{%
7427     \the\LT@p@ftn
7428     \begingroup
7429     \noexpand\c@footnote=\the\c@footnote\relax
7430     \noexpand\protected@xdef\noexpand\@thefnmark{%
7431       \noexpand\thempfn
7432     }%
7433     \noexpand\Hy@LT@footnotetext{%
7434       \Hy@footnote@currentHref
7435     }%
7436   }%
7437   \global\LT@p@ftn\expandafter{%
7438     \@tempa{#1}%
7439   \endgroup
7440 }%
7441 }%
7442 \long\def\Hy@LT@footnotetext#1#2{%
7443   \H@@@footnotetext{%
7444     \ifHy@nesting
7445       \hyper@@anchor{#1}{#2}%
7446     \else
7447       \Hy@raisedlink{%
7448         \hyper@@anchor{#1}{\relax}%
7449       }%
7450     \def\@currentHref{#1}%
7451     \let\@currentlabelname\@empty
7452     #2%
7453   \fi
7454 }%
7455 }%
7456 }{}%
```

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

```

7457 \ifpackageloaded{fancyvrb}{%
7458   \def\V@@@footnotetext{%
7459     \insert\footins\bgroup
7460     \csname reset@font\endcsname
7461     \footnotesize
7462     \interlinepenalty\interfootnotelinepenalty
7463     \splittopskip\footnotesep
7464     \splitmaxdepth\dp\strutbox
```

```

7465 \floatingpenalty \@MM
7466 \hsize\columnwidth
7467 \@parboxrestore
7468 \def\@currentcounter{footnote}%
7469 \protected@edef\@currentlabel{\csname p@footnote\endcsname\@thefn-
mark}%
7470 \@makefnmark{}%
7471 \rule{\z@}{\footnotesep}%
7472 \bgroup
7473 \aftergroup\V@@@footnotetext
7474 \Hy@raisedlink{%
7475 \expandafter\hyper@@anchor\expandafter{%
7476 \Hy@footnote@currentHref
7477 }{\relax}%
7478 }%
7479 \let\@currentHref\Hy@footnote@currentHref
7480 \let\@currentlabelname\@empty
7481 \ignorespaces
7482 }%
7483 }{}%

```

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

```

7484 \def\Hy@temp#1{%
7485 \begingroup
7486 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7487 \endgroup
7488 \@footnotemark
7489 }%
7490 \ifx\Hy@temp\footref
7491 \def\footref#1{%
7492 \begingroup
7493 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7494 \endgroup
7495 \H@@@footnotemark
7496 }%
7497 \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.

```

7498 \let\HyOrg@maketitle\maketitle
7499 \def\maketitle{%
7500 \let\Hy@saved@footnotemark\@footnotemark
7501 \let\Hy@saved@footnotetext\@footnotetext
7502 \let\@footnotemark\H@@@footnotemark
7503 \let\@footnotetext\H@@@footnotetext
7504 \@ifnextchar[\Hy@maketitle@optarg{% ]
7505 \HyOrg@maketitle
7506 \Hy@maketitle@end
7507 }%
7508 }%
7509 \def\Hy@maketitle@optarg[#1]{%
7510 \HyOrg@maketitle[#1]}%
7511 \Hy@maketitle@end

```



```

7512 }%
7513 \def\Hy@maketitle@end{%
7514   \ifx\@footnotemark\H@@footnotemark
7515     \let\@footnotemark\Hy@saved@footnotemark
7516   \fi
7517   \ifx\@footnotetext\H@@footnotetext
7518     \let\@footnotetext\Hy@saved@footnotetext
7519   \fi
7520 }%

```

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

```

7521 \def\realfootnote{%
7522   \@ifnextchar[\@xfootnote%]
7523   {\stepcounter{\@mpfn}%
7524     \protected@xdef\@thefnmark{\thempfn}%
7525     \H@@@footnotemark\H@@@footnotetext
7526   }%
7527 }%

7528 \fi
7529 }{}
7530 \Hy@DisableOption{hyperfootnotes}

7531 \</packageEnd>
7532 \< *check>
7533 \checklatex
7534 \checkcommand\def\@xfootnotenext[#1]{%
7535   \begingroup
7536     \csname c@\@mpfn\endcsname #1\relax
7537     \unrestored@protected@xdef\@thefnmark{\thempfn}%
7538   \endgroup
7539   \@footnotetext
7540 }
7541 \checkcommand\def\@xfootnotemark[#1]{%
7542   \begingroup
7543     \c@footnote #1\relax
7544     \unrestored@protected@xdef\@thefnmark{\thefnmark}%
7545   \endgroup
7546   \@footnotemark
7547 }
7548 \checkcommand\def\@footnotemark{%
7549   \leavevmode
7550   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7551   \@makefnmark
7552   \ifhmode\spacefactor\@x@sf\fi
7553   \relax
7554 }
7555 \</check>
7556 \< *packageEnd>

```

35 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.

```

7557 \@ifundefined{hyper@nopatch@caption}{%
7558 \def\caption{%
7559   \ifx\@cuptype\@undefined
7560     \@latex@error{\noexpand\caption outside float}\@ehd
7561     \expandafter\@gobble
7562   \else
7563     \H@refstepcounter\@cuptype
7564     \let\Hy@tempa\@caption
7565     \@ifundefined{float@caption}{%
7566     }{%
7567       \expandafter\ifx\csname @float@c@\@cuptype\endcsname
7568         \float@caption
7569       \let\Hy@tempa\Hy@float@caption
7570     \fi
7571   }%
7572   \expandafter\@firstofone
7573 \fi
7574 {\@dblarg{\Hy@tempa\@cuptype}}}%
7575 }
7576 \long\def\@caption#1[#2]#3{%
7577   \expandafter\ifx\csname if@capstart\expandafter\endcsname
7578     \csname iftrue\endcsname
7579     \global\let\@currentHref\hc@currentHref
7580   \else
7581     \hyper@makecurrent{\@cuptype}%
7582   \fi
7583   \@ifundefined{NR@getttitle}{%
7584     \def\@currentlabelname{#2}%
7585   }{%
7586     \NR@getttitle{#2}%
7587   }%
7588   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7589     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7590   }%
7591   \begingroup
7592     \@parboxrestore
7593     \if@minipage
7594       \setminipage
7595     \fi
7596     \normalsize
7597     \expandafter\ifx\csname if@capstart\expandafter\endcsname
7598       \csname iftrue\endcsname
7599       \global\@capstartfalse
7600       \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7601     \else
7602       \@makecaption{\csname fnum@#1\endcsname}{%
7603         \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7604     \ifHy@nesting
7605       \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%
7606     \else
7607       \Hy@raisedlink{%
7608         \expandafter\hyper@@anchor\expandafter{%
7609           \@currentHref

```

```

7610      }{\relax}%
7611      }%
7612      #3%
7613      \fi
7614      }%
7615      \fi
7616      \par
7617      \endgroup
7618 }}{}}%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’.

```

7619 \let\Hy@float@caption\@caption
7620 \newcommand{\HyNew@float@makebox}[1]{%
7621   \HyOrg@float@makebox{%
7622     #1\relax
7623     \ifx\Hy@float@currentHref\@undefined
7624       \else
7625         \expandafter\hyper@@anchor\expandafter{%
7626           \Hy@float@currentHref
7627         }{\relax}%
7628       \global\let\Hy@float@currentHref\@undefined
7629     \fi
7630   }%
7631 }%
7632 \@ifpackageloaded{float}{%
7633   \def\Hy@float@caption{%
7634     \ifx\Hy@float@currentHref\@undefined
7635       \hyper@makecurrent{\@capttype}%
7636       \global\let\Hy@float@currentHref\@currentHref
7637     \else
7638       \let\@currentHref\Hy@float@currentHref
7639     \fi
7640     \float@caption
7641   }%
7642   \let\HyOrg@float@makebox\float@makebox
7643   \let\float@makebox\HyNew@float@makebox
7644 }{}
7645 \</packageEnd>
7646 \< *check>
7647 \checklatex[1999/06/01 - 2000/06/01]
7648 \checkcommand\def\caption{%
7649   \ifx\@capttype\@undefined
7650     \@latex@error{\noexpand\caption outside float}\@ehd
7651     \expandafter\@gobble
7652   \else
7653     \refstepcounter{\@capttype
7654     \expandafter\@firstofone
7655   \fi
7656   {\@dblarg{\@caption\@capttype}}}%
7657 }

```

```

7658 \checkcommand\long\def\@caption#1[#2]#3{%
7659   \par
7660   \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7661     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7662   }%
7663   \begingroup
7664     \@parboxrestore
7665     \if@minipage
7666       \@setminipage
7667     \fi
7668     \normalsize
7669     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7670   \endgroup
7671 }
7672 </check>
7673 <*packageEnd>

```

36 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.

```

7674 \def\hyper@natlinkstart#1{%
7675   \Hy@backout{#1}%
7676   \hyper@linkstart{cite}{cite.#1}%
7677   \def\hyper@nat@current{#1}%
7678 }
7679 \def\hyper@natlinkend{%
7680   \hyper@linkend
7681 }
7682 \def\hyper@natlinkbreak#1#2{%
7683   \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7684 }
7685 \def\hyper@natanchorstart#1{%
7686   \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7687 }
7688 \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.

```

7689 \@ifundefined{hyper@nopatch@bib}
7690 {%
7691   \ltx@ifundefined{NAT@parse}{%
7692     \providecommand*\@extra@binfo{}%
7693     \providecommand*\@extra@b@citeb{}%

```

```

7694 \def\bibcite#1#2{%
7695   \@newl@bel{b}{#1\@extra@binfo}{%
7696     \hyper@link[cite]{cite.#1\@extra@b@citeb}{#2}%
7697   }%
7698 }%
7699 \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.”.

```

7700 \let\Hy@bibcite\bibcite
7701 \begingroup
7702 \ifundefined{bbl@cite@choice}{}{%
7703   \g@addto@macro\bbl@cite@choice{%
7704     \let\bibcite\Hy@bibcite
7705   }%
7706 }%
7707 \endgroup

```

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

```

7708 \providecommand*\@BIBLABEL{\@biblabel}%
7709 \def\@lbibitem[#1]#2{%
7710   \@skiphyperreftrue
7711   \H@item[%
7712     \ifx\Hy@raisedlink\@empty
7713       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7714       \@BIBLABEL{#1}%
7715       \hyper@anchorend
7716     \else
7717       \Hy@raisedlink{%
7718         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7719       }%
7720     \@BIBLABEL{#1}%
7721   \fi
7722   \hfill
7723 ]%
7724 \@skiphyperreffalse
7725 \if@filesw
7726   \begingroup
7727   \let\protect\noexpand
7728   \immediate\write\@auxout{%
7729     \string\bibcite{#2}{#1}%
7730   }%
7731   \endgroup
7732 \fi
7733 \ignorespaces
7734 }%

```

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

```

7735 \def\@bibitem#1{%
7736   \@skiphyperreftrue\H@item\@skiphyperreffalse
7737   \Hy@raisedlink{%
7738     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7739   }%
7740   \if@filesw

```

```

7741     \begingroup
7742     \let\protect\noexpand
7743     \immediate\write\@auxout{%
7744         \string\bibcite{#1}{\the\value{\@listctr}}}%
7745     }%
7746     \endgroup
7747     \fi
7748     \ignorespaces
7749 }%
7750 }{}%
7751 }{}

7752 \</packageEnd>
7753 \< *check>
7754 \checklatex
7755 \checkcommand\def\@bibitem[#1]#2{%
7756     \item[\@biblabel{#1}\hfill]%
7757     \if@filesw
7758     {%
7759         \let\protect\noexpand
7760         \immediate\write\@auxout{%
7761             \string\bibcite{#2}{#1}%
7762         }%
7763     }%
7764     \fi
7765     \ignorespaces
7766 }
7767 \checkcommand\def\@bibitem#1{%
7768     \item
7769     \if@filesw
7770         \immediate\write\@auxout{%
7771             \string\bibcite{#1}{\the\value{\@listctr}}}%
7772     }%
7773     \fi
7774     \ignorespaces
7775 }
7776 \</check>
7777 \< *packageEnd>

```

36.1 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 pdf_{TEX}, then `hyperref` is already loaded at the begin of `harvard.sty`, and the `\newcommand` macros causes error messages.

```

7778 \ifpackageloaded{harvard}{%
7779     \Hy@AtBeginDocument{%
7780         \Hy@Info{*** compatibility with harvard *** }%
7781         \Hy@raiselinksfalse
7782         \def\harvardcite#1#2#3#4{%
7783             \global\@namedef{HAR@fn@#1}{\hyper@link[cite]{cite.#1}{#2}}%

```

```

7784 \global\@namedef{HAR@an@#1}{\hyper@link[cite]{#1}{#3}}%
7785 \global\@namedef{HAR@yr@#1}{\hyper@link[cite]{#1}{#4}}%
7786 \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7787 }%
7788 \def\HAR@citetoaux#1{%
7789 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7790 \ifHy@backref
7791 \ifx\@empty\@currentlabel
7792 \else
7793 \@bsphack
7794 \if@filesw
7795 \protected@write\@auxout{}{%
7796 \string\@writefile{brf}{%
7797 \string\backcite{#1}{%
7798 {\thepage}{\@currentlabel}{\@currentHref}%
7799 }%
7800 }%
7801 }%
7802 \fi
7803 \@esphack
7804 \fi
7805 \fi
7806 }%
7807 \def\harvarditem{%
7808 \@ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
7809 }%
7810 \def\@harvarditem[#1]#2#3#4#5\par{%
7811 \item[]%
7812 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7813 \if@filesw
7814 \begingroup
7815 \def\protect##1{\string ##1\space}%
7816 \ifthenelse{\equal{#1}{\null}}{%
7817 {\def\next{{#4}{#2}{#2}{#3}}}%
7818 {\def\next{{#4}{#2}{#1}{#3}}}%
7819 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
7820 \endgroup
7821 \fi
7822 \protect\hspace*{-\labelwidth}%
7823 \protect\hspace*{-\labelsep}%
7824 \ignorespaces
7825 #5%
7826 \ifHy@backref
7827 \newblock
7828 \backref{\csname br@#4\endcsname}%
7829 \fi
7830 \par
7831 }%

```

\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:

```

7832 \long\def\HAR@checkcitations#1#2#3#4{%
7833 \def\HAR@tempa{\hyper@link[cite]{#1}{#2}}%

```

```

7834 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7835 \def\HAR@tempa{\hyper@link[cite]{\cite.#1}{#3}}%
7836 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7837 \def\HAR@tempa{\hyper@link[cite]{\cite.#1}{#4}}%
7838 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
7839 \else
7840 \@tempswatrue
7841 \fi
7842 \else
7843 \@tempswatrue
7844 \fi
7845 \else
7846 \@tempswatrue
7847 \fi
7848 }%
7849 }%

7850 }{}

```

36.2 Package chicago

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

```

7851 \@ifpackageloaded{chicago}{%

\citeN
7852 \def\citeN{%
7853 \def\@citesep{~1000}%
7854 \def\@cite##1##2{##1}%
7855 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
7856 \@citedata@opt
7857 }%

\shortciteN
7858 \def\shortciteN{%
7859 \def\@citesep{~1000}%
7860 \def\@cite##1##2{##1}%
7861 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
7862 \@citedata@opt
7863 }%

\@citedata@opt
7864 \def\@citedata@opt{%
7865 \let\@cite@opt\@empty
7866 \@ifnextchar [{%
7867 \@tempswatrue
7868 \@citedatax@opt
7869 }{%
7870 \@tempswafalse
7871 \@citedatax[]%
7872 }%
7873 }%

\@citedatax@opt

```



```

7874 \def\@citedatax@opt[#1]{%
7875   \def\@cite@opt{, #1}%
7876   \@citedatax[{#1}]%
7877 }%

7878 }{}

```

37 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.

```

7879 \def\@currentHpage{Doc-Start}

7880 \ltx@ifclassloaded{slides}{%
7881   \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
7882   \def\Hy@PageAnchorSlidesPlain{%
7883     \advance\c@page\ltx@one
7884     \xdef\@currentHpage{page.\the\c@slide.\the\c@overlay.\the\c@note%
7885       \ifnum\c@page=\ltx@one
7886         \else
7887           .\the\c@page
7888         \fi}%
7889   \edef\Hy@TempPageAnchor{%
7890     \noexpand\hyper@@anchor{%
7891       \@currentHpage
7892     }%
7893   }%
7894   \advance\c@page-\ltx@one
7895 }%
7896 \def\Hy@PageAnchorSlide{%
7897   \advance\c@page\ltx@one
7898   \ifnum\c@page>\ltx@one
7899     \ltx@ifundefined{theHpage}{%
7900       \protected@edef\Hy@TheSlideOptionalPage{%
7901         \Hy@SlidesFormatOptionalPage{\thepage}%
7902       }%
7903     }{%
7904       \protected@edef\Hy@TheSlideOptionalPage{%
7905         \Hy@SlidesFormatOptionalPage{\theHpage}%
7906       }%
7907     }%
7908   \else
7909     \def\Hy@TheSlideOptionalPage{}%
7910   \fi
7911   \advance\c@page-\ltx@one
7912   \pdfstringdef\@the@H@page{%

```

```

7913 \csname
7914 the%
7915 \ltx@ifundefined{theH\Hy@SlidesPage}{H}%
7916 \Hy@SlidesPage
7917 \endcsname
7918 \Hy@TheSlideOptionalPage
7919 }%
7920 \ltx@gobblethree
7921 }%
7922 \def\Hy@SlidesPage{slide}%
7923 \g@addto@macro\slide{%
7924 \def\Hy@SlidesPage{slide}%
7925 }%
7926 \g@addto@macro\overlay{%
7927 \def\Hy@SlidesPage{overlay}%
7928 }%
7929 \g@addto@macro\note{%
7930 \def\Hy@SlidesPage{note}%
7931 }%
7932 }{%
7933 \def\Hy@PageAnchorSlidesPlain{}}%
7934 \def\Hy@PageAnchorSlide{}}%
7935 }
7936 \def\Hy@EveryPageAnchor{%
7937 \Hy@DistillerDestFix
7938 \ifHy@pageanchor
7939 \ifHy@hypertextnames
7940 \ifHy@plainpages
7941 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
7942 \xdef\@currentHpage{page.\the\c@page}%
7943 \Hy@PageAnchorSlidesPlain
7944 \else
7945 \begingroup
7946 \let\@number\@firstofone
7947 \Hy@unicodedefalse
7948 \Hy@PageAnchorSlide
7949 \pdfstringdef\@the@H@page{\thepage}%
7950 \endgroup
7951 \EdefUnescapeString\@the@H@page{\@the@H@page}%
7952 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
7953 \xdef\@currentHpage{page.\@the@H@page}%
7954 \fi
7955 \else
7956 \Hy@GlobalStepCount\Hy@pagecounter
7957 \def\Hy@TempPageAnchor{%
7958 \hyper@@anchor{page.\the\Hy@pagecounter}%
7959 }%
7960 \xdef\@currentHpage{page.\the\Hy@pagecounter}%
7961 \fi
7962 \vbox to 0pt{%
7963 \kern\voffset
7964 \kern\topmargin
7965 \kern-1bp\relax
7966 \hbox to 0pt{%

```

```

7967     \kern\hoffset
7968     \kern\ifodd\value{page}%
7969         \oddsidemargin
7970     \else
7971         \evensidemargin
7972     \fi
7973     \kern-1bp\relax
7974     \Hy@TempPageAnchor\relax
7975     \hss
7976 }%
7977 \vss
7978 }%
7979 \fi
7980 }
7981 \g@addto@macro\Hy@EveryPageBoxHook{%
7982 \Hy@EveryPageAnchor
7983 }

```

38 Table of contents

TV Raman noticed that people who add arbitrary material into the TOC generate a bad or null link. We avoid that by checking if the current destination is empty. But if ‘the most recent destination’ is not what you expect, you will be in trouble. In newer L^AT_EX releases this is defined to put a % at the end of the line in the tocf file.

```

7984 \providecommand\protected@file@percent{}
7985 \@ifundefined{hyper@nopatch@toc}{%
7986 \def\addcontentsline#1#2#3{% toc extension, type, tag
7987 \begingroup
7988 \let\label\@gobble
7989 \ifx\@currentHref\@empty
7990 \Hy@Warning{%
7991 No destination for bookmark of \string\addcontentsline,%
7992 \MessageBreak destination is added%
7993 }%
7994 \phantomsection
7995 \fi
7996 \expandafter\ifx\csname toplevel@#2\endcsname\relax
7997 \begingroup
7998 \def\Hy@tempa{#1}%
7999 \ifx\Hy@tempa\Hy@bookmarkstype
8000 \Hy@WarningNoLine{%
8001 bookmark level for unknown #2 defaults to 0%
8002 }%
8003 \else
8004 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
8005 \fi
8006 \endgroup
8007 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
8008 \fi
8009 \edef\Hy@toplevel{\csname toplevel@#2\endcsname}%
8010 \Hy@writebookmark{\csname the#2\endcsname}%

```

```

8011     {#3}%
8012     {\@currentHref}%
8013     {\Hy@toclevel}%
8014     {#1}%
8015     \ifHy@verbose
8016     \begingroup
8017         \def\Hy@tempa{#3}%
8018         \@onelevel@sanitize\Hy@tempa
8019         \let\temp@online\on@line
8020         \let\on@line\@empty
8021         \Hy@Info{%
8022             bookmark\temp@online:\MessageBreak
8023             thecounter {\csname the#2\endcsname}\MessageBreak
8024             text {\Hy@tempa}\MessageBreak
8025             reference {\@currentHref}\MessageBreak
8026             toclevel {\Hy@toclevel}\MessageBreak
8027             type {#1}%
8028         }%
8029     \endgroup
8030     \fi
8031     \addtocontents{#1}{%
8032     \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}\protected@file@per-
cent
8033     }%
8034     \endgroup
8035 }
8036 }{}

```

`\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:

```

8037 \protected\def\Hy@toclinkstart{\hyper@linkstart{link}{\Hy@tocdestname}}
8038 \protected\def\Hy@toclinkend{\hyper@linkend}
8039
8040 \@ifundefined{hyper@nopatch@toc}{%
8041     \def\contentsline#1#2#3#4{%
8042         \begingroup
8043         \Hy@safe@activetrue
8044         \edef\x{\endgroup
8045             \def\noexpand\Hy@tocdestname{#4}%
8046         }\x
8047         \ifx\Hy@tocdestname\ltx@empty
8048             \csname l@#1\endcsname{#2}{#3}%
8049         \else
8050             \ifcase\Hy@linktoc % none
8051                 \csname l@#1\endcsname{#2}{#3}%
8052             \or % section
8053                 \csname l@#1\endcsname{%
8054                     \Hy@toclinkstart{#2}\Hy@toclinkend
8055                 }{#3}%
8056             \or % page
8057                 \def\Hy@temp{#3}%
8058                 \ifx\Hy@temp\ltx@empty

```

```

8059     \csname l@#1\endcsname{#2}{#3}%
8060     \else
8061     \csname l@#1\endcsname{#2}{#3}%
8062     \Hy@toclinkstart{#3}\Hy@toclinkend
8063     }%
8064     \fi
8065   \else % all
8066     \def\Hy@temp{#3}%
8067     \ifx\Hy@temp\ltx@empty
8068     \csname l@#1\endcsname{%
8069       \Hy@toclinkstart{#2}\Hy@toclinkend
8070     }{}%
8071     \else
8072     \csname l@#1\endcsname{%
8073       \Hy@toclinkstart{#2}\Hy@toclinkend
8074     }{%
8075       \Hy@toclinkstart{#3}\Hy@toclinkend
8076     }%
8077     \fi
8078   \fi
8079 \fi
8080 }
8081 }{}

8082 \</packageEnd>
8083 \<*check>
8084 \checklatex
8085 \checkcommand\def\addcontentsline#1#2#3{%
8086   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}}%
8087 }
8088 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
8089 \</check>
8090 \<*packageEnd>

```

39 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.

```

8091 \@ifundefined{hyper@nopatch@counter}
8092 {
8093   \let\H@definecounter\@definecounter
8094   \def\@definecounter#1{%
8095     \H@definecounter{#1}%
8096     \expandafter\gdef\csname theH#1\endcsname{\arabic{#1}}%
8097   }
8098 }{}

```

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.

```

8099 \@ifundefined{hyper@nopatch@counter}
8100 {
8101   \let\H@newctr\@newctr
8102   \def\@newctr#1[#2]{%

```

```

8103 \H@newctr#1[#{#2}]%
8104 \expandafter\gdef\csname theH#1\endcsname{%
8105 \csname the\@ifundefined{theH#2}{H}#2\endcsname.\arabic{#1}%
8106 }%
8107 }
8108 }{}

```

40 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.

```

8109 \@ifundefined{hyper@nopatch@amsmath@tag}
8110 {%
8111 \AddToHook{package/amsmath/after}{%
8112 \def\Hy@make@anchor{%
8113 \Hy@MakeCurrentHrefAuto{AMS}%
8114 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
8115 }%
8116 \def\Hy@make@df@tag@@#1{%
8117 \gdef\df@tag{%
8118 \maketag@@@{\Hy@make@anchor#1}%
8119 \def\@currentlabel{#1}%
8120 }%
8121 }%
8122 \def\Hy@make@df@tag@@@#1{%
8123 \gdef\df@tag{%
8124 \tagform@{\Hy@make@anchor#1}%
8125 \toks@{\xp{\p@equation{#1}}}%
8126 \edef\@currentlabel{the\toks@}%
8127 }%
8128 }%
8129 \let\HyOrg@make@df@tag@@\make@df@tag@@
8130 \let\HyOrg@make@df@tag@@@\make@df@tag@@@
8131 \let\make@df@tag@@\Hy@make@df@tag@@
8132 \let\make@df@tag@@@\Hy@make@df@tag@@@
8133 }{}
8134 }{}

```

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}}}}
```

40.1 \@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.

```
8135 \@ifundefined{hyper@nopatch@counter}
8136 {
8137   \let\HyOrg@addtoreset\@addtoreset
8138   \def\@addtoreset#1#2{%
8139     \HyOrg@addtoreset{#1}{#2}%
8140     \expandafter\xdef\csname theH#1\endcsname{%
8141       \expandafter\noexpand
8142         \csname the\@ifundefined{theH#2}{H#2\endcsname
8143         .\noexpand\the\noexpand\value{#1}%
8144       }%
8145     }
8146   }
```

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

```
8147 \</packageEnd>
8148 \*check>
8149 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
8150 \checkcommand\newcommand{\numberwithin}[3][\arabic]{%
8151   \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8152     \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8153       \@addtoreset{#2}{#3}%
8154       \@xp\xdef\csname the#2\endcsname{%
8155         \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8156       }%
8157     }%
8158   }%
8159 }%
8160 \</check>
```

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

```
8161 \*packageEnd>
8162 \@ifundefined{hyper@nopatch@counter}
8163 {
8164   \AddToHook{package/amsmath/after}{%
8165     \renewcommand*\numberwithin[3][\arabic]{%
8166       \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8167         \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8168           \HyOrg@addtoreset{#2}{#3}%
8169           \@xp\xdef\csname the#2\endcsname{%
8170             \@xp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8171           }%
8172           \@xp\xdef\csname theH#2\endcsname{%
8173             \@xp\@nx
8174             \csname the\@ifundefined{theH#3}{H#3\endcsname
8175             .\@nx#1{#2}%
8176           }%
8177         }%
8178       }%
8179     }%
8180   }
```

```

8176     }%
8177     }%
8178     }%
8179     }%
8180   }{}
8181 }{}

```

41 Included figures

Simply intercept the low level graphics package macro.

```

8182 \ifHy@hyperfigures
8183   \let\Hy@Gin@setfile\Gin@setfile
8184   \def\Gin@setfile#1#2#3{%
8185     \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
8186   }%
8187 \fi
8188 \Hy@DisableOption{hyperfigures}

```

42 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.

```

8189 \ifHy@hyperindex
8190   \def\HyInd@ParenLeft{({}%
8191   \def\HyInd@ParenRight{)}}%
8192   \def\hyperindexformat#1#2{%
8193     \let\HyOrg@hyperpage\hyperpage
8194     \let\hyperpage\@firstofone
8195     #1{\HyOrg@hyperpage{#2}}%
8196     \let\hyperpage\HyOrg@hyperpage
8197   }%
8198   \Hy@nextfalse
8199   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
8200   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
8201   \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
8202   \begingroup
8203     \lccode`|=\expandafter`\HyInd@EncapChar\relax
8204     \lccode`/\=``\relax
8205   \lowercase{\endgroup
8206     \ifHy@next
8207       \let\HyInd@org@wrindex\@wrindex
8208       \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2|}%
8209       \def\HyInd@@wrindex#1#2|#3|#4\{%
8210         \ifx\#3\%

```



```

8211     \HyInd@org@wrindex{#1}{#2|hyperpage}%
8212 \else
8213     \HyInd@@@wrindex{#1}{#2}#3\\%
8214 \fi
8215 }%
8216 \def\HyInd@@@wrindex#1#2#3#4\\{%
8217 \def\Hy@temp@A{#3}%
8218 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8219     \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8220 \relax
8221 \HyInd@org@wrindex{#1}{%
8222     #2|hyperindexformat{/#3#4}%
8223 }%
8224 \else
8225     \ifx\\#4\\%
8226         \ifx\Hy@temp@A\HyInd@ParenRight
8227             \HyInd@org@wrindex{#1}{#2|#3}%
8228         \else
8229             \HyInd@org@wrindex{#1}{#2|#3hyperpage}%
8230         \fi
8231     \else
8232         \HyInd@org@wrindex{#1}{%
8233             #2|#3hyperindexformat{/#4}%
8234         }%
8235     \fi
8236 \fi
8237 }%
8238 \else
8239 \def\@wrindex#1{\@wrindex#1||\}%
8240 \def\@wrindex#1|#2|#3\\{%
8241 \if@filesw
8242     \ifx\\#2\\%
8243         \protected@write\@indexfile{}\{%
8244             \string\indexentry{#1|hyperpage}{\thepage}%
8245         }%
8246     \else
8247         \HyInd@@@wrindex{#1}#2\\%
8248     \fi
8249 \fi
8250 \endgroup
8251 \@esphack
8252 }%
8253 \def\HyInd@@@wrindex#1#2#3\\{%
8254 \def\Hy@temp@A{#2}%
8255 \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8256     \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8257 \relax
8258 \protected@write\@indexfile{}\{%
8259     \string\indexentry{%
8260         #1|hyperindexformat{/#2#3}%
8261     }\thepage}%
8262 }%
8263 \else
8264     \ifx\\#3\\%

```

```

8265 \ifx\Hy@temp@A\HyInd@ParenRight
8266 \HyInd@DefKey{#1}%
8267 \ltx@ifundefined{HyInd@(\HyInd@key)}{%
8268 \let\Hy@temp\ltx@empty
8269 }{%
8270 \expandafter\let\expandafter\Hy@temp
8271 \csname HyInd@(\HyInd@key)\endcsname
8272 }%
8273 \protected@write\@indexfile{%
8274 \string\indexentry{#1|#2\Hy@temp}{\thepage}%
8275 }%
8276 \else
8277 \protected@write\@indexfile{%
8278 \string\indexentry{#1|#2hyperpage}{\thepage}%
8279 }%
8280 \HyInd@DefKey{#1}%
8281 \expandafter
8282 \gdef\csname HyInd@(\HyInd@key)\endcsname{%
8283 hyperpage%
8284 }%
8285 \fi
8286 \else
8287 \protected@write\@indexfile{%
8288 \string\indexentry{
8289 #1|#2hyperindexformat{/#3}%
8290 }{\thepage}%
8291 }%
8292 \ifx\Hy@temp@A\HyInd@ParenLeft
8293 \HyInd@DefKey{#1}%
8294 \expandafter
8295 \gdef\csname HyInd@(\HyInd@key)\endcsname{%
8296 hyperindexformat{/#3}%
8297 }%
8298 \fi
8299 \fi
8300 \fi
8301 }%
8302 \def\HyInd@DefKey#1{%
8303 \begingroup
8304 \let\protect\@unexpandable@protect
8305 \edef\Hy@temp{#1}%
8306 \ltx@onelevel@sanitize\Hy@temp
8307 \global\let\HyInd@key\Hy@temp
8308 \endgroup
8309 }%
8310 \fi
8311 }%
8312 \fi
8313 \Hy@DisableOption{hyperindex}
8314 \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.

```

8315 \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.

```

8316 \def\hyperpage#1{%
8317   \HyInd@hyperpage#1\nohyperpage{}\@nil
8318 }
8319 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8320   \HyInd@@hyperpage{#1}%
8321   #2%
8322   \def\Hy@temp{#3}%
8323   \ifx\Hy@temp\@empty
8324   \else
8325     \ltx@ReturnAfterFi{%
8326       \HyInd@hyperpage#3\@nil
8327     }%
8328   \fi
8329 }
8330 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8331 \def\@hyperpage#1--#2--#3\{\%
8332   \ifx\#2\%
8333     \@commahyperpage{#1}%
8334   \else
8335     \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8336   \fi
8337 }
8338 \def\@commahyperpage#1{\@commahyperpage#1, \}
8339 \def\@commahyperpage#1, #2,#3\{\%
8340   \ifx\#2\%
8341     \HyInd@pagelink{#1}%
8342   \else
8343     \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8344   \fi
8345 }

```

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

```

8346 \def\HyInd@pagelink#1{%
8347   \begingroup
8348   \toks@={}%
8349   \HyInd@removespaces#1 \@nil
8350   \endgroup
8351 }
8352 \def\HyInd@removespaces#1 #2\@nil{%
8353   \toks@=\expandafter{\the\toks@#1}%
8354   \ifx\#2\%
8355     \edef\x{\the\toks@}%
8356     \ifx\x\@empty
8357     \else
8358       \hyperlink{page.\the\toks@}{\the\toks@}%
8359     \fi
8360   \else
8361     \ltx@ReturnAfterFi{%
8362       \HyInd@removespaces#2\@nil
8363     }%
8364   \fi

```

8365 }

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.

```
8366 \ifHy@texht
8367   \expandafter\endinput
8368 \fi
8369 \let\real@setref\@setref
8370 \def\@setref#1#2#3{% csname, extract group, refname
8371   \ifx#1\relax
8372     \protect\G@refundefinedtrue
8373     \nfss@text{\reset@font\bfseries ??}%
8374     \@latex@warning{%
8375       Reference `#3' on page \thepage \space undefined%
8376     }%
8377   \else
8378     \expandafter\Hy@setref@link#1\@empty\@empty\@empty\@nil{#2}%
8379   \fi
8380 }
```

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

```
8381 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8382   \begingroup
8383   \toks0={\hyper@@link{#5}{#4}}%
8384   \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8385   \edef\x{\endgroup
8386     \the\toks0 {\the\toks1 }%
8387   }%
8388   \x
8389 }
8390 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8391   \ifx#1\relax
8392     \protect\G@refundefinedtrue
8393     \nfss@text{\reset@font\bfseries ??}%
8394     \@latex@warning{%
8395       Reference `#3' on page \thepage \space undefined%
8396     }%
8397   \else
8398     \protect\hyper@@link
8399     {\expandafter\@fifthoffive#1}%
8400     {page.\expandafter\@secondoffive#1}%
8401     {\expandafter\@secondoffive#1}%
8402   \fi
8403 }
8404 \</packageEnd>
8405 \< *check>
8406 \checklatex
8407 \checkcommand\def\@setref#1#2#3{%
8408   \ifx#1\relax
8409     \protect\G@refundefinedtrue
8410     \nfss@text{\reset@font\bfseries ??}%

```

```

8411 \latex@warning{%
8412   Reference `#3' on page \thepage\space undefined%
8413 }%
8414 \else
8415   \expandafter#2#1\null
8416 \fi
8417 }
8418 \check
8419 \*packageEnd

```

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

```

8420 \def\HyRef@StarSetRef#1{%
8421   \begingroup
8422   \Hy@safe@activetrue
8423   \let\protect\@unexpandable@protect
8424   \edef\x{#1}%
8425   \@onelevel@sanitize\x
8426   \edef\x{\endgroup
8427     \noexpand\HyRef@@StarSetRef
8428     \expandafter\noexpand\csname r@\x\endcsname{\x}%
8429   }%
8430   \x
8431 }
8432 \def\HyRef@@StarSetRef#1#2#3{%
8433   \ifx#1\@undefined
8434     \let#1\relax
8435   \fi
8436   \real@setref#1#3{#2}%
8437 }
8438 \def\@refstar#1{%
8439   \HyRef@StarSetRef{#1}\@firstoffive
8440 }
8441 \def\@pagerefstar#1{%
8442   \HyRef@StarSetRef{#1}\@secondoffive
8443 }
8444 \def\@namerefstar#1{%
8445   \HyRef@StarSetRef{#1}\@thirdoffive
8446 }
8447 \def\@Refstar#1{%
8448   \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8449 }%
8450 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8451   \MakeUppercase#1%
8452 }%
8453 \def\HyRef@Ref#1{%
8454   \hyperref[{#1}]{\Ref*{#1}}%
8455 }%
8456 \Hy@AtBeginDocument{%
8457   \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.

```

8458   \ifundefined{hyper@nopatch@varioref}

```

```

8459 {
8460   \renewcommand\Vref@star[2][]{%
8461     \begingroup
8462     \let\T@pageref\@pagerefstar
8463     \Ref*{#2}
8464     \vpageref[#1]{#2}%
8465   \endgroup
8466 }%
8467 \renewcommand\Vr@f[2][]{%
8468   \begingroup
8469   \let\T@pageref\@pagerefstar
8470   \hyperref[{#2}]{%
8471     \Ref*{#2}
8472     \vpageref[#1]{#2}%
8473   }%
8474   \endgroup
8475 }%
8476 \renewcommand\vr@f[2][]{%
8477   \begingroup
8478   \let\T@pageref\@pagerefstar
8479   \hyperref[{#2}]{%
8480     \ref*{#2}
8481     \vpageref[#1]{#2}%
8482   }%
8483   \endgroup
8484 }%
8485 \renewcommand\vref@star[2][]{%
8486   \begingroup
8487   \let\T@pageref\@pagerefstar
8488   \ref*{#2}
8489   \vpageref[#1]{#2}%
8490   \endgroup
8491 }%
8492 }{}%
8493 }{}%
8494 }

8495 \DeclareRobustCommand*\autopageref{%
8496   \@ifstar{%
8497     \HyRef@autopagerefname\pageref*%
8498   }\HyRef@autopageref
8499 }
8500 \def\HyRef@autopageref#1{%
8501   \hyperref[{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
8502 }
8503 \def\HyRef@autopagerefname{%
8504   \ltx@ifundefined{pageautorefname}{%
8505     \ltx@ifundefined{pagename}{%
8506       \Hy@Warning{No autoref name for `page'}%
8507     }{%
8508       \pagename\nobreakspace
8509     }%
8510   }{}%
8511   \pageautorefname\nobreakspace
8512 }%

```

8513 }

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

```

8514 \NewDocumentCommand\autoref{s}
8515   {\leavevmode
8516    \IfBooleanTF{#1}{\HyRef@autoref@gobbletwo}{\HyRef@autoref\hyper@@link}}
8517 \def\HyRef@autoref#1#2{%
8518   \begingroup
8519   \Hy@safe@activetrue
8520   \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
8521   \endgroup
8522 }
8523 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8524   \HyRef@ShowKeysRef{#2}%
8525   \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref@undefined 1\fi\relax
8526   \edef\HyRef@thisref{%
8527     \expandafter\@fourthoffive#1\@empty\@empty\@empty
8528   }%
8529   \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8530   \Hy@safe@activesfalse
8531   #3{%
8532     \expandafter\@fifthoffive#1\@empty\@empty\@empty
8533   }{%
8534     \expandafter\@fourthoffive#1\@empty\@empty\@empty
8535   }{%
8536     \HyRef@currentHtag
8537     \expandafter\@firstoffive#1\@empty\@empty\@empty
8538     \null
8539   }%
8540   \else
8541     \protect\G@refundefinedtrue
8542     \nfss@text{\reset@font\bfseries ??}%
8543     \@latex@warning{%
8544       Reference `#2' on page \thepage\space undefined%
8545     }%
8546     \fi
8547 }
8548 \def\HyRef@testreftype#1.#2\{\{%
8549   \ltx@ifundefined{#1autorefname}{%
8550     \ltx@ifundefined{#1name}{%
8551       \HyRef@StripStar#1\*\@nil{#1}%
8552       \ltx@ifundefined{\HyRef@name autorefname}{%
8553         \ltx@ifundefined{\HyRef@name name}{%
8554           \def\HyRef@currentHtag{%
8555             \Hy@Warning{No autoref name for `#1'}%
8556           }{%
8557             \edef\HyRef@currentHtag{%
8558               \expandafter\noexpand\csname\HyRef@name name\endcsname
8559               \noexpand~%
8560             }%
8561           }%
8562         }{%
8563           \edef\HyRef@currentHtag{%

```

```

8564      \expandafter\noexpand
8565      \csname\HyRef@name autorefname\endcsname
8566      \noexpand~%
8567    }%
8568  }%
8569 }{%
8570   \edef\HyRef@currentHtag{%
8571     \expandafter\noexpand\csname#1name\endcsname
8572     \noexpand~%
8573   }%
8574 }%
8575 }{%
8576   \edef\HyRef@currentHtag{%
8577     \expandafter\noexpand\csname#1autorefname\endcsname
8578     \noexpand~%
8579   }%
8580 }%
8581 }
8582 \def\HyRef@StripStar#1*\#2\@nil#3{%
8583   \def\HyRef@name{#2}%
8584   \ifx\HyRef@name\HyRef@CaseStar
8585     \def\HyRef@name{#1}%
8586   \else
8587     \def\HyRef@name{#3}%
8588   \fi
8589 }
8590 \def\HyRef@CaseStar{*\\}
8591 \def\HyRef@currentHtag{}

```

Support for package `showkeys`.

`\HyRef@ShowKeysRef`

```

8592 \let\HyRef@ShowKeysRef\@gobble
8593 \def\HyRef@ShowKeysInit{%
8594   \@ifundefined{SK@@label}{}
8595   {%
8596     \ifx\SK@ref\@empty
8597     \else
8598       \def\HyRef@ShowKeysRef{%
8599         \SK@\SK@\@ref
8600       }%
8601     \fi
8602   }%
8603 }
8604 \AddToHook{package/showkeys/after}{\HyRef@ShowKeysInit}

```

Defaults for the names that `\autoref` uses.

```

8605 \providecommand*\AMSautorefname{\equationautorefname}
8606 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
8607 \providecommand*\Itemautorefname{\itemautorefname}
8608 \providecommand*\itemautorefname{item}
8609 \providecommand*\equationautorefname{Equation}
8610 \providecommand*\footnoteautorefname{footnote}
8611 \providecommand*\itemautorefname{item}
8612 \providecommand*\figureautorefname{Figure}

```



```

8613 \providecommand*\tableautorefname{Table}
8614 \providecommand*\partautorefname{Part}
8615 \providecommand*\appendixautorefname{Appendix}
8616 \providecommand*\chapterautorefname{chapter}
8617 \providecommand*\sectionautorefname{section}
8618 \providecommand*\subsectionautorefname{subsection}
8619 \providecommand*\subsubsectionautorefname{subsubsection}
8620 \providecommand*\paragraphautorefname{paragraph}
8621 \providecommand*\subparagraphautorefname{subparagraph}
8622 \providecommand*\FancyVerbLineautorefname{line}
8623 \providecommand*\theoremautorefname{Theorem}
8624 \providecommand*\pageautorefname{page}
8625 \endpackage

```

43 Configuration files

43.1 PS/PDF strings

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

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

```

8626 (*pdftex | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo)
8627 \begingroup\expandafter\expandafter\expandafter\endgroup
8628 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
8629 \begingroup
8630 \catcode`\|=0 %
8631 \@makeother\|%
8632 |@firstofone{|endgroup
8633 |def|Hy@pstringdef#1#2{%
8634 |begingroup
8635 |edef~{|string~}%
8636 |xdef|Hy@gtemp{#2}%
8637 |endgroup
8638 |let#1|Hy@gtemp
8639 |@onelevel@sanitize#1%
8640 |edef#1{|expandafter|Hy@ExchangeBackslash#1|@nil}%
8641 |edef#1{|expandafter|Hy@ExchangeLeftParenthesis#1|@nil}%
8642 |edef#1{|expandafter|Hy@ExchangeRightParenthesis#1|@nil}%
8643 }%
8644 |def|Hy@ExchangeBackslash#1|#2|@nil{%
8645 #1%
8646 |ifx|\#2|\%%
8647 |else
8648 \\\%
8649 |ltx@ReturnAfterFi{%
8650 |Hy@ExchangeBackslash#2|@nil
8651 }%
8652 |fi

```

```

8653 }%
8654 }%
8655 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
8656   #1%
8657   \ifx\|#2\|
8658   \else
8659     \@backslashchar(%
8660     \ltx@ReturnAfterFi{%
8661       \Hy@ExchangeLeftParenthesis#2\@nil
8662     }%
8663   \fi
8664 }%
8665 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8666   #1%
8667   \ifx\|#2\|
8668   \else
8669     \@backslashchar)%
8670     \ltx@ReturnAfterFi{%
8671       \Hy@ExchangeRightParenthesis#2\@nil
8672     }%
8673   \fi
8674 }%
8675 \else
8676 \def\Hy@pstringdef#1#2{%
8677   \begingroup
8678     \edef~{\string~}%
8679     \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8680   \endgroup
8681   \let#1\Hy@gtemp
8682 }%
8683 \fi
8684 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

43.2 pdfTeX

```

8685 <*pdfTeX>
8686 \providecommand*\XR@ext>{pdf}
8687 \Hy@setbreaklinks{true}
8688 \def\HyPat@ObjRef{%
8689   [0-9]*[1-9][0-9]* 0 R%
8690 }

```

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

```

8691 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
8692 \def\Hy@pdfminorversion{\pdfminorversion}%
8693 \ifHy@ocgcolorlinks
8694   \ifnum\Hy@pdfmajorminor@version<105 %
8695     \kvsetkeys{Hyp}{pdfversion=1.5}%

```

```

8696 \fi
8697 \fi
8698 \ifHy@setpdfversion
8699 \ifnum\Hy@pdf@majorminor@version<105 %
8700 \ltx@ifundefined{pdfobjcompresslevel}{%
8701 }{%
8702 \ifHy@verbose
8703 \Hy@InfoNoLine{%
8704 PDF object streams are disabled, because they are%
8705 \MessageBreak
8706 not supported in requested PDF version %
8707 \Hy@pdf@majorversion.\Hy@pdf@minorversion
8708 }%
8709 \fi
8710 \pdfobjcompresslevel=\ltx@zero
8711 }%
8712 \fi
8713 \ifnum\Hy@pdfmajorminor@version=\Hy@pdf@majorminor@version\relax
8714 \else
8715 \let\Hy@temp\ltx@empty
8716 \def\Hy@temp@A#1#2{%
8717 \ifnum#1>\ltx@zero
8718 \edef\Hy@temp{%
8719 \Hy@temp
8720 \space\space
8721 \the#1\space #2%
8722 \ifnum#1=\ltx@one\else s\fi
8723 \MessageBreak
8724 }%
8725 \fi
8726 }%
8727 \Hy@temp@A\pdflastobj{PDF object}%
8728 \Hy@temp@A\pdflastxform{formXObject}%
8729 \Hy@temp@A\pdflastximage{imageXObject}%
8730 \Hy@temp@A\pdflastannot{annotation}%
8731 \ltx@ifundefined{pdflastlink}{%
8732 }{%
8733 \Hy@temp@A\pdflastlink{link}%
8734 }%
8735 \ifx\Hy@temp\ltx@empty
8736 \Hy@pdfmajorversion=\Hy@pdf@majorversion\relax
8737 \Hy@pdfminorversion=\Hy@pdf@minorversion\relax
8738 \else
8739 \let\Hy@temp@A\ltx@empty
8740 \ifnum\Hy@pdf@majorminor@version=104 %
8741 \IfFileExists{pdf14.sty}{%
8742 \def\Hy@temp@A{%
8743 \MessageBreak
8744 Or \string\RequirePackage{pdf14} can be used%
8745 \MessageBreak
8746 before \string\documentclass\space as shortcut%
8747 }%
8748 }{}%
8749 \fi

```

```

8750 \Hy@WarningNoLine{%
8751   The PDF version number could not be set,\MessageBreak
8752   because some PDF objects are already written:%
8753   \MessageBreak
8754   \Hy@temp
8755   The version should be set as early as possible:%
8756   \MessageBreak
8757   \space\space
8758   \expandafter\string\Hy@pdfmajorversion=\Hy@pdf@majorversion, %
8759   \expandafter\string\Hy@pdfminorversion=\Hy@pdf@minorversion
8760   \string\relax
8761   \ifnum\Hy@pdf@major@minor@version<105 %
8762     \ltx@ifundefined{pdfobjcompresslevel}{%
8763       }{%
8764         \MessageBreak
8765         \space\space
8766         \string\pdfobjcompresslevel=0\string\relax
8767       }%
8768     \fi
8769     \Hy@temp@A
8770   }%
8771 \fi
8772 \fi
8773 \PackageInfo{hyperref}{%
8774   \expandafter\string\Hy@pdfmajorversion.%
8775   \expandafter\string\Hy@pdfminorversion
8776   :=\number\Hy@pdf@majorversion.\number\Hy@pdf@minorversion\space
8777 }%
8778 \fi
8779 \edef\Hy@pdf@majorversion{\number\Hy@pdfmajorversion}%
8780 \edef\Hy@pdf@minorversion{\number\Hy@pdfminorversion}%
8781 \Hy@DisableOption{pdfversion}%

8782 \ifHy@ocgcolorlinks
8783   \pdf@ifdraftmode{}{%
8784     \immediate\pdfobj{%
8785       <<%
8786       /Type/OCG%
8787       /Name(View)%
8788       /Usage<<%
8789       /Print<<%
8790       /PrintState/OFF%
8791       >>%
8792       /View<<%
8793       /ViewState/ON%
8794       >>%
8795       >>%
8796     >>%
8797   }%
8798   \edef\OBJ@OCG@view{\the\pdfastobj\space 0 R}%
8799   \immediate\pdfobj{%
8800     <<%
8801     /Type/OCG%
8802     /Name(Print)%
8803     /Usage<<%

```

```

8804      /Print<<%
8805      /PrintState/ON%
8806      >>%
8807      /View<<%
8808      /ViewState/OFF%
8809      >>%
8810      >>%
8811      >>%
8812      }%
8813      \edef\OBJ@OCG@print{\the\pdfastobj\space 0 R}%
8814      \immediate\pdfobj{%
8815      [%
8816      \OBJ@OCG@view\space\OBJ@OCG@print
8817      ]%
8818      }%
8819      \edef\OBJ@OCGs{\the\pdfastobj\space 0 R}%
8820      \pdfcatalog{%
8821      /OCProperties<<%
8822      /OCGs \OBJ@OCGs
8823      /D<<%
8824      /OFF[\OBJ@OCG@print]%
8825      /AS[%
8826      <<%
8827      /Event/View%
8828      /OCGs \OBJ@OCGs
8829      /Category[/View]%
8830      >>%
8831      <<%
8832      /Event/Print%
8833      /OCGs \OBJ@OCGs
8834      /Category[/Print]%
8835      >>%
8836      <<%
8837      /Event/Export%
8838      /OCGs \OBJ@OCGs
8839      /Category[/Print]%
8840      >>%
8841      ]%
8842      >>%
8843      >>%
8844      }%
8845      \beginingroup
8846      \edef\x{\endgroup
8847      \pdfpageresources{%
8848      \the\pdfpageresources
8849      /Properties<<%
8850      /OCView \OBJ@OCG@view
8851      /OCPrint \OBJ@OCG@print
8852      >>%
8853      }%
8854      }%
8855      \x
8856      }%
8857      \Hy@AtBeginDocument{%

```

```

8858 \def\Hy@colorlink#1{%
8859 \begingroup
8860 \ifHy@ocgcolorlinks
8861 \def\Hy@ocgcolor{#1}%
8862 \setbox0=\hbox\bgroup\color@begingroup
8863 \else
8864 \HyColor@UseColor#1%
8865 \fi
8866 }%
8867 \def\Hy@endcolorlink{%
8868 \ifHy@ocgcolorlinks
8869 \color@endgroup\egroup
8870 \mbox{%
8871 \pdfliteral page{/OC/OCPrint BDC}%
8872 \rlap{\copy0}%
8873 \pdfliteral page{EMC/OC/OCView BDC}%
8874 \begingroup
8875 \expandafter\HyColor@UseColor\Hy@ocgcolor
8876 \box0 %
8877 \endgroup
8878 \pdfliteral page{EMC}%
8879 }%
8880 \fi
8881 \endgroup
8882 }%
8883 }%
8884 \else
8885 \Hy@DisableOption{ocgcolorlinks}%
8886 \fi

```

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

```

8887 \def\setpdfinkmargin#1{%
8888 \begingroup
8889 \setlength{\dimen@}{#1}%
8890 \expandafter\endgroup
8891 \expandafter\pdfinkmargin\the\dimen@\relax
8892 }
8893 \pdfinkmargin1pt %

```

First set up the default linking

```

8894 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

8895 \Hy@WrapperDef\new@pdfink#1{%
8896 \ifhmode
8897 \@savsf\spacefactor
8898 \fi
8899 \Hy@SaveLastskip
8900 \Hy@VerboseAnchor{#1}%
8901 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8902 \Hy@DestName\Hy@pstringDest\@pdfview
8903 \Hy@RestoreLastskip
8904 \ifhmode
8905 \spacefactor\@savsf
8906 \fi

```

```

8907 }
8908 \let\pdf@endanchor\@empty

```

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

```

8909 \def\Hy@DestName#1#2{%
8910   \pdfdest name{#1}#2\relax
8911 }

```

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.

```

8912 \providecommand*\@pdfborder{0 0 1}
8913 \providecommand*\@pdfborderstyle{}
8914 \def\Hy@undefinedname{UNDEFINED}
8915 \def\find@pdflink#1#2{%
8916   \leavevmode
8917   \protected@edef\Hy@testname{#2}%
8918   \ifx\Hy@testname\@empty
8919     \Hy@Warning{%
8920       Empty destination name,\MessageBreak
8921       using '\Hy@undefinedname'%
8922     }%
8923     \let\Hy@testname\Hy@undefinedname
8924   \else
8925     \Hy@pstringdef\Hy@testname{%
8926       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8927     }%
8928   \fi
8929   \Hy@StartlinkName{%
8930     \ifHy@pdfa /F 4\fi
8931     \Hy@setpdfborder
8932     \Hy@setpdfhighlight
8933     \ifx\CurrentBorderColor\relax
8934       \else
8935         /C[\CurrentBorderColor]%
8936     \fi
8937   }\Hy@testname
8938   \expandafter\Hy@colorlink\csname @#1color\endcsname
8939 }
8940 \def\Hy@StartlinkName#1#2{%
8941   \pdfstartlink attr{#1}goto name{#2}\relax
8942 }
8943 \def\close@pdflink{%
8944   \Hy@endcolorlink
8945   \Hy@VerboseLinkStop
8946   \pdfendlink
8947 }
8948 \def\hyper@anchor#1{%
8949   \new@pdflink{#1}\anchor@spot\pdf@endanchor
8950 }
8951 \def\hyper@anchorstart#1{%
8952   \new@pdflink{#1}%

```

```

8953 \Hy@activeanchortrue
8954 }
8955 \def\hyper@anchorend{%
8956 \pdf@endanchor
8957 \Hy@activeanchorfalse
8958 }
8959 \def\hyper@linkstart#1#2{%
8960 \Hy@VerboseLinkStart{#1}{#2}%
8961 \ltx@ifundefined{@#1bordercolor}{%
8962 \let\CurrentBorderColor\relax
8963 }{%
8964 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8965 }%
8966 \find@pdfink{#1}{#2}%
8967 }
8968 \def\hyper@linkend{\close@pdfink}
8969 \def\hyper@link#1#2#3{%
8970 \Hy@VerboseLinkStart{#1}{#2}%
8971 \ltx@ifundefined{@#1bordercolor}{%
8972 \let\CurrentBorderColor\relax
8973 }{%
8974 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
8975 }%
8976 \find@pdfink{#1}{#2}#3\Hy@xspace@end
8977 \close@pdfink
8978 }
8979 \let\CurrentBorderColor\@linkbordercolor
8980 \def\hyper@linkurl#1#2{%
8981 \begingroup
8982 \Hy@pstringdef\Hy@pstringURI{#2}%
8983 \hyper@chars
8984 \leavevmode
8985 \pdfstartlink
8986 attr{%
8987 \Hy@setpdfborder
8988 \Hy@setpdfhighlight
8989 \ifx\@urlbordercolor\relax
8990 \else
8991 /C[\@urlbordercolor]%
8992 \fi
8993 }%
8994 user{%
8995 /Subtype/Link%
8996 \ifHy@pdfa /F 4\fi
8997 /A<<%
8998 /Type/Action%
8999 /S/URI%
9000 /URI(\Hy@pstringURI)%
9001 \ifHy@href@ismap
9002 /IsMap true%
9003 \fi
9004 \Hy@href@nextactionraw
9005 >>%
9006 }%

```



```

9007     \relax
9008     \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9009     \close@pdfink
9010 \endgroup
9011 }
9012 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
9013 \begingroup
9014   \def\Hy@pstringF{#2}%
9015   \Hy@CleanupFile\Hy@pstringF
9016   \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9017   \Hy@pstringdef\Hy@pstringD{#3}%
9018   \Hy@MakeRemoteAction
9019   \leavevmode
9020   \pdfstartlink
9021   attr{%
9022     \Hy@setpdfborder
9023     \Hy@setpdfhighlight
9024     \ifx\@filebordercolor\relax
9025     \else
9026       /C[\@filebordercolor]%
9027     \fi
9028   }%
9029   user {%
9030     /Subtype/Link%
9031     \ifHy@pdfa /F 4\fi
9032     /A<<%
9033     /F(\Hy@pstringF)%
9034     /S/GoToR%
9035     \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}

```

```

9036     \ifx\#3\%
9037       /D[\Hy@href@page\@pdfremotestartview]%
9038     \else
9039       /D(\Hy@pstringD)%
9040     \fi
9041     \Hy@href@nextactionraw
9042     >>%
9043   }%
9044   \relax
9045   \Hy@colorlink\@filecolor#1\Hy@xspace@end
9046   \close@pdfink
9047 \endgroup
9048 }

```

```

9049 \def\@hyper@launch run:#1\|#2#3{% filename, anchor text linkname
9050 \begingroup
9051   \Hy@pstringdef\Hy@pstringF{#1}%
9052   \Hy@pstringdef\Hy@pstringP{#3}%
9053   \leavevmode
9054   \pdfstartlink
9055   attr{%
9056     \Hy@setpdfborder
9057     \Hy@setpdfhighlight
9058     \ifx\@runbordercolor\relax
9059     \else
9060       /C[\@runbordercolor]%
9061     \fi
9062   }%
9063   user {%
9064     /Subtype/Link%
9065     \ifHy@pdfa /F 4\fi
9066     /A<<%
9067       /F(\Hy@pstringF)%
9068       /S/Launch%
9069       \Hy@SetNewWindow
9070       \ifx\|#3\|%
9071       \else
9072         /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9073       \fi
9074       \Hy@href@nextactionraw
9075     >>%
9076   }%
9077   \relax
9078   \Hy@colorlink\@runcolor#2\Hy@xspace@end
9079   \close@pdflink
9080 \endgroup
9081 }

```

\PDF@SetupDox

```

9082 \def\PDF@SetupDoc{%
9083   \ifx\@pdfpagescrop\empty
9084   \else
9085     \edef\process@me{%
9086       \pdfpagesattr={%
9087         /CropBox[\@pdfpagescrop]%
9088         \expandafter\ifx\expandafter\the\pdfpagesattr\the
9089         \else
9090           ^^J\the\pdfpagesattr
9091         \fi
9092       }%
9093     }%
9094     \process@me
9095   \fi
9096   \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9097   \pdfcatalog{%
9098     /PageMode/\@pdfpagemode
9099     \ifx\@baseurl\empty
9100     \else

```

```

9101      /URI<</Base(\Hy@pstringB)>>%
9102      \fi
9103  }%
9104  \ifx\@pdfstartpage\@empty
9105  \else
9106      \ifx\@pdfstartview\@empty
9107      \else
9108          openaction goto page\@pdfstartpage{\@pdfstartview}%
9109      \fi
9110  \fi
9111  \edef\Hy@temp{%
9112      \ifHy@pdftoolbar\else /HideToolbar true\fi
9113      \ifHy@pdfmenubar\else /HideMenubar true\fi
9114      \ifHy@pdfwindowui\else /HideWindowUI true\fi
9115      \ifHy@pdfwindow /FitWindow true\fi
9116      \ifHy@pdfcenterwindow /CenterWindow true\fi
9117      \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9118      \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9119      \Hy@UseNameKey{Direction}\@pdfdirection
9120      \Hy@UseNameKey{ViewArea}\@pdfviewarea
9121      \Hy@UseNameKey{ViewClip}\@pdfviewclip
9122      \Hy@UseNameKey{PrintArea}\@pdfprintarea
9123      \Hy@UseNameKey{PrintClip}\@pdfprintclip
9124      \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9125      \Hy@UseNameKey{Duplex}\@pdfduplex
9126      \ifx\@pdfpicktraybypdfsize\@empty
9127      \else
9128          /PickTrayByPDFSize \@pdfpicktraybypdfsize
9129      \fi
9130      \ifx\@pdfprintpagerange\@empty
9131      \else
9132          /PrintPageRange[\@pdfprintpagerange]%
9133      \fi
9134      \ifx\@pdfnumcopies\@empty
9135      \else
9136          /NumCopies \@pdfnumcopies
9137      \fi
9138  }%
9139  \pdfcatalog{%
9140      \ifx\Hy@temp\@empty
9141      \else
9142          /ViewerPreferences<<\Hy@temp>>%
9143      \fi
9144      \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9145      \ifx\@pdflang\relax
9146      \else
9147          /Lang(\@pdflang)%
9148      \fi
9149  }%
9150 }

```

\PDF@FinishDoc

```

9151 \def\PDF@FinishDoc{%
9152   \pdf@ifdraftmode{}{%

```

```

9153 \Hy@UseMaketitleInfos
9154 \HyInfo@GenerateAddons
9155 \pdfinfo{%
9156   /Author(\@pdfauthor)%
9157   /Title(\@pdftitle)%
9158   /Subject(\@pdfsubject)%
9159   /Creator(\@pdfcreator)%
9160   \ifx\@pdfcreationdate\@empty
9161   \else
9162     /CreationDate(\@pdfcreationdate)%
9163   \fi
9164   \ifx\@pdfmoddate\@empty
9165   \else
9166     /ModDate(\@pdfmoddate)%
9167   \fi
9168   \ifx\@pdfproducer\relax
9169   \else
9170     /Producer(\@pdfproducer)%
9171   \fi
9172   /Keywords(\@pdfkeywords)%
9173   \ifx\@pdftrapped\@empty
9174   \else
9175     /Trapped/\@pdftrapped
9176   \fi
9177   \HyInfo@Addons
9178 }%
9179 }%
9180 \Hy@DisableOption{pdfauthor}%
9181 \Hy@DisableOption{pdftitle}%
9182 \Hy@DisableOption{pdfsubject}%
9183 \Hy@DisableOption{pdfcreator}%
9184 \Hy@DisableOption{addtopdfcreator}%
9185 \Hy@DisableOption{pdfcreationdate}%
9186 \Hy@DisableOption{pdfmoddate}%
9187 \Hy@DisableOption{pdfproducer}%
9188 \Hy@DisableOption{pdfkeywords}%
9189 \Hy@DisableOption{pdftrapped}%
9190 \Hy@DisableOption{pdfinfo}%
9191 }

```

`\hyper@pagetransition` `\@pdfpagetransition` is initialized with `\relax`. So it indicates, if option `pdfpagetransition` is used. First previous `/Trans` entries are removed. If a new `/Trans` key exists, it is appended to `\pdfpageattr`.

```

9192 \def\hyper@pagetransition{%
9193   \ifx\@pdfpagetransition\relax
9194   \else
9195     \expandafter\Hy@RemoveTransPageAttr
9196     \the\pdfpageattr^^J/Trans{}}>>\END
9197   \ifx\@pdfpagetransition\@empty
9198   \else
9199     \edef\@processme{%
9200       \global\pdfpageattr{%
9201         \the\pdfpageattr
9202         ^^J/Trans << /S /\@pdfpagetransition\space >>%

```

```

9203     }%
9204     }%
9205     \@processme
9206     \fi
9207     \fi
9208 }

```

\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.

```

9209 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9210   \ifx\#2\%
9211     \global\pdfpageattr{#1}%
9212   \else
9213     \Hy@RemoveTransPageAttr#1#4\END
9214   \fi
9215 }

```

\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**.

```

9216 \def\hyper@pageduration{%
9217   \ifx\@pdfpageduration\relax
9218   \else
9219     \expandafter
9220     \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{} \END
9221     \ifx\@pdfpageduration\@empty
9222     \else
9223       \edef\@processme{%
9224         \global\pdfpageattr{%
9225           \the\pdfpageattr
9226           ^^J/Dur \@pdfpageduration\space
9227         }%
9228       }%
9229       \@processme
9230     \fi
9231   \fi
9232 }

```

\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.

```

9233 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9234   \ifx\#2\%
9235     \global\pdfpageattr{#1}%
9236   \else
9237     \Hy@RemoveDurPageAttr#1#4\END
9238   \fi
9239 }

```

```

9240 \pdf@ifdraftmode{}{%
9241   \g@addto@macro\Hy@EveryPageHook{%
9242     \hyper@pagetransition
9243     \hyper@pageduration
9244   }%
9245 }

```

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

```

9246 \pdfifxetex
9247 \ifx\pdfifxetex\pdfifxetex
9248 \Hy@AtBeginDocument{%
9249   \ifHy@setpagesize
9250     \expandafter\@firstofone
9251   \else
9252     \expandafter\@gobble
9253   \fi
9254 }%
9255 \ifclassloaded{seminar}{%
9256 \pdfifxetex
9257   \setlength{\pdfhorigin}{1truein}%
9258   \setlength{\pdfvorigin}{1truein}%
9259 \pdfifxetex
9260   \ifportrait
9261     \ifdim\paperwidth=\z@
9262     \else
9263       \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9264     \fi
9265     \ifdim\paperheight=\z@
9266     \else
9267       \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9268     \fi
9269   \else
9270     \ifdim\paperheight=\z@
9271     \else
9272       \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9273     \fi
9274     \ifdim\paperwidth=\z@
9275     \else
9276       \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9277     \fi
9278   \fi
9279 }{%
9280   \ifnum\mag=\@m
9281     \ifdim\stockwidth>\z@
9282     \ifdim\stockheight>\z@
9283       \setlength{\pdfpagewidth}{\stockwidth}%
9284       \setlength{\pdfpageheight}{\stockheight}%
9285     \else
9286       \ifdim\paperwidth>\z@
9287       \ifdim\paperheight>\z@
9288         \setlength{\pdfpagewidth}{\paperwidth}%
9289         \setlength{\pdfpageheight}{\paperheight}%
9290       \fi

```

```

9291         \fi
9292     \fi
9293 \else
9294     \ifdim\stockwidth=\z@
9295     \ifdim\paperwidth>\z@
9296     \ifdim\paperheight>\z@
9297         \setlength{\pdfpagewidth}{\paperwidth}%
9298         \setlength{\pdfpageheight}{\paperheight}%
9299     \fi
9300 \fi
9301 \fi
9302 \fi
9303 \fi
9304 }%
9305 }%
9306 \Hy@DisableOption{setpagesize}%
9307 }
9308 </pdfTeX | xetex>
9309 <*pdfTeX>
9310 \def\Acrobatmenu#1#2{%
9311     \Hy@Acrobatmenu{#1}{#2}{%
9312         \leavevmode
9313         \EdefEscapeName\Hy@temp@menu{#1}%
9314         \pdfstartlink
9315         attr{%
9316             \Hy@setpdfborder
9317             \Hy@setpdfhighlight
9318             \ifx\@menubordercolor\relax
9319             \else
9320                 /C[\@menubordercolor]%
9321             \fi
9322         }%
9323         user{%
9324             /Subtype/Link%
9325             \ifHy@pdfa /F 4\fi
9326             /A<<%
9327             /S/Named%
9328             /N/\Hy@temp@menu
9329             \Hy@href@nextactionraw
9330             >>%
9331         }%
9332         \relax
9333         \Hy@colorlink\@menucolor#2%
9334         \close@pdflink
9335     }%
9336 }

```

43.2.1 Fix for problem with different nesting levels

`\AtBeginShipoutFirst` adds an additional box layer around the first output page. This disturbs pdfTeX's low level link commands `\pdfstartlink` and `\pdfendlink`, if a link is broken across the first and second output page.

The problem could be fixed by replacing `\AtBeginShipoutFirst`, because the box layer is not necessary for pdfTeX—no `\specials` need to be inserted. However

it's easier to add an additional box level for the pages after the first one. Also `\AtBeginShipoutFirst` could be invoked independently from `hyperref`.

Since version 2011/10/05 v1.16 of package 'atbegshi' `\AtBeginShipoutFirst` does not add a additional box layer.

change 2020-10-01: the code has been removed as outdated.

9337 `\pdfTeX`

43.3 hypertex

The `HyperTeX` specification (this is borrowed from an article by Arthur Smith) says that conformant viewers/translators must recognize the following set of `\special` commands:

href: `html:`

name: `html:`

end: `html:`

image: `html:`

base_name: `html:<base href = "href_string">`

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

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

```
9338 {*hypertex}
9339 \providecommand*\XR@ext}{dvi}
9340 \let\PDF@FinishDoc\ltx@empty
9341 \def\PDF@SetupDoc{%
9342   \ifx\@baseurl\@empty
9343   \else
9344     \special{html:<base href="\@baseurl">}%
9345   \fi
9346 }
9347 \Hy@WrapperDef\hyper@anchor#1{%
9348   \Hy@SaveLastskip
```



```

9349 \Hy@VerboseAnchor{#1}%
9350 \begingroup
9351 \let\protect=\string
9352 \hyper@chars
9353 \special{html:<a name=%
9354     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9355 \endgroup
9356 \Hy@activeanchortrue
9357 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9358 \special{html:</a>}%
9359 \Hy@activeanchorfalse
9360 \Hy@RestoreLastskip
9361 }
9362 \Hy@WrapperDef\hyper@anchorstart#1{%
9363 \Hy@SaveLastskip
9364 \Hy@VerboseAnchor{#1}%
9365 \begingroup
9366 \hyper@chars
9367 \special{html:<a name=%
9368     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9369 \endgroup
9370 \Hy@activeanchortrue
9371 }
9372 \def\hyper@anchorend{%
9373 \special{html:</a>}%
9374 \Hy@activeanchorfalse
9375 \Hy@RestoreLastskip
9376 }
9377 \def\@urltype{url}
9378 \def\hyper@linkstart#1#2{%
9379 \Hy@VerboseLinkStart{#1}{#2}%
9380 \expandafter\Hy@colorlink\csname @#1color\endcsname
9381 \def\Hy@tempa{#1}%
9382 \ifx\Hy@tempa\@urltype
9383 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9384 \else
9385 \begingroup
9386 \hyper@chars
9387 \special{html:<a href=%
9388     \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}%
9389 \endgroup
9390 \fi
9391 }
9392 \def\hyper@linkend{%
9393 \special{html:</a>}%
9394 \Hy@endcolorlink
9395 }
9396 \def\hyper@linkfile#1#2#3{%
9397 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\else\##3\fi}%
9398 }
9399 \def\hyper@linkurl#1#2{%

```

If we want to raise up the final link `\special`, we need to get its height; ask me why \LaTeX constructs make this totally foul up, and make us revert to basic \TeX .

I do not know.

```

9400 \leavevmode
9401 \ifHy@raiselinks
9402   \Hy@SaveSpaceFactor
9403   \Hy@SaveSavedSpaceFactor
9404   \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9405   \Hy@RestoreSavedSpaceFactor
9406   \@linkdim\dp\@tempboxa
9407   \lower\@linkdim\hbox{%
9408     \hyper@chars
9409     \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9410   }%
9411   \Hy@colorlink\@urlcolor
9412   \Hy@RestoreSpaceFactor
9413   #1%
9414   \Hy@SaveSpaceFactor
9415   \@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).

```

9416   \advance\@linkdim by -6.5\p@
9417   \raise\@linkdim\hbox{\special{html:</a>}}%
9418   \Hy@endcolorlink
9419   \Hy@RestoreSpaceFactor
9420 \else
9421   \begingroup
9422   \hyper@chars
9423   \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
9424   \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9425   \special{html:</a>}}%
9426   \Hy@endcolorlink
9427 \endgroup
9428 \fi
9429 }

```

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

```

9430 \def\hyper@link#1#2#3{%
9431   \Hy@VerboseLinkStart{#1}{#2}%
9432   \hyper@linkurl{#3}{\#\Hy@HyperDestNameFilter{#2}}%
9433 }

9434 \def\hyper@image#1#2{%
9435   \begingroup
9436   \hyper@chars
9437   \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
9438 \endgroup
9439 }
9440 </hypertex>
9441 <*\dviwindo>

```

43.4 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 de-

fine this command before or after loading the hyperref package if the default `c:/netscape/netscape` is not suitable) Dviwindo could in fact handle external links to dvi files on the same machine without calling a web browser, but that would mean parsing the URL to recognise such, and this is currently not done.

This was more or less blindly copied from the hypertext cfg. For dviwindo, L^AT_EX 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.

```

9442 \providecommand*\XR@ext}{dvi}
9443 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9444 \Hy@WrapperDef\hyper@anchor#1{%
9445   \Hy@SaveLastskip
9446   \Hy@VerboseAnchor{#1}%
9447   \begingroup
9448     \let\protect=\string
9449     \special{mark: #1}%
9450   \endgroup
9451   \Hy@activeanchortrue
9452   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9453   \Hy@activeanchorfalse
9454   \Hy@RestoreLastskip
9455 }
9456 \Hy@WrapperDef\hyper@anchorstart#1{%
9457   \Hy@SaveLastskip
9458   \Hy@VerboseAnchor{#1}%
9459   \special{mark: #1}%
9460   \Hy@activeanchortrue
9461 }
9462 \def\hyper@anchorend{%
9463   \Hy@activeanchorfalse
9464   \Hy@RestoreLastskip
9465 }
9466 \def\hyper@linkstart#1#2{%
9467   \Hy@VerboseLinkStart{#1}{#2}%
9468   \expandafter\Hy@colorlink\csname @#1color\endcsname
9469   \special{button: %
9470     10000000 %
9471     \number\baselineskip\space
9472     #2%
9473   }%
9474 }
9475 \def\hyper@linkend{%
9476   \Hy@endcolorlink
9477 }
9478 \def\hyper@link#1#2#3{%
9479   \Hy@VerboseLinkStart{#1}{#2}%
9480   \leavevmode
9481   \ifHy@raiselinks
9482     \Hy@SaveSpaceFactor
9483     \Hy@SaveSavedSpaceFactor
9484     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
9485     \Hy@RestoreSavedSpaceFactor

```

```

9486 \@linkdim\dp\@tempboxa
9487 \lower\@linkdim\hbox{%
9488 \special{button: %
9489 \number\wd\@tempboxa\space
9490 \number\ht\@tempboxa\space
9491 #2%
9492 }%
9493 \expandafter\Hy@colorlink\csname @#1color\endcsname
9494 \Hy@RestoreSpaceFactor
9495 #3\Hy@xspace@end
9496 \Hy@SaveSpaceFactor
9497 \Hy@endcolorlink
9498 }%
9499 \@linkdim\ht\@tempboxa
9500 \advance\@linkdim by -6.5\p@
9501 \raise\@linkdim\hbox{}%
9502 \Hy@RestoreSpaceFactor
9503 \else
9504 \special{button: %
9505 \number\wd\@tempboxa\space
9506 \number\ht\@tempboxa\space
9507 #2%
9508 }%
9509 \expandafter\Hy@colorlink\csname @#1color\endcsname
9510 #3\Hy@xspace@end
9511 \Hy@endcolorlink
9512 \fi
9513 }
9514 \def\hyper@linkurl#1#2{%
9515 \begingroup
9516 \hyper@chars
9517 \leavevmode
9518 \ifHy@raiselinks
9519 \Hy@SaveSpaceFactor
9520 \Hy@SaveSavedSpaceFactor
9521 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9522 \Hy@RestoreSavedSpaceFactor
9523 \@linkdim\dp\@tempboxa
9524 \lower\@linkdim\hbox{%
9525 \special{button: %
9526 \number\wd\@tempboxa\space
9527 \number\ht\@tempboxa\space
9528 launch: \wwwbrowser\space
9529 #2%
9530 }%
9531 \Hy@colorlink\@urlcolor
9532 \Hy@RestoreSpaceFactor
9533 #1\Hy@xspace@end
9534 \Hy@SaveSpaceFactor
9535 \Hy@endcolorlink
9536 }%
9537 \@linkdim\ht\@tempboxa
9538 \advance\@linkdim by -6.5\p@
9539 \raise\@linkdim\hbox{}%

```

```

9540 \Hy@RestoreSpaceFactor
9541 \else
9542 \special{button: %
9543 \number\wd\@tempboxa\space
9544 \number\ht\@tempboxa\space
9545 launch: \wwwbrowser\space
9546 #2%
9547 }%
9548 \Hy@colorlink\@urlcolor
9549 #1\Hy@xspace@end
9550 \Hy@endcolorlink
9551 \fi
9552 \endgroup
9553 }
9554 \def\hyper@linkfile#1#2#3{%
9555 \begingroup
9556 \hyper@chars
9557 \leavevmode
9558 \ifHy@raiselinks
9559 \Hy@SaveSpaceFactor
9560 \Hy@SaveSavedSpaceFactor
9561 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9562 \Hy@RestoreSavedSpaceFactor
9563 \@linkdim\dp\@tempboxa
9564 \lower\@linkdim\hbox{%
9565 \special{button: %
9566 \number\wd\@tempboxa\space
9567 \number\ht\@tempboxa\space
9568 #3,%
9569 file: #2%
9570 }%
9571 \Hy@colorlink\@filecolor
9572 \Hy@RestoreSpaceFactor
9573 #1\Hy@xspace@end
9574 \Hy@SaveSpaceFactor
9575 \Hy@endcolorlink
9576 }%
9577 \@linkdim\ht\@tempboxa
9578 \advance\@linkdim by -6.5\p@
9579 \raise\@linkdim\hbox{}%
9580 \Hy@RestoreSpaceFactor
9581 \else
9582 \special{button: %
9583 \number\wd\@tempboxa\space
9584 \number\ht\@tempboxa\space
9585 #3,%
9586 file: #2%
9587 }%
9588 \Hy@colorlink\@filecolor
9589 #1\Hy@xspace@end
9590 \Hy@endcolorlink
9591 \fi
9592 \endgroup
9593 }

```

```

9594 \HyInfo@AddonUnsupportedtrue
9595 \def\PDF@FinishDoc{%
9596   \Hy@UseMaketitleInfos
9597   \HyInfo@TrappedUnsupported
9598   \special{PDF: Keywords \@pdfkeywords}%
9599   \special{PDF: Title \@pdftitle}%
9600   \special{PDF: Creator \@pdfcreator}%
9601   \ifx\@pdfcreationdate\@empty
9602   \else
9603     \special{PDF: CreationDate \@pdfcreationdate}%
9604   \fi
9605   \ifx\@pdfmoddate\@empty
9606   \else
9607     \special{PDF: ModDate \@pdfmoddate}%
9608   \fi
9609   \special{PDF: Author \@pdfauthor}%
9610   \ifx\@pdfproducer\relax
9611   \else
9612     \special{PDF: Producer \@pdfproducer}%
9613   \fi
9614   \special{PDF: Subject \@pdfsubject}%
9615   \Hy@DisableOption{pdfauthor}%
9616   \Hy@DisableOption{pdftitle}%
9617   \Hy@DisableOption{pdfsubject}%
9618   \Hy@DisableOption{pdfcreator}%
9619   \Hy@DisableOption{addtopdfcreator}%
9620   \Hy@DisableOption{pdfcreationdate}%
9621   \Hy@DisableOption{pdfcreationdate}%
9622   \Hy@DisableOption{pdfmoddate}%
9623   \Hy@DisableOption{pdfproducer}%
9624   \Hy@DisableOption{pdfkeywords}%
9625   \Hy@DisableOption{pdftrapped}%
9626   \Hy@DisableOption{pdfinfo}%
9627 }
9628 \def\PDF@SetupDoc{%
9629   \ifx\@baseurl\@empty
9630   \else
9631     \special{PDF: Base \@baseurl}%
9632   \fi
9633   \ifx\@pdfpagescrop\@empty\else
9634     \special{PDF: BBox \@pdfpagescrop}%
9635   \fi
9636   \def\Hy@temp{}%
9637   \ifx\@pdfstartpage\@empty
9638   \else
9639     \ifx\@pdfstartview\@empty
9640     \else
9641       \edef\Hy@temp{%
9642         ,Page=\@pdfstartpage
9643         ,View=\@pdfstartview
9644       }%
9645     \fi
9646   \fi
9647   \edef\Hy@temp{%

```

```

9648 \noexpand\pdfmark{%
9649 pdfmark=/DOCVIEW,%
9650 PageMode=/\@pdfpagemode
9651 \Hy@temp
9652 }%
9653 }%
9654 \Hy@temp
9655 \ifx\@pdfpagescrop\@empty
9656 \else
9657 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9658 \fi
9659 \edef\Hy@temp{%
9660 \ifHy@pdftoolbar\else /HideToolbar true\fi
9661 \ifHy@pdfmenubar\else /HideMenubar true\fi
9662 \ifHy@pdfwindowui\else /HideWindowUI true\fi
9663 \ifHy@pdffitwindow /FitWindow true\fi
9664 \ifHy@pdfcenterwindow /CenterWindow true\fi
9665 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9666 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9667 \Hy@UseNameKey{Direction}\@pdfdirection
9668 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9669 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9670 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9671 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9672 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9673 \Hy@UseNameKey{Duplex}\@pdfduplex
9674 \ifx\@pdfpicktraybypdfsize\@empty
9675 \else
9676 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9677 \fi
9678 \ifx\@pdfprintpagerange\@empty
9679 \else
9680 /PrintPageRange[\@pdfprintpagerange]%
9681 \fi
9682 \ifx\@pdfnumcopies\@empty
9683 \else
9684 /NumCopies \@pdfnumcopies
9685 \fi
9686 }%
9687 \pdfmark{pdfmark=/PUT,%
9688 Raw={%
9689 \string{Catalog\string}<<%
9690 \ifx\Hy@temp\@empty
9691 \else
9692 /ViewerPreferences<<\Hy@temp>>%
9693 \fi
9694 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9695 \ifx\@pdflang\relax
9696 \else
9697 /Lang(\@pdflang)%
9698 \fi
9699 >>%
9700 }%
9701 }%

```

```

9702 }
9703 </dviwindo>
9704 <*dvipdfm | xetex>

```

43.5 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.

```

9705 \special{dvipdfmx:config C 0x0010}
9706 \providecommand*{\XR@ext}{pdf}
9707 \Hy@setbreaklinks{true}
9708 \def\HyPat@ObjRef{%
9709   @[^ ]+%
9710 }
9711 \newsavebox{\pdfm@box}
9712 \def\@pdfm@mark#1{\special{pdf:#1}}
9713 \Hy@WrapperDef\@pdfm@dest#1{%
9714   \Hy@SaveLastskip
9715   \Hy@VerboseAnchor{#1}%
9716   \begingroup
9717     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9718     \def\x{XYZ}%
9719     \ifx\x\@pdfview
9720       \def\x{XYZ @xpos @ypos null}%
9721     \else
9722       \def\x{FitH}%
9723       \ifx\x\@pdfview
9724         \def\x{FitH @ypos}%
9725       \else
9726         \def\x{FitBH}%
9727         \ifx\x\@pdfview
9728           \def\x{FitBH @ypos}%
9729         \else
9730           \def\x{FitV}%
9731           \ifx\x\@pdfview
9732             \def\x{FitV @xpos}%
9733           \else
9734             \def\x{FitBV}%
9735             \ifx\x\@pdfview
9736               \def\x{FitBV @xpos}%
9737             \else
9738               \def\x{Fit}%
9739               \ifx\x\@pdfview
9740                 \let\x\@pdfview
9741               \else
9742                 \def\x{FitB}%
9743                 \ifx\x\@pdfview
9744                   \let\x\@pdfview
9745                 \else
9746                   \def\x{FitR}%
9747                   \ifx\x\@pdfview

```



```

9748         \Hy@Warning{'pdfview=FitR' is not supported}%
9749         \def\x{XYZ @xpos @ypos null}%
9750         \else
9751         \@onelevel@sanitize\@pdfview
9752         \Hy@Warning{%
9753             Unknown value '\@pdfview' for pdfview%
9754         }%
9755         \def\x{XYZ @xpos @ypos null}%
9756         \fi
9757     \fi
9758 \fi
9759 \fi
9760 \fi
9761 \fi
9762 \fi
9763 \fi
9764 \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]}%
9765 \endgroup
9766 \Hy@RestoreLastskip
9767 }
9768 \providecommand*\@pdfview{XYZ}
9769 \providecommand*\@pdfborder{0 0 1}
9770 \providecommand*\@pdfborderstyle{}
9771 \def\hyper@anchor#1{%
9772     \@pdfm@dest{#1}%
9773 }
9774 \def\hyper@anchorstart#1{%
9775     \Hy@activeanchortrue
9776     \@pdfm@dest{#1}%
9777 }
9778 \def\hyper@anchorend{%
9779     \Hy@activeanchorfalse
9780 }
9781 \newcounter{Hy@AnnotLevel}
9782 \ifHy@ocgcolorlinks
9783     \def\OBJ@OCG@view{@OCG@view}%
9784     \@pdfm@mark{%
9785         obj \OBJ@OCG@view <<%
9786         /Type/OCG%
9787         /Name(View)%
9788         /Usage<<%
9789         /Print<<%
9790         /PrintState/OFF%
9791         >>%
9792         /View<<%
9793         /ViewState/ON%
9794         >>%
9795         >>%
9796         >>%
9797     }%
9798     \@pdfm@mark{close \OBJ@OCG@view}%
9799     \def\OBJ@OCG@print{@OCG@print}%
9800     \@pdfm@mark{%

```

```

9801  obj \OBJ@OCG@print <<%
9802  /Type/OCG%
9803  /Name(Print)%
9804  /Usage<<%
9805  /Print<<%
9806  /PrintState/ON%
9807  >>%
9808  /View<<%
9809  /ViewState/OFF%
9810  >>%
9811  >>%
9812  >>%
9813  }%
9814  \@pdfm@mark{close \OBJ@OCG@print}%
9815  \def\OBJ@OCGs{@OCGs}%
9816  \@pdfm@mark{%
9817  obj \OBJ@OCGs [%
9818  \OBJ@OCG@view\space\OBJ@OCG@print
9819  ]%
9820  }%
9821  \@pdfm@mark{close \OBJ@OCGs}%
9822  \@pdfm@mark{%
9823  put @catalog <<%
9824  /OCProperties<<%
9825  /OCGs \OBJ@OCGs
9826  /D<<%
9827  /OFF[\OBJ@OCG@print]%
9828  /AS[%
9829  <<%
9830  /Event/View%
9831  /OCGs \OBJ@OCGs
9832  /Category[/View]%
9833  >>%
9834  <<%
9835  /Event/Print%
9836  /OCGs \OBJ@OCGs
9837  /Category[/Print]%
9838  >>%
9839  <<%
9840  /Event/Export%
9841  /OCGs \OBJ@OCGs
9842  /Category[/Print]%
9843  >>%
9844  ]%
9845  >>%
9846  >>%
9847  >>%
9848  }%
9849  \AtBeginShipout{%
9850  \setbox\AtBeginShipoutBox=\hbox{%
9851  \copy\AtBeginShipoutBox
9852  \@pdfm@mark{%
9853  put @resources <<%
9854  /Properties<<%

```

```

9855         /OCView \OBJ@OCG@view
9856         /OCPrint \OBJ@OCG@print
9857         >>%
9858         >>%
9859     }%
9860 }%
9861 }%
9862 \Hy@AtBeginDocument{%
9863     \def\Hy@colorlink#1{%
9864         \begingroup
9865         \ifHy@ocgcolorlinks
9866             \def\Hy@ocgcolor{#1}%
9867             \setbox0=\hbox\bgroup\color@begingroup
9868         \else
9869             \HyColor@UseColor#1%
9870         \fi
9871     }%
9872     \def\Hy@endcolorlink{%
9873         \ifHy@ocgcolorlinks
9874             \color@endgroup\egroup
9875             \mbox{%
9876                 \@pdfm@mark{content /OC/OCPrint BDC}%
9877                 \rlap{\copy0}%
9878                 \@pdfm@mark{content EMC/OC/OCView BDC}%
9879             \begingroup
9880                 \expandafter\HyColor@UseColor\Hy@ocgcolor
9881                 \box0 %
9882             \endgroup
9883             \@pdfm@mark{content EMC}%
9884         }%
9885         \fi
9886     \endgroup
9887 }%
9888 }%
9889 \else
9890     \Hy@DisableOption{ocgcolorlinks}%
9891 \fi

```

Use primitive counter arithmetic here to avoid amsmath redefining `\stepcounter` (github issue/13)

```

9892 \def\Hy@BeginAnnot#1{%
9893     \global\advance\c@Hy@AnnotLevel\@ne
9894     \ifnum\c@Hy@AnnotLevel=\@ne
9895         #1%
9896     \fi
9897 }
9898 \def\Hy@endAnnot{%
9899     \ifnum\value{Hy@AnnotLevel}=\@ne
9900         \Hy@endcolorlink
9901         \@pdfm@mark{eann}%
9902     \fi
9903     \global\advance\c@Hy@AnnotLevel\m@ne
9904 }
9905 \def\Hy@undefinedname{UNDEFINED}

```

```

9906 \def\hyper@linkstart#1#2{%
9907   \Hy@VerboseLinkStart{#1}{#2}%
9908   \leavevmode
9909   \Hy@BeginAnnot{%
9910     \protected@edef\Hy@testname{#2}%
9911     \ifx\Hy@testname\@empty
9912       \Hy@Warning{%
9913         Empty destination name,\MessageBreak
9914         using ``\Hy@undefinedname'%
9915       }%
9916       \let\Hy@testname\Hy@undefinedname
9917     \else
9918       \Hy@pstringdef\Hy@testname{%
9919         \expandafter\HyperDestNameFilter\expandafter{%
9920           \Hy@testname
9921         }%
9922       }%
9923     \fi
9924     \@pdfm@mark{%
9925       bann<<%
9926       /Type/Annot%
9927       /Subtype/Link%
9928       \ifHy@pdfa /F 4\fi
9929       \Hy@setpdfborder
9930       \Hy@setpdfhighlight
9931       \expandafter\ifx\csname @#1bordercolor\endcsname\relax
9932       \else
9933         /C[\csname @#1bordercolor\endcsname]%
9934       \fi
9935       /A<<%
9936       /S/GoTo%
9937       /D(\Hy@testname)%
9938       \Hy@href@nextactionraw
9939       >>%
9940     >>%
9941   }%
9942   \expandafter\Hy@colorlink\csname @#1color\endcsname
9943 }%
9944 }
9945 \def\hyper@linkend{\Hy@EndAnnot}%
9946 \def\hyper@link#1#2#3{%
9947   \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
9948 }
9949 \def\hyper@linkfile#1#2#3{%
9950   \leavevmode
9951   \Hy@BeginAnnot{%
9952     \def\Hy@pstringF{#2}%
9953     \Hy@CleanupFile\Hy@pstringF
9954     \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9955     \Hy@pstringdef\Hy@pstringD{#3}%
9956     \Hy@MakeRemoteAction
9957     \@pdfm@mark{%
9958       bann<<%
9959       /Type/Annot%

```

```

9960      /Subtype/Link%
9961      \ifHy@pdfa /F 4\fi
9962      \Hy@setpdfborder
9963      \Hy@setpdfhighlight
9964      \ifx\@filebordercolor\relax
9965      \else
9966        /C[\@filebordercolor]%
9967      \fi
9968      /A<<%
9969      /S/GoToR%
9970      /F(\Hy@pstringF)%
9971      /D%
9972      \ifx\#3\%
9973        [\Hy@href@page\@pdfremotestartview]%
9974      \else
9975        (\Hy@pstringD)%
9976      \fi
9977      \Hy@SetNewWindow
9978      \Hy@href@nextactionraw
9979      >>%
9980    >>%
9981  }%
9982  \Hy@colorlink\@filecolor
9983 }%
9984 #1\Hy@xspace@end
9985 \Hy@EndAnnot
9986 }
9987 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
9988 \leavevmode
9989 \Hy@BeginAnnot{%
9990   \Hy@pstringdef\Hy@pstringF{#1}%
9991   \Hy@pstringdef\Hy@pstringP{#3}%
9992   \@pdfm@mark{%
9993     bann<<%
9994     /Type/Annot%
9995     /Subtype/Link%
9996     \ifHy@pdfa /F 4\fi
9997     \Hy@setpdfborder
9998     \Hy@setpdfhighlight
9999     \ifx\@runbordercolor\relax
10000   \else
10001     /C[\@runbordercolor]%
10002   \fi
10003   /A<<%
10004   /F(\Hy@pstringF)%
10005   /S/Launch%
10006   \Hy@SetNewWindow
10007   \ifx\#3\%
10008   \else
10009     /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10010   \fi
10011   \Hy@href@nextactionraw
10012   >>%
10013   >>%

```

```

10014 }%
10015 \Hy@colorlink\@runcolor
10016 }%
10017 #2\Hy@xspace@end
10018 \Hy@EndAnnot
10019 }
10020 \def\hyper@linkurl#1#2{%
10021 \leavevmode
10022 \Hy@BeginAnnot{%
10023 \Hy@pstringdef\Hy@pstringURI{#2}%
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\@urlbordercolor\relax
10032 \else
10033 /C[\@urlbordercolor]%
10034 \fi
10035 /A<<%
10036 /S/URI%
10037 /URI(\Hy@pstringURI)%
10038 \ifHy@href@ismap
10039 /IsMap true%
10040 \fi
10041 \Hy@href@nextactionraw
10042 >>%
10043 >>%
10044 }%
10045 \Hy@colorlink\@urlcolor
10046 }%
10047 #1\Hy@xspace@end
10048 \Hy@EndAnnot
10049 }
10050 \def\Acrobatmenu#1#2{%
10051 \Hy@Acrobatmenu{#1}{#2}{%
10052 \Hy@BeginAnnot{%
10053 \EdefEscapeName\Hy@temp@menu{#1}%
10054 \@pdfm@mark{%
10055 bann<<%
10056 /Type/Annot%
10057 /Subtype/Link%
10058 \ifHy@pdfa /F 4\fi
10059 \Hy@setpdfborder
10060 \Hy@setpdfhighlight
10061 \ifx\@menubordercolor\relax
10062 \else
10063 /C[\@menubordercolor]%
10064 \fi
10065 /A<<%
10066 /S/Named%
10067 /N/\Hy@temp@menu

```

```

10068         \Hy@href@nextactionraw
10069         >>%
10070     >>%
10071 }%
10072     \Hy@colorlink\@menucolor
10073 }%
10074     #2\Hy@xspace@end
10075     \Hy@endAnnot
10076 }%
10077 }
10078
10079 \def\PDF@FinishDoc{%
10080     \Hy@UseMaketitleInfos
10081     \HyInfo@GenerateAddons
10082     \@pdfm@mark{%
10083         docinfo<<%
10084         /Title(\@pdftitle)%
10085         /Subject(\@pdfsubject)%
10086         /Creator(\@pdfcreator)%
10087         \ifx\@pdfcreationdate\@empty
10088         \else
10089             /CreationDate(\@pdfcreationdate)%
10090         \fi
10091         \ifx\@pdfmoddate\@empty
10092         \else
10093             /ModDate(\@pdfmoddate)%
10094         \fi
10095         /Author(\@pdfauthor)%
10096         \ifx\@pdfproducer\relax
10097         \else
10098             /Producer(\@pdfproducer)%
10099         \fi
10100         /Keywords(\@pdfkeywords)%
10101         \ifx\@pdftrapped\@empty
10102         \else
10103             /Trapped/\@pdftrapped
10104         \fi
10105         \HyInfo@Addons
10106     >>%
10107 }%
10108 \Hy@DisableOption{pdfauthor}%
10109 \Hy@DisableOption{pdftitle}%
10110 \Hy@DisableOption{pdfsubject}%
10111 \Hy@DisableOption{pdfcreator}%
10112 \Hy@DisableOption{addtopdfcreator}%
10113 \Hy@DisableOption{pdfcreationdate}%
10114 \Hy@DisableOption{pdfcreationdate}%
10115 \Hy@DisableOption{pdfmoddate}%
10116 \Hy@DisableOption{pdfproducer}%
10117 \Hy@DisableOption{pdfkeywords}%
10118 \Hy@DisableOption{pdftrapped}%
10119 \Hy@DisableOption{pdfinfo}%
10120 }
10121 \def\PDF@SetupDoc{%

```

```

10122 \edef\Hy@temp{%
10123   \ifHy@pdftoolbar\else /HideToolbar true\fi
10124   \ifHy@pdfmenubar\else /HideMenubar true\fi
10125   \ifHy@pdfwindowui\else /HideWindowUI true\fi
10126   \ifHy@pdfwindow /FitWindow true\fi
10127   \ifHy@pdfcenterwindow /CenterWindow true\fi
10128   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10129   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10130   \Hy@UseNameKey{Direction}\@pdfdirection
10131   \Hy@UseNameKey{ViewArea}\@pdfviewarea
10132   \Hy@UseNameKey{ViewClip}\@pdfviewclip
10133   \Hy@UseNameKey{PrintArea}\@pdfprintarea
10134   \Hy@UseNameKey{PrintClip}\@pdfprintclip
10135   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10136   \Hy@UseNameKey{Duplex}\@pdfduplex
10137   \ifx\@pdfpicktraybypdfsize\@empty
10138   \else
10139     /PickTrayByPDFSize \@pdfpicktraybypdfsize
10140   \fi
10141   \ifx\@pdfprintpagerange\@empty
10142   \else
10143     /PrintPageRange[\@pdfprintpagerange]%
10144   \fi
10145   \ifx\@pdfnumcopies\@empty
10146   \else
10147     /NumCopies \@pdfnumcopies
10148   \fi
10149 }%
10150 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10151 \@pdfm@mark{%
10152   docview<<%
10153     \ifx\@pdfstartpage\@empty
10154     \else
10155       \ifx\@pdfstartview\@empty
10156       \else
10157         /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10158       \fi
10159     \fi
10160     \ifx\@baseurl\@empty
10161     \else
10162       /URI<</Base(\Hy@pstringB)>>%
10163     \fi
10164     /PageMode/\@pdfpagemode
10165     \ifx\Hy@temp\@empty
10166     \else
10167       /ViewerPreferences<<\Hy@temp>>%
10168     \fi
10169     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10170     \ifx\@pdflang\relax
10171     \else
10172       /Lang(\@pdflang)%
10173     \fi
10174   >>%
10175 }%

```



```

10176 \ifx\@pdfpagescrop\@empty
10177 \else
10178   \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
10179 \fi
10180 }
10181 </dvipdfm | xetex>
10182 < *dvipdfm | xetex>

```

\hyper@pagetransition

```

10183 \def\hyper@pagetransition{%
10184   \ifx\@pdfpagetransition\relax
10185   \else
10186     \ifx\@pdfpagetransition\@empty
10187     \else
10188       \special{pdf:put @thispage %
10189         <</Trans<</S/\@pdfpagetransition>>>>%
10190       }%
10191     \fi
10192   \fi
10193 }

```

\hyper@pageduration

```

10194 \def\hyper@pageduration{%
10195   \ifx\@pdfpageduration\relax
10196   \else
10197     \ifx\@pdfpageduration\@empty
10198     \else
10199       \special{pdf:put @thispage %
10200         <</Dur \@pdfpageduration>>>%
10201       }%
10202     \fi
10203   \fi
10204 }

10205 \g@addto@macro\Hy@EveryPageBoxHook{%
10206   \hyper@pagetransition
10207   \hyper@pageduration
10208 }

10209 </dvipdfm | xetex>

```

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

```

10210 < *dvipdfm>
10211 \AtBeginShipoutFirst{%
10212   \ifHy@setpagesize
10213   \begingroup
10214     \ifnum\mag=\@m
10215       \ifdim\stockwidth>\z@
10216       \ifdim\stockheight>\z@
10217         \special{papersize=\the\stockwidth,\the\stockheight}%
10218       \else
10219         \ifdim\paperwidth>\z@
10220         \ifdim\paperheight>\z@

```

```

10221         \special{papersize=\the\paperwidth,\the\paperheight}%
10222     \fi
10223 \fi
10224 \fi
10225 \else
10226     \ifdim\stockwidth=\z@
10227     \ifdim\paperwidth>\z@
10228     \ifdim\paperheight>\z@
10229         \special{papersize=\the\paperwidth,\the\paperheight}%
10230     \fi
10231 \fi
10232 \fi
10233 \fi
10234 \fi
10235 \endgroup
10236 \fi
10237 \Hy@DisableOption{setpagesize}%
10238 }
10239 </dvipdfm>

```

43.6 VTeX typesetting system

Provided by MicroPress, May 1998. They require VTeX version 6.02 or newer; see <http://www.micropress-inc.com/> for details.

```

10240 <*vtexhtml>
10241 \providecommand*{\XR@ext}{htm}
10242 \RequirePackage{vtexhtml}
10243 \newif\if@Localurl
10244 \let\PDF@FinishDoc\ltx@empty
10245 \def\PDF@SetupDoc{%
10246     \ifx\@baseurl\@empty
10247     \else
10248         \special{!direct <base href="\@baseurl">}%
10249     \fi
10250 }
10251 \def\@urltype{url}
10252 \def\hyper@link#1#2#3{%
10253     \Hy@VerboseLinkStart{#1}{#2}%
10254     \leavevmode
10255     \special{!direct <a href=%
10256         \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10257     #3\Hy@xspace@end
10258     \special{!direct </a>}%
10259 }
10260 \def\hyper@linkurl#1#2{%
10261     \begingroup
10262     \hyper@chars
10263     \leavevmode
10264     \MathBSuppress=1\relax
10265     \special{!direct <a href=%
10266         \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10267     #1\Hy@xspace@end
10268     \MathBSuppress=0\relax
10269     \special{!direct </a>}%

```

```

10270 \endgroup
10271 }
10272 \def\hyper@linkfile#1#2#3{%
10273 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
10274 }
10275 \def\hyper@linkstart#1#2{%
10276 \Hy@VerboseLinkStart{#1}{#2}%
10277 \def\Hy@tempa{#1}\ifx\Hy@tempa\@urlltype
10278 \@Localurltrue
10279 \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10280 \else
10281 \@Localurlfalse
10282 \begingroup
10283 \hyper@chars
10284 \special{!aref \HyperDestNameFilter{#2}}%
10285 \endgroup
10286 \fi
10287 }
10288 \def\hyper@linkend{%
10289 \if@Localurl
10290 \special{!endaref}%
10291 \else
10292 \special{!direct </a>}%
10293 \fi
10294 }
10295 \Hy@WrapperDef\hyper@anchorstart#1{%
10296 \Hy@SaveLastskip
10297 \Hy@VerboseAnchor{#1}%
10298 \begingroup
10299 \hyper@chars
10300 \special{!aname #1}%
10301 \special{!direct <a name=%
10302 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10303 \endgroup
10304 \Hy@activeanchortrue
10305 }
10306 \def\hyper@anchorend{%
10307 \special{!direct </a>}%
10308 \Hy@activeanchorfalse
10309 \Hy@RestoreLastskip
10310 }
10311 \Hy@WrapperDef\hyper@anchor#1{%
10312 \Hy@SaveLastskip
10313 \Hy@VerboseAnchor{#1}%
10314 \begingroup
10315 \let\protect=\string
10316 \hyper@chars
10317 \leavevmode
10318 \special{!aname #1}%
10319 \special{!direct <a name=%
10320 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10321 \endgroup
10322 \Hy@activeanchortrue
10323 \bgroup\anchor@spot\egroup

```

```

10324 \special{!direct </a>}%
10325 \Hy@activeanchorfalse
10326 \Hy@RestoreLastskip
10327 }
10328 \def\@Form[#1]{%
10329 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10330 }
10331 \let\@endForm\ltx@empty
10332 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10333 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10334 }
10335 \def\@TextField[#1]#2{% parameters, label
10336 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10337 }
10338 \def\@CheckBox[#1]#2{% parameters, label
10339 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
10340 }
10341 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10342 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10343 }
10344 \def\@PushButton[#1]#2{% parameters, label
10345 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10346 }
10347 \def\@Reset[#1]#2{%
10348 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10349 }
10350 \def\@Submit[#1]#2{%
10351 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10352 }
10353 </vtexhtml>
10354 <*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.

```

10355 \ifcsname mediaheight\endcsname
10356 \ifHy@setpagesize
10357 \providecommand*{\VTeXInitMediaSize}{%
10358 \ifnum\mag=\@m
10359 \ifdim\stockwidth>\z@
10360 \ifdim\stockheight>\z@
10361 \setlength\mediaheight\stockheight
10362 \setlength\mediawidth\stockwidth
10363 \else
10364 \ifdim\paperwidth>\z@
10365 \ifdim\paperheight>\z@
10366 \setlength\mediaheight\paperheight
10367 \setlength\mediawidth\paperwidth
10368 \fi
10369 \fi
10370 \fi
10371 \else
10372 \ifdim\stockwidth=\z@
10373 \ifdim\paperwidth>\z@

```

```

10374         \ifdim\paperheight>\z@
10375         \setlength\mediaheight\paperheight
10376         \setlength\mediawidth\paperwidth
10377     \fi
10378 \fi
10379 \fi
10380 \fi
10381 \fi
10382 }%
10383 \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10384 \fi
10385 \Hy@DisableOption{setpagesize}%
10386 \fi

```

Older versions of VTeX require xyz in lower case.

```

10387 \providecommand*\@pdfview{xyz}
10388 \providecommand*\@pdfborder{0 0 1}
10389 \providecommand*\@pdfborderstyle{}
10390 \let\CurrentBorderColor\@linkbordercolor
10391 \Hy@WrapperDef\hyper@anchor#1{%
10392   \Hy@SaveLastskip
10393   \Hy@VerboseAnchor{#1}%
10394   \begingroup
10395     \let\protect=\string
10396     \hyper@chars
10397     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10398   \endgroup
10399   \Hy@activeanchortrue
10400   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10401   \Hy@activeanchorfalse
10402   \Hy@RestoreLastskip
10403 }
10404 \Hy@WrapperDef\hyper@anchorstart#1{%
10405   \Hy@SaveLastskip
10406   \Hy@VerboseAnchor{#1}%
10407   \begingroup
10408     \hyper@chars
10409     \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10410   \endgroup
10411   \Hy@activeanchortrue
10412 }
10413 \def\hyper@anchorend{%
10414   \Hy@activeanchorfalse
10415   \Hy@RestoreLastskip
10416 }
10417 \def\@urltype{url}
10418 \def\Hy@undefinedname{UNDEFINED}
10419 \def\hyper@linkstart#1#2{%
10420   \Hy@VerboseLinkStart{#1}{#2}%
10421   \Hy@pstringdef\Hy@pstringURI{#2}%
10422   \expandafter\Hy@colorlink\csname @#1color\endcsname
10423   \ltx@ifundefined{#1bordercolor}{%
10424     \let\CurrentBorderColor\relax
10425   }{%
10426     \edef\CurrentBorderColor{%

```

```

10427 \csname @#1bordercolor\endcsname
10428 }%
10429 }%
10430 \def\Hy@tempa{#1}%
10431 \ifx\Hy@tempa\@urltype
10432 \special{!%
10433   aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10434   \ifHy@href@ismap
10435     /IsMap true%
10436   \fi
10437   \Hy@href@nextactionraw
10438   >,%
10439   a=<%
10440   \ifHy@pdfa /F 4\fi
10441   \Hy@setpdfborder
10442   \ifx\CurrentBorderColor\relax
10443   \else
10444     /C [\CurrentBorderColor]%
10445   \fi
10446   >%
10447 }%
10448 \else
10449 \protected@edef\Hy@testname{#2}%
10450 \ifx\Hy@testname\@empty
10451 \Hy@Warning{%
10452   Empty destination name,\MessageBreak
10453   using ``\Hy@undefinedname'%
10454 }%
10455 \let\Hy@testname\Hy@undefinedname
10456 \fi
10457 \special{!%
10458   aref \expandafter\HyperDestNameFilter
10459   \expandafter{\Hy@testname};%
10460   a=<%
10461   \ifHy@pdfa /F 4\fi
10462   \Hy@setpdfborder
10463   \ifx\CurrentBorderColor\relax
10464   \else
10465     /C [\CurrentBorderColor]%
10466   \fi
10467   >%
10468 }%
10469 \fi
10470 }
10471 \def\hyper@linkend{%
10472 \special{!endaref}%
10473 \Hy@endcolorlink
10474 }
10475 \def\hyper@linkfile#1#2#3{%
10476 \leavevmode
10477 \def\Hy@pstringF{#2}%
10478 \Hy@CleanupFile\Hy@pstringF
10479 \special{!%
10480   aref <%

```

```

10481 \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi
10482 f=\Hy@pstringF>#3;%
10483 a=<%
10484 \ifHy@pdfa /F 4\fi
10485 \Hy@setpdfborder
10486 \ifx\@filebordercolor\relax
10487 \else
10488 /C [\@filebordercolor]%
10489 \fi
10490 >%
10491 }%
10492 \Hy@colorlink\@filecolor
10493 #1\Hy@xspace@end
10494 \Hy@endcolorlink
10495 \special{!endaref}%
10496 }
10497 \def\hyper@linkurl#1#2{%
10498 \begingroup
10499 \Hy@pstringdef\Hy@pstringURI{#2}%
10500 \hyper@chars
10501 \leavevmode
10502 \special{!%
10503 aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10504 \ifHy@href@ismap
10505 /IsMap true%
10506 \fi
10507 \Hy@href@nextactionraw
10508 >;%
10509 a=<%
10510 \ifHy@pdfa /F 4\fi
10511 \Hy@setpdfborder
10512 \ifx\@urlbordercolor\relax
10513 \else
10514 /C [\@urlbordercolor]%
10515 \fi
10516 >%
10517 }%
10518 \Hy@colorlink\@urlcolor
10519 #1\Hy@xspace@end
10520 \Hy@endcolorlink
10521 \special{!endaref}%
10522 \endgroup
10523 }
10524 \def\hyper@link#1#2#3{%
10525 \Hy@VerboseLinkStart{#1}{#2}%
10526 \ltx@ifundefined{@#1bordercolor}{%
10527 \let\CurrentBordercolor\relax
10528 }{%
10529 \edef\CurrentBordercolor{\csname @#1bordercolor\endcsname}%
10530 }%
10531 \leavevmode
10532 \protected@edef\Hy@testname{#2}%
10533 \ifx\Hy@testname\@empty
10534 \Hy@Warning{%

```

```

10535     Empty destination name,\MessageBreak
10536     using ``\Hy@undefinedname'%
10537 }%
10538 \let\Hy@testname\Hy@undefinedname
10539 \fi
10540 \special{!%
10541   aref \expandafter\HyperDestNameFilter
10542     \expandafter{\Hy@testname};%
10543   a=<%
10544     \ifHy@pdfa /F 4\fi
10545     \Hy@setpdfborder
10546     \ifx\CurrentBorderColor\relax
10547     \else
10548       /C [\CurrentBorderColor]%
10549     \fi
10550   >%
10551 }%
10552 \expandafter
10553 \Hy@colorlink\csname @#1color\endcsname
10554   #3\Hy@xspace@end
10555 \Hy@endcolorlink
10556 \special{!endaref}%
10557 }
10558 \def\hyper@image#1#2{%
10559 \hyper@linkurl{#2}{#1}%
10560 }
10561 \def\@hyper@launch run:#1\#2#3{%
10562 \Hy@pstringdef\Hy@pstringF{#1}%
10563 \Hy@pstringdef\Hy@pstringP{#3}%
10564 \leavevmode
10565 \special{!aref %
10566   <u=%
10567     /Type/Action%
10568     /S/Launch%
10569     /F(\Hy@pstringF)%
10570     \Hy@SetNewWindow
10571     \ifx\#3\%
10572     \else
10573       /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10574     \fi
10575     \Hy@href@nextactionraw
10576   >:%
10577   a=<%
10578     \ifHy@pdfa /F 4\fi
10579     \Hy@setpdfborder
10580     \ifx\@runbordercolor\relax
10581     \else
10582       /C[\@runbordercolor]%
10583     \fi
10584   >%
10585 }%
10586 \Hy@colorlink\@runcolor
10587   #2\Hy@xspace@end
10588 \Hy@endcolorlink

```



```

10589 \special{!endaref}%
10590 }
10591 \def\Acrobatmenu#1#2{%
10592 \EdefEscapeName\Hy@temp@menu{#1}%
10593 \Hy@Acrobatmenu{#1}{#2}{%
10594 \special{!%
10595   aref <u=/S /Named /N /\Hy@temp@menu>;%
10596   a=<%
10597     \ifHy@pdfa /F 4\fi
10598     \Hy@setpdfborder
10599     \ifx\@menubordercolor\relax
10600     \else
10601     /C[\@menubordercolor]%
10602     \fi
10603   >%
10604 }%
10605 \Hy@colorlink\@menucolor
10606 #2\Hy@xspace@end
10607 \Hy@endcolorlink
10608 \special{!endaref}%
10609 }%
10610 }

```

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{V_TE_Xversion}{..}{..} *globally*.

```

10611 \ifnum\Hy@VTeXversion<702 %
10612 \else
10613 \def\hyper@pagetransition{%
10614 \ifx\@pdfpagetransition\relax
10615 \else
10616 \ifx\@pdfpagetransition\@empty

```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```

10617 \else
10618 \hvtex@parse@trans\@pdfpagetransition
10619 \fi
10620 \fi
10621 }%

```

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:

```

10622 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
10623 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
10624 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
10625 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
10626 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
10627 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
10628 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%

```

Optional parameters:

```

10629 \def\hvtex@param@dimension{/Dm}%
10630 \def\hvtex@param@direction{/Di}%
10631 \def\hvtex@param@duration{/D}%
10632 \def\hvtex@param@motion{/M}%

```

Tokenizer:

```

10633 \def\hvtex@gettoken{%
10634   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
10635 }%

```

Notice that tokens in the input buffer must be space delimited.

```

10636 \def\hvtex@gettoken@#1 #2\@nil{%
10637   \edef\hvtex@token{#1}%
10638   \edef\hvtex@buffer{#2}%
10639 }%
10640 \def\hvtex@parse@trans#1{%

```

Initializing code:

```

10641 \let\hvtex@trans@code\@empty
10642 \let\hvtex@param@dimension\@empty
10643 \let\hvtex@param@direction\@empty
10644 \let\hvtex@param@duration\@empty
10645 \let\hvtex@param@motion\@empty
10646 \edef\hvtex@buffer{#1\space}%

```

First token is the PDF transition name without escape.

```

10647 \hvtex@gettoken
10648 \ifx\hvtex@token\@empty

```

Leading space(s)?

```

10649   \ifx\hvtex@buffer\@empty

```

The buffer is empty, nothing to do.

```

10650   \else
10651     \hvtex@gettoken
10652   \fi
10653 \fi
10654 \csname hvtex@trans@effect@\hvtex@token\endcsname

```

Now is time to parse optional parameters.

```

10655 \hvtex@trans@params
10656 }%

```

Reentrant macro to parse optional parameters.

```

10657 \def\hvtex@trans@params{%
10658   \ifx\hvtex@buffer\@empty
10659   \else
10660     \hvtex@gettoken
10661     \let\hvtex@trans@par\hvtex@token
10662     \ifx\hvtex@buffer\@empty
10663     \else
10664       \hvtex@gettoken
10665       \ifx\hvtex@trans@par\hvtex@par@duration
/D is the effect duration in seconds. VTEX special takes it in milliseconds.
10666       \let\hvtex@param@duration\hvtex@token
10667       \else \ifx\hvtex@trans@par\hvtex@par@motion
/M can be either /I or /O
10668       \expandafter\edef\expandafter\hvtex@param@motion
10669       \expandafter{\expandafter\@gobble\hvtex@token}%
10670       \else \ifx\hvtex@trans@par\hvtex@par@dimension
/Dm can be either /H or /V
10671       \expandafter\edef\expandafter\hvtex@param@dimension
10672       \expandafter{\expandafter\@gobble\hvtex@token}%
10673       \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).

```

10674       \let\hvtex@param@direction\hvtex@token
10675       \fi\fi\fi\fi
10676       \fi
10677       \fi
10678       \ifx\hvtex@buffer\@empty
10679       \let\next\hvtex@produce@trans
10680       \else
10681       \let\next\hvtex@trans@params
10682       \fi
10683       \next
10684   }%

```

Merge <transition_effect> and issue the special when possible. Too lazy to validate optional parameters.

```

10685 \def\hvtex@produce@trans{%
10686   \let\vtex@trans@special\@empty
10687   \if S\hvtex@trans@code
10688     \edef\vtex@trans@special{\hvtex@trans@code
10689       \hvtex@param@dimension\hvtex@param@motion}%
10690   \else\if B\hvtex@trans@code
10691     \edef\vtex@trans@special{%
10692       \hvtex@trans@code\hvtex@param@dimension
10693     }%
10694   \else\if X\hvtex@trans@code
10695     \edef\vtex@trans@special{%
10696       \hvtex@trans@code\hvtex@param@motion
10697     }%
10698   \else\if W\hvtex@trans@code
10699     \edef\vtex@trans@special{%

```

```

10700     \hvtex@trans@code\hvtex@param@direction
10701     }%
10702     \else\if D\hvtex@trans@code
10703         \let\vtex@trans@special\hvtex@trans@code
10704     \else\if R\hvtex@trans@code
10705         \let\vtex@trans@special\hvtex@trans@code
10706     \else\if G\hvtex@trans@code
10707         \edef\vtex@trans@special{%
10708             \hvtex@trans@code\hvtex@param@direction
10709         }%
10710     \fi\fi\fi\fi\fi\fi
10711     \ifx\vtex@trans@special\@empty
10712     \else
10713         \ifx\hvtex@param@duration\@empty
10714         \else
10715             \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

10716     \multiply\dimen@\@m
10717     \edef\vtex@trans@special{%
10718         \vtex@trans@special,\strip@pt\dimen@
10719     }%
10720     \fi

```

And all the mess is just for this.

```

10721     \special{!trans \vtex@trans@special}%
10722     \fi
10723 }%
10724 \def\hyper@pageduration{%
10725     \ifx\@pdfpageduration\relax
10726     \else
10727         \ifx\@pdfpageduration\@empty
10728             \special{!duration-}%
10729         \else
10730             \special{!duration \@pdfpageduration}%
10731         \fi
10732     \fi
10733 }%
10734 \g@addto@macro\Hy@EveryPageBoxHook{%
10735     \hyper@pagetransition
10736     \hyper@pageduration
10737 }%
10738 \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

```

10739 \ifx\@pdfproducer\relax
10740 \def\@pdfproducer{VTeX}%
10741 \ifnum\Hy@VTeXversion>\z@
10742 \count@\VTeXversion
10743 \divide\count@ 100 %
10744 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
10745 \multiply\count@ -100 %
10746 \advance\count@\VTeXversion
10747 \edef\@pdfproducer{%
10748 \@pdfproducer
10749 .\ifnum\count@<10 0\fi\the\count@
10750 \ifx\VTeXOS\@undefined\else
10751 \ifnum\VTeXOS>0 %
10752 \ifnum\VTeXOS<6 %
10753 \space(
10754 \ifcase\VTeXOS
10755 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
10756 \fi
10757 )%
10758 \fi
10759 \fi
10760 \fi
10761 ,\space
10762 \ifnum\OpMode=\@ne PDF\else PS\fi
10763 \space backend%
10764 \ifx\gexmode\@undefined\else
10765 \ifnum\gexmode>\z@\space with GeX\fi
10766 \fi
10767 }%
10768 \fi
10769 \fi

```

Current `!pdfinfo` key syntax:

Key	Field	Type
a	A uthor	String
b	C rop B ox	String
c	C reator	String
k	K eywords	String
l	P age L ayout	PS
p	P age M ode	PS
r	P roducer	String
s	S ubject	String
t	T itle	String
u	U RI	PS
v	V iew P references	PS

Note: PS objects that are dicts are in `<<...>>` (yuck; no choice).

```

10770 \def\PDF@SetupDoc{%
10771 \ifx\@pdfpagescrop\@empty
10772 \else
10773 \special{!pdfinfo b=<\@pdfpagescrop>}%
10774 \fi
10775 \ifx\@pdfstartpage\@empty
10776 \else

```

```

10777 \ifx\@pdfstartview\@empty
10778 \else
10779 \special{!onopen Page\@pdfstartpage}%
10780 \fi
10781 \fi
10782 \special{!pdffinfo p=</\@pdfpagemode>}%
10783 \ifx\@baseurl\@empty
10784 \else
10785 \special{!pdffinfo u=<<</Base (\@baseurl)>>>}%
10786 \fi
10787 \special{!pdffinfo v=<<<%
10788 \ifHy@pdftoolbar\else /HideToolbar true\fi
10789 \ifHy@pdfmenubar\else /HideMenubar true\fi
10790 \ifHy@pdfwindowui\else /HideWindowUI true\fi
10791 \ifHy@pdfwindow /FitWindow true\fi
10792 \ifHy@pdfcenterwindow /CenterWindow true\fi
10793 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10794 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10795 \Hy@UseNameKey{Direction}\@pdfdirection
10796 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10797 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10798 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10799 \Hy@UseNameKey{PrintClip}\@pdfprintclip
10800 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10801 \Hy@UseNameKey{Duplex}\@pdfduplex
10802 \ifx\@pdfpicktraybypdfsize\@empty
10803 \else
10804 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10805 \fi
10806 \ifx\@pdfprintpagerange\@empty
10807 \else
10808 /PrintPageRange[\@pdfprintpagerange]%
10809 \fi
10810 \ifx\@pdfnumcopies\@empty
10811 \else
10812 /NumCopies \@pdfnumcopies
10813 \fi
10814 >>>}%
10815 \ifx\@pdfpagelayout\@empty
10816 \else
10817 \special{!pdffinfo l=</\@pdfpagelayout\space>}%
10818 \fi
10819 }%
10820 \HyInfo@AddonUnsupportedtrue
10821 \define@key{Hyp}{pdfcreationdate}{%
10822 \Hy@Warning{%
10823 VTeX does not support pdfcreationdate.\MessageBreak
10824 Therefore its setting is ignored%
10825 }%
10826 }
10827 \define@key{Hyp}{pdfmoddate}{%
10828 \Hy@Warning{%
10829 VTeX does not support pdfmoddate.\MessageBreak
10830 Therefore its setting is ignored%

```

```

10831 }%
10832 }
10833 \def\PDF@FinishDoc{%
10834   \Hy@UseMaketitleInfos
10835   \HyInfo@TrappedUnsupported
10836   \special{!pdfinfo a=<\@pdfauthor>}%
10837   \special{!pdfinfo t=<\@pdftitle>}%
10838   \special{!pdfinfo s=<\@pdfsubject>}%
10839   \special{!pdfinfo c=<\@pdfcreator>}%
10840   \ifx\@pdfproducer\relax
10841   \else
10842     \special{!pdfinfo r=<\@pdfproducer>}%
10843   \fi
10844   \special{!pdfinfo k=<\@pdfkeywords>}%
10845   \Hy@DisableOption{pdfauthor}%
10846   \Hy@DisableOption{pdftitle}%
10847   \Hy@DisableOption{pdfsubject}%
10848   \Hy@DisableOption{pdfcreator}%
10849   \Hy@DisableOption{addtopdfcreator}%
10850   \Hy@DisableOption{pdfcreationdate}%
10851   \Hy@DisableOption{pdfcreationdate}%
10852   \Hy@DisableOption{pdfmoddate}%
10853   \Hy@DisableOption{pdfproducer}%
10854   \Hy@DisableOption{pdfkeywords}%
10855   \Hy@DisableOption{pdftrapped}%
10856   \Hy@DisableOption{pdfinfo}%
10857 }
10858 </vtx>

```

43.7 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.

```

10859 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
10860 <packageEnd>\providecommand*{\Hy@DistillerDestFix}{%
10861   <*pdfmark | dviwindo>
10862   \def\Hy@DistillerDestFix{%
10863     \begingroup
10864     \let\x\literalps@out

```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```

10865   \ifnum \@ifundefined{OpMode}{0}{%
10866     \@ifundefined{gexmode}{0}{%
10867       \ifnum\gexmode>0 \OpMode\else 0\fi
10868     }>1 %

```

```

10869 \def\x##1{%
10870 \immediate\special{!=##1}%
10871 }%
10872 \fi
10873 \x{%
10874 /product where{%
10875 pop %
10876 product(Distiller)search{%
10877 pop pop pop %
10878 version(.)search{%
10879 exch pop exch pop%
10880 (3011)eq{%
10881 gsave %
10882 newpath 0 0 moveto closepath clip%
10883 /Courier findfont 10 scalefont setfont %
10884 72 72 moveto(.)show %
10885 grestore%
10886 }if%
10887 }{pop}ifelse%
10888 }{pop}ifelse%
10889 }if%
10890 }%
10891 \endgroup
10892 }
10893 </pdfmark | dviwindo>

```

43.8 Direct pdfmark support

Drivers that load `pdfmark.def` have to provide the correct macro definitions of

```

\@pdfproducer for document information
\literalps@out PostScript output
\headerps@out PostScript output that goes in the header area

```

and the correct definitions of the following PostScript procedures:

```

H.S      start of anchor, link or rect
#1 H.A   end of anchor, argument=baselineskip in pt
#1 H.L   end of link, argument=baselineskip in pt
H.R      end of rect
H.B      raw rect code

```

```

10894 <*pdfmark>
10895 \Hy@breaklinks@unsupported
10896 \def\HyPat@ObjRef{%
10897 \[~{}]+\}%
10898 }
10899 \Hy@WrapperDef\hyper@anchor#1{%
10900 \Hy@SaveLastskip
10901 \Hy@VerboseAnchor{#1}%
10902 \begingroup
10903 \pdfmark[\anchor@spot]{%
10904 pdfmark=/DEST,%
10905 linktype=anchor,%
10906 View=/\@pdfview \@pdfviewparams,%

```



```

10907     DestAnchor={#1}%
10908   }%
10909 \endgroup
10910 \Hy@RestoreLastskip
10911 }
10912 \ltx@ifundefined{hyper@anchorstart}{\endinput}
10913 \Hy@WrapperDef\hyper@anchorstart#1{%
10914   \Hy@SaveLastskip
10915   \Hy@VerboseAnchor{#1}%
10916   \literalps@out{H.S}%
10917   \Hy@AllowHyphens
10918   \xdef\hyper@currentanchor{#1}%
10919   \Hy@activeanchortrue
10920 }
10921 \def\hyper@anchorend{%
10922   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
10923   \pdfmark{%
10924     pdfmark=/DEST,%
10925     linktype=anchor,%
10926     View=/\@pdfview \@pdfviewparams,%
10927     DestAnchor=\hyper@currentanchor,%
10928   }%
10929   \Hy@activeanchorfalse
10930   \Hy@RestoreLastskip
10931 }
10932 \def\hyper@linkstart#1#2{%
10933   \Hy@VerboseLinkStart{#1}{#2}%
10934   \ifHy@breaklinks
10935   \else
10936     \leavevmode
10937     \ifmmode
10938       \def\Hy@LinkMath{$}%
10939     \else
10940       \let\Hy@LinkMath\ltx@empty
10941     \fi
10942     \Hy@SaveSpaceFactor
10943     \hbox\bgroup
10944     \Hy@RestoreSpaceFactor
10945     \Hy@LinkMath
10946   \fi
10947   \expandafter\Hy@colorlink\csname @#1color\endcsname
10948   \literalps@out{H.S}%
10949   \Hy@AllowHyphens
10950   \xdef\hyper@currentanchor{#2}%
10951   \gdef\hyper@currentlinktype{#1}%
10952 }
10953 \def\hyper@linkend{%
10954   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
10955   \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
10956     \let\Hy@tempcolor\relax
10957   }{%
10958     \edef\Hy@tempcolor{%
10959       \csname @hyper@currentlinktype bordercolor\endcsname
10960     }%

```

```

10961 }%
10962 \pdfmark{%
10963   pdfmark=/ANN,%
10964   linktype=link,%
10965   Subtype=/Link,%
10966   PDFAMFlags=4,%
10967   Dest=\hyper@currentanchor,%
10968   AcroHighlight=\@pdfhighlight,%
10969   Border=\@pdfborder,%
10970   BorderStyle=\@pdfborderstyle,%
10971   Color=\Hy@tempcolor,%
10972   Raw=H.B%
10973 }%
10974 \Hy@endcolorlink
10975 \ifHy@breaklinks
10976 \else
10977   \Hy@LinkMath
10978   \Hy@SaveSpaceFactor
10979 \egroup
10980 \Hy@RestoreSpaceFactor
10981 \fi
10982 }

```

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.

```

10983 \beginingroup
10984   \catcode`P=12 %
10985   \catcode`T=12 %
10986   \lowercase{\endgroup
10987   \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
10988 }
10989 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

`\hyper@pagetransition`

```

10990 \def\hyper@pagetransition{%
10991   \ifx\@pdfpagetransition\relax
10992   \else
10993     \ifx\@pdfpagetransition\@empty
10994       % 1. Does an old entry have to be deleted?
10995       % 2. If 1=yes, how to delete?
10996     \else
10997       \pdfmark{%
10998         pdfmark=/PUT,%
10999         Raw={%
11000           \string{ThisPage\string}%
11001           <</Trans << /S /\@pdfpagetransition\space >> >>%
11002         }%
11003       }%
11004     \fi
11005   \fi
11006 }

```

`\hyper@pageduration`

```

11007 \def\hyper@pageduration{%
11008   \ifx\@pdfpageduration\relax
11009   \else
11010     \ifx\@pdfpageduration\@empty
11011       % 1. Does an old entry have to be deleted?
11012       % 2. If 1=yes, how to delete?
11013     \else
11014       \pdfmark{%
11015         pdfmark=/PUT,%
11016         Raw={%
11017           \string{ThisPage\string}%
11018           <</Dur \@pdfpageduration>>%
11019         }%
11020       }%
11021     \fi
11022   \fi
11023 }

11024 \g@addto@macro\Hy@EveryPageBoxHook{%
11025   \hyper@pagetransition
11026   \hyper@pageduration
11027 }

11028 \def\hyper@image#1#2{%
11029   \hyper@linkurl{#2}{#1}%
11030 }
11031 \def\Hy@undefinedname{UNDEFINED}
11032 \def\hyper@link#1#2#3{%
11033   \Hy@VerboseLinkStart{#1}{#2}%
11034   \ltx@ifundefined{@#1bordercolor}{%
11035     \let\Hy@tempcolor\relax
11036   }{%
11037     \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11038   }%
11039   \begingroup
11040     \protected@edef\Hy@testname{#2}%
11041     \ifx\Hy@testname\@empty
11042       \Hy@Warning{%
11043         Empty destination name,\MessageBreak
11044         using '\Hy@undefinedname'%
11045       }%
11046     \let\Hy@testname\Hy@undefinedname
11047   \fi
11048   \pdfmark[{#3}{%
11049     Color=\Hy@tempcolor,%
11050     linktype={#1},%
11051     AcroHighlight=\@pdfhighlight,%
11052     Border=\@pdfborder,%
11053     BorderStyle=\@pdfborderstyle,%
11054     pdfmark=/ANN,%
11055     Subtype=/Link,%
11056     PDFAFlags=4,%
11057     Dest=\Hy@testname
11058   }%
11059   \endgroup

```

```

11060 }
11061 \newtoks\pdf@docset
11062 \def\PDF@FinishDoc{%
11063   \Hy@UseMaketitleInfos
11064   \HyInfo@GenerateAddons
11065   \let\Hy@temp\@empty
11066   \ifx\@pdfcreationdate\@empty
11067   \else
11068     \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11069   \fi
11070   \ifx\@pdfmoddate\@empty
11071   \else
11072     \expandafter\def\expandafter\Hy@temp\expandafter{%
11073       \Hy@temp
11074       ModDate=\@pdfmoddate,%
11075     }%
11076   \fi
11077   \ifx\@pdfproducer\relax
11078   \else
11079     \expandafter\def\expandafter\Hy@temp\expandafter{%
11080       \Hy@temp
11081       Producer=\@pdfproducer,%
11082     }%
11083   \fi
11084   \expandafter
11085   \pdfmark\expandafter{%
11086     \Hy@temp
11087     pdfmark=/DOCINFO,%
11088     Title=\@pdftitle,%
11089     Subject=\@pdfsubject,%
11090     Creator=\@pdfcreator,%
11091     Author=\@pdfauthor,%
11092     Keywords=\@pdfkeywords,%
11093     Trapped=\@pdftrapped
11094   }%
11095   \ifx\HyInfo@Addons\@empty
11096   \else
11097     \pdfmark{%
11098       pdfmark=/DOCINFO,%
11099       Raw={\HyInfo@Addons}%
11100     }%
11101   \fi
11102   \Hy@DisableOption{pdfauthor}%
11103   \Hy@DisableOption{pdftitle}%
11104   \Hy@DisableOption{pdfsubject}%
11105   \Hy@DisableOption{pdfcreator}%
11106   \Hy@DisableOption{addtopdfcreator}%
11107   \Hy@DisableOption{pdfcreationdate}%
11108   \Hy@DisableOption{pdfcreationdate}%
11109   \Hy@DisableOption{pdfmoddate}%
11110   \Hy@DisableOption{pdfproducer}%
11111   \Hy@DisableOption{pdfkeywords}%
11112   \Hy@DisableOption{pdftrapped}%
11113   \Hy@DisableOption{pdfinfo}%

```

```

11114 }
11115 \def\PDF@SetupDoc{%
11116   \def\Hy@temp{}%
11117   \ifx\@pdfstartpage\@empty
11118   \else
11119     \ifx\@pdfstartview\@empty
11120     \else
11121       \edef\Hy@temp{%
11122         ,Page=\@pdfstartpage
11123         ,View=\@pdfstartview
11124       }%
11125     \fi
11126   \fi
11127   \edef\Hy@temp{%
11128     \noexpand\pdfmark{%
11129       pdfmark=/DOCVIEW,%
11130       PageMode=/\@pdfpagemode
11131     }\Hy@temp
11132   }%
11133 }%
11134 \Hy@temp
11135 \ifx\@pdfpagescrop\@empty
11136 \else
11137   \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11138 \fi
11139 \edef\Hy@temp{%
11140   \ifHy@pdftoolbar\else /HideToolbar true\fi
11141   \ifHy@pdfmenubar\else /HideMenubar true\fi
11142   \ifHy@pdfwindowui\else /HideWindowUI true\fi
11143   \ifHy@pdffitwindow /FitWindow true\fi
11144   \ifHy@pdfcenterwindow /CenterWindow true\fi
11145   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11146   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11147   \Hy@UseNameKey{Direction}\@pdfdirection
11148   \Hy@UseNameKey{ViewArea}\@pdfviewarea
11149   \Hy@UseNameKey{ViewClip}\@pdfviewclip
11150   \Hy@UseNameKey{PrintArea}\@pdfprintarea
11151   \Hy@UseNameKey{PrintClip}\@pdfprintclip
11152   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11153   \Hy@UseNameKey{Duplex}\@pdfduplex
11154   \ifx\@pdfpicktraybypdfsize\@empty
11155   \else
11156     /PickTrayByPDFSize \@pdfpicktraybypdfsize
11157   \fi
11158   \ifx\@pdfprintpagerange\@empty
11159   \else
11160     /PrintPageRange[\@pdfprintpagerange]%
11161   \fi
11162   \ifx\@pdfnumcopies\@empty
11163   \else
11164     /NumCopies \@pdfnumcopies
11165   \fi
11166 }%
11167 \Hy@pstringdef\Hy@pstringB{\@baseurl}%

```

```

11168 \pdfmark{%
11169   pdfmark=/PUT,%
11170   Raw={%
11171     \string{Catalog\string}<<%
11172     \ifx\Hy@temp\@empty
11173     \else
11174       /ViewerPreferences<<\Hy@temp>>%
11175     \fi
11176     \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11177     \ifx\@pdflang\relax
11178     \else
11179       /Lang(\@pdflang)%
11180     \fi
11181     \ifx\@baseurl\@empty
11182     \else
11183       /URI<</Base(\Hy@pstringB)>>%
11184     \fi
11185   >>%
11186 }%
11187 }%
11188 }
11189 </pdfmark>
11190 (*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.

```

11191 \newif\ifHy@pdfmarkerror
11192 \def\pdfmark{\@ifnextchar{\pdfmark@}{\pdfmark@[]}}
11193 \def\pdfmark@[#1]#2{%
11194   \Hy@pdfmarkerrorfalse
11195   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11196   \@processme
11197   \let\pdf@type\relax
11198   \let\pdf@objdef\ltx@empty
11199   \kvsetkeys{PDF}{#2}%
11200   \ifHy@pdfmarkerror
11201   \else
11202     \ifx\pdf@type\relax
11203       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11204       \ifx\\#1\\%
11205       \else
11206         \pdf@rect{#1}%
11207       \fi
11208     \else
11209       \ifx\\#1\\%
11210         \literalps@out{%
11211           [%
11212             \ifx\pdf@objdef\ltx@empty
11213             \else
11214               /_objdef\string{\pdf@objdef\string}%

```

```

11215     \fi
11216     \the\pdf@toks\space\pdf@type\space pdfmark%
11217   }%
11218 \else
11219   \ltx@ifundefined{@\pdf@linktype color}{%
11220     \Hy@colorlink\@linkcolor
11221   }{%
11222     \expandafter\Hy@colorlink
11223       \csname @\pdf@linktype color\endcsname
11224   }%
11225   \pdf@rect{#1}%
11226   \literalps@out{%
11227     [%
11228     \ifx\pdf@objdef\ltx@empty
11229     \else
11230       /_objdef\string{\pdf@objdef\string}%
11231     \fi
11232     \the\pdf@toks\space\pdf@type\space pdfmark%
11233   }%
11234   \Hy@endcolorlink
11235 \fi
11236 \fi
11237 \fi
11238 }

```

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}

```

```

11239 \newsavebox{\pdf@box}
11240 \providecommand*{\Hy@setouterhbox}{\sbox}
11241 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
11242 \def\Hy@DEST{/DEST}
11243 \def\pdf@rect#1{%
11244   \begingroup
11245   \chardef\x=1 %
11246   \def\Hy@temp{#1}%
11247   \ifx\Hy@temp\ltx@empty
11248     \chardef\x=0 %
11249   \else
11250     \def\y{\anchor@spot}%
11251     \ifx\Hy@temp\y
11252       \def\y{\relax}%
11253     \ifx\anchor@spot\y
11254       \chardef\x=0 %

```

```

11255     \fi
11256     \fi
11257     \fi
11258 \expandafter\endgroup
11259 \ifcase\x
11260   \literalps@out{H.S}%
11261   \literalps@out{H.R}%
11262 \else
11263   \leavevmode
11264   \Hy@SaveSpaceFactor
11265   \ifmmode
11266     \def\Hy@LinkMath{$}%
11267   \else
11268     \let\Hy@LinkMath\ltx@empty
11269   \fi
11270   \ifHy@breaklinks
11271     \Hy@setouterhbox\pdf@box{%
11272       \Hy@RestoreSpaceFactor
11273       \Hy@LinkMath
11274       \Hy@AllowHyphens#1\Hy@xspace@end
11275       \Hy@LinkMath
11276       \Hy@SaveSpaceFactor
11277     }%
11278   \else
11279     \sbox\pdf@box{%
11280       \Hy@RestoreSpaceFactor
11281       \Hy@LinkMath
11282       #1\Hy@xspace@end
11283       \Hy@LinkMath
11284       \Hy@SaveSpaceFactor
11285     }%
11286   \fi
11287   \dimen@ \ht\pdf@box
11288   \ifdim\dp\pdf@box=\z@
11289     \literalps@out{H.S}%
11290   \else
11291     \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11292   \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...).

```

11293   \ifHy@breaklinks
11294     \ifhmode
11295       \Hy@breaklinksunhbox\pdf@box
11296     \else
11297       \box\pdf@box
11298     \fi
11299   \else
11300     \expandafter\box\pdf@box
11301   \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

11302 \ifdim\dimen@=\z@
11303 \literalps@out{H.R}%
11304 \else
11305 \raise\dimen@\hbox{\literalps@out{H.R}}%
11306 \fi
11307 \Hy@RestoreSpaceFactor
11308 \fi
11309 \ifx\pdf@type\Hy@DEST
11310 \else
11311 \pdf@addtoksx{H.B}%
11312 \fi
11313 }

```

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.

```

11314 \newtoks\pdf@toks
11315 \newtoks\pdf@defaulttoks
11316 \pdf@defaulttoks={}
11317 \def\pdf@addtoks#1#2{%
11318 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%
11319 \@processme
11320 }
11321 \def\pdf@addtoksx#1{%
11322 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11323 \@processme
11324 }
11325 \def\PDFdefaults#1{%
11326 \pdf@defaulttoks={#1}%
11327 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

11328 % what is the type of pdfmark?
11329 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11330 % what is the link type?
11331 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
11332 \def\pdf@linktype{link}
11333 % named object?
11334 \define@key{PDF}{objdef}{\edef\pdf@objdef{#1}}
11335 \let\pdf@objdef\ltx@empty
11336 % parameter is a stream of PDF
11337 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11338 % parameter is a name
11339 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11340 % parameter is a array
11341 \define@key{PDF}{Border}{%
11342 \edef\Hy@temp{#1}%
11343 \ifx\Hy@temp\@empty
11344 \else
11345 \pdf@addtoks[{#1}\Hy@BorderArrayPatch]{Border}% hash-ok
11346 \fi
11347 }
11348 \let\Hy@BorderArrayPatch\@empty

```

```

11349 % parameter is a dictionary
11350 \define@key{PDF}{BorderStyle}{%
11351   \edef\Hy@temp{#1}%
11352   \ifx\Hy@temp\@empty
11353     \else
11354       \pdf@addtoks{<<#1>>}{BS}%
11355     \fi
11356 }
11357 % parameter is a array
11358 \define@key{PDF}{Color}{%
11359   \ifx\relax#1\relax
11360     \else
11361       \pdf@addtoks{[#1]}{Color}% hash-ok
11362     \fi
11363 }
11364 % parameter is a string
11365 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11366 % parameter is a integer
11367 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11368 % parameter is a array
11369 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
11370 % parameter is a string
11371 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}
11372 % parameter is a string or file
11373 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11374 % parameter is a destination
11375 \define@key{PDF}{Dest}{%
11376   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11377   \ifx\Hy@pstringDest\@empty
11378     \Hy@pdfmarkerrortrue
11379     \Hy@Warning{Destination with empty name ignored}%
11380   \else
11381     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11382   \fi
11383 }
11384 \define@key{PDF}{DestAnchor}{%
11385   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11386   \ifx\Hy@pstringDest\@empty
11387     \Hy@pdfmarkerrortrue
11388     \Hy@Warning{Destination with empty name ignored}%
11389   \else
11390     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11391   \fi
11392 }
11393 % parameter is a string
11394 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11395 % parameter is a string
11396 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
11397 % parameter is a int
11398 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11399 \define@key{PDF}{PDFAFlags}{%
11400   \ifHy@pdfa
11401     \pdf@addtoks{#1}{F}%
11402   \fi

```

```

11403 }
11404 % parameter is a name
11405 \define@key{PDF}{AcroHighlight}{%
11406   \begingroup
11407   \edef\x{#1}%
11408   \expandafter\endgroup\ifx\x\@empty
11409   \else
11410   \pdf@addtoks{#1}{H}%
11411   \fi
11412 }
11413 % parameter is a string
11414 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
11415 % parameter is a string
11416 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
11417 % parameter is a string
11418 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11419 % parameter is a string
11420 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
11421 % parameter is a Boolean
11422 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11423 % parameter is a integer or name
11424 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11425 % parameter is a name
11426 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11427 % parameter is a string
11428 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
11429 % parameter is a array
11430 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
11431 % parameter is a integer
11432 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
11433 % parameter is a name
11434 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
11435 % parameter is a string
11436 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
11437 % parameter is a string
11438 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
11439 % parameter is a string
11440 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
11441 % parameter is an array
11442 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
11443 % parameter is a string
11444 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

11445 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
11446 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
11447 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
11448 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11449 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
11450 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
11451 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
11452 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11453 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
11454 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
11455 \define@key{PDF}{Trapped}{%

```

```

11456 \edef\Hy@temp{#1}%
11457 \ifx\Hy@temp\@empty
11458 \else
11459 \pdf@addtoks{/#1}{Trapped}%
11460 \fi
11461 }
11462
11463 </pdfmarkbase>
11464 <*pdfmark>
11465 \def\Acrobatmenu#1#2{%
11466 \EdefEscapeName\Hy@temp@menu{#1}%
11467 \Hy@Acrobatmenu{#1}{#2}{%
11468 \pdfmark[{#2}]{%
11469 linktype=menu,%
11470 pdfmark=/ANN,%
11471 AcroHighlight=\@pdfhighlight,%
11472 Border=\@pdfborder,%
11473 BorderStyle=\@pdfborderstyle,%
11474 Color=\@menubordercolor,%
11475 Action={<</Subtype/Named/N/\Hy@temp@menu>>},%
11476 Subtype=/Link,%
11477 PDFAFlags=4%
11478 }%
11479 }%
11480 }

```

And now for some useful examples:

```

11481 \def\PDFNextPage{\@ifnextchar[{\PDFNextPage@}{\PDFNextPage@[]}}
11482 \def\PDFNextPage@[#1]#2{%
11483 \pdfmark[{#2}]{%
11484 #1,%
11485 Border=\@pdfborder,%
11486 BorderStyle=\@pdfborderstyle,%
11487 Color=.2 .1 .5,%
11488 pdfmark=/ANN,%
11489 Subtype=/Link,%
11490 PDFAFlags=4,%
11491 Page=/Next%
11492 }%
11493 }
11494 \def\PDFPreviousPage{%
11495 \@ifnextchar[{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
11496 }
11497 \def\PDFPreviousPage@[#1]#2{%
11498 \pdfmark[{#2}]{%
11499 #1,%
11500 Border=\@pdfborder,%
11501 BorderStyle=\@pdfborderstyle,%
11502 Color=.4 .4 .1,%
11503 pdfmark=/ANN,%
11504 Subtype=/Link,%
11505 PDFAFlags=4,%
11506 Page=/Prev%
11507 }%
11508 }

```

```

11509 \def\PDFOpen#1{%
11510   \pdfmark{#1,pdfmark=/DOCVIEW}%
11511 }

```

This will only work if you use Distiller 2.1 or higher.

```

11512 \def\hyper@linkurl#1#2{%
11513   \begingroup
11514     \Hy@pstringdef\Hy@pstringURI{#2}%
11515     \hyper@chars
11516     \leavevmode
11517     \pdfmark[{#1}]{%
11518       pdfmark=/ANN,%
11519       linktype=url,%
11520       AcroHighlight=\@pdfhighlight,%
11521       Border=\@pdfborder,%
11522       BorderStyle=\@pdfborderstyle,%
11523       Color=\@urlbordercolor,%
11524       Action={<<%
11525         /Subtype/URI%
11526         /URI(\Hy@pstringURI)%
11527         \ifHy@href@ismap
11528           /IsMap true%
11529         \fi
11530       >>},%
11531       Subtype=/Link,%
11532       PDFAFlags=4%
11533     }%
11534   \endgroup
11535 }
11536 \def\hyper@linkfile#1#2#3{%
11537   \begingroup
11538     \def\Hy@pstringF{#2}%
11539     \Hy@CleanupFile\Hy@pstringF
11540     \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11541     \Hy@pstringdef\Hy@pstringD{#3}%
11542     \Hy@MakeRemoteAction
11543     \leavevmode
11544     \pdfmark[{#1}]{%
11545       pdfmark=/ANN,%
11546       Subtype=/Link,%
11547       PDFAFlags=4,%
11548       AcroHighlight=\@pdfhighlight,%
11549       Border=\@pdfborder,%
11550       BorderStyle=\@pdfborderstyle,%
11551       linktype=file,%
11552       Color=\@filebordercolor,%
11553       Action={%
11554         <<%
11555         /S/GoToR%
11556         \Hy@SetNewWindow
11557         /F(\Hy@pstringF)%
11558         /D%
11559         \ifx\#3\%
11560           [\Hy@href@page\@pdfremotestartview]%
11561         \else

```

```

11562      (\Hy@pstringD)cvn%
11563      \fi
11564      \Hy@href@nextactionraw
11565      >>%
11566    }%
11567  }%
11568 \endgroup
11569 }
11570 \def\@hyper@launch run:#1\#2#3{%
11571   \begingroup
11572   \Hy@pstringdef\Hy@pstringF{#1}%
11573   \Hy@pstringdef\Hy@pstringP{#3}%
11574   \leavevmode
11575   \pdfmark[{#2}]{%
11576     pdfmark=/ANN,%
11577     Subtype=/Link,%
11578     PDFAFlags=4,%
11579     AcroHighlight=\@pdfhighlight,%
11580     Border=\@pdfborder,%
11581     BorderStyle=\@pdfborderstyle,%
11582     linktype=run,%
11583     Color=\@runbordercolor,%
11584     Action={%
11585       <<%
11586       /S/Launch%
11587       \Hy@SetNewWindow
11588       /F(\Hy@pstringF)%
11589       \ifx\#3\%
11590       \else
11591       /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
11592       \fi
11593       \Hy@href@nextactionraw
11594       >>%
11595     }%
11596   }%
11597 \endgroup
11598 }
11599 </pdfmark>

```

Unfortunately, some parts of the `pdfmark` PostScript code depend on vagaries of the dvi driver. We isolate here all the problems.

43.9 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.

```

11600 <*dvips>
11601 \providecommand*\XR@ext}{pdf}
11602 \let\Hy@raisedlink\ltx@empty
11603 \def\literalps@out#1{\special{ps:SDict begin #1 end}}%
11604 \def\headerps@out#1{\special{! #1}}%
11605 \input{pdfmark.def}%

```

```

11606 \ifx\@pdfproducer\relax
11607 \def\@pdfproducer{dvips + Distiller}%
11608 \fi
11609 \providecommand*\@pdfborder{0 0 1}
11610 \providecommand*\@pdfborderstyle{}
11611 \providecommand*\@pdfview{XYZ}
11612 \providecommand*\@pdfviewparams{ H.V}
11613 \def\Hy@BorderArrayPatch{BorderArrayPatch}

11614 \g@addto@macro\Hy@FirstPageHook{%
11615 \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.

```

11616 /DvipsToPDF{72.27 mul Resolution div} def%
11617 /PDFToDvips{72.27 div Resolution mul} def%
11618 /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.

```

11619 product (Ghostscript) search {pop pop pop revision 927 gt}%
11620 {pop false} ifelse%
11621 {%
11622 /BorderArrayPatch{} def%
11623 }%
11624 {%
11625 /BorderArrayPatch{%
11626 [exch{%
11627 dup dup type/integertype eq exch type/realtype eq or%
11628 {BPToDvips}if%
11629 }forall]%
11630 }def%
11631 } 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.

```

11632 /HyperBorder {1 PDFToDvips} def%
11633 /H.V {pdf@hoff pdf@voff null} def%
11634 /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

```

11635 /H.S {%
11636   currentpoint %
11637   HyperBorder add /pdf@lly exch def %
11638   dup DvipsToPDF 72 add /pdf@hoff exch def %
11639   HyperBorder sub /pdf@llx exch def%
11640 } 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`

```

11641 /H.L {%
11642   2 sub dup%
11643   /HyperBasePt exch def %
11644   PDFToDvips /HyperBaseDvips exch def %
11645   currentpoint %
11646   HyperBaseDvips sub /pdf@ury exch def%
11647   /pdf@urx exch def%
11648 } def%
11649 /H.A {%
11650   H.L %
11651 % |pdf@voff| = the distance from the top of the page to a point
11652 % |baselineskip| above the current point in PDF coordinates
11653   currentpoint exch pop %
11654   vsize 72 sub exch DvipsToPDF %
11655   HyperBasePt sub % baseline skip
11656   sub /pdf@voff exch def%
11657 } def%
11658 /H.R {%
11659   currentpoint %
11660   HyperBorder sub /pdf@ury exch def %
11661   HyperBorder add /pdf@urx exch def %
11662 % |pdf@voff| = the distance from the top of the page to the current point, in
11663 % PDF coordinates
11664   currentpoint exch pop vsize 72 sub %
11665   exch DvipsToPDF sub /pdf@voff exch def%
11666 } def%
11667 }%
11668 }
11669 \AtBeginShipoutFirst{%
11670   \ifHy@setpagesize
11671     \begingroup
11672     \ifnum\mag=\@m
11673       \ifdim\stockwidth>\z@
11674         \ifdim\stockheight>\z@
11675           \special{papersize=\the\stockwidth,\the\stockheight}%
11676         \else
11677           \ifdim\paperwidth>\z@
11678             \ifdim\paperheight>\z@
```



```

11679         \special{papersize=\the\paperwidth,\the\paperheight}%
11680     \fi
11681 \fi
11682 \fi
11683 \else
11684     \ifdim\stockwidth=\z@
11685     \ifdim\paperwidth>\z@
11686     \ifdim\paperheight>\z@
11687         \special{papersize=\the\paperwidth,\the\paperheight}%
11688     \fi
11689 \fi
11690 \fi
11691 \fi
11692 \fi
11693 \endgroup
11694 \fi
11695 \Hy@DisableOption{setpagesize}%
11696 }

11697 \def\setpdfinkmargin#1{%
11698     \begingroup
11699     \setlength{\dimen@}{#1}%
11700     \literalps@out{%
11701         /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
11702     }%
11703 \endgroup
11704 }

11705 </dvips>

```

43.10 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.

```

11706 (*vtexpdfmark)
11707 \providecommand*\XR@ext}{pdf}
11708 \let\Hy@raisedlink\ltx@empty
11709 \def\literalps@out#1{\special{pS:#1}}%
11710 \def\headerps@out#1{\immediate\special{pS:#1}}%
11711 \input{pdfmark.def}%
11712 \ifx\@pdfproducer\relax
11713     \ifnum\OpMode=\@ne
11714         \def\@pdfproducer{VTeX}%
11715     \else
11716         \def\@pdfproducer{VTeX + Distiller}%
11717     \fi
11718 \fi
11719 \providecommand*\@pdfborder{0 0 1}
11720 \providecommand*\@pdfborderstyle{}
11721 \providecommand*\@pdfview{XYZ}
11722 \providecommand*\@pdfviewparams{ H.V}
11723 \g@addto@macro\Hy@FirstPageHook{%

```

```

11724 \headerps@out{%
11725 /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.

```

11726 /HyperBorder {1} def%
11727 /H.V {pdf@hoff pdf@voff null} def%
11728 /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

11729 /H.S {%
11730   currentpoint %
11731   HyperBorder sub%
11732   /pdf@lly exch def %
11733   dup 72 add /pdf@hoff exch def %
11734   HyperBorder sub%
11735   /pdf@llx exch def%
11736 } def%

```

The x and y coordinates of the current point, minus the `\baselineskip`: $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

11737 /H.L {%
11738   2 sub%
11739   /HyperBasePt exch def %
11740   currentpoint %
11741   HyperBasePt add HyperBorder add%
11742   /pdf@ury exch def %
11743   HyperBorder add%
11744   /pdf@urx exch def%
11745 } def%
11746 /H.A {%
11747   H.L %
11748   currentpoint exch pop %
11749   vsize 72 sub exch %
11750   HyperBasePt add add%
11751   /pdf@voff exch def%
11752 } def%

```

$\text{pdf@ury} = Y_c + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

11753 /H.R {%
11754   currentpoint %
11755   HyperBorder add%
11756   /pdf@ury exch def %
11757   HyperBorder add%
11758   /pdf@urx exch def %
11759   currentpoint exch pop vsize 72 sub add%
11760   /pdf@voff exch def%
11761 } def%
11762 }%
11763 }

```

```

11764 \def\setpdflinkmargin#1{%
11765   \begingroup
11766   \setlength{\dimen@}{#1}%

```

```

11767 \literalps@out{%
11768 /HyperBorder{\strip@pt\dimen@}def%
11769 }%
11770 \endgroup
11771 }
11772 </vtxpdfmark>

```

43.11 Textures

```

11773 (*textures)
11774 \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.

```

11775 \begingroup
11776 \obeylines %
11777 \gdef\Hy@ps@CR{\noexpand
11778 }%
11779 \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`.

```

11780 \def\literalps@out#1{%
11781 \special{postscript 0 0 transform}%
11782 \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
11783 }%
11784 %

```

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.

```

11785 \def\headerps@out#1{%
11786 \special{%
11787 prepostscript TeXdict begin\Hy@ps@CR
11788 #1\Hy@ps@CR
11789 end%
11790 }%
11791 }%
11792 %

```

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.

```

11793 \g@addto@macro\Hy@FirstPageHook{%
11794   \headerps@out{%
11795     /betterpdfmark {%
11796       systemdict begin %
11797         dup /BP eq%
11798         {cleartomark gsave nulldevice []%
11799          {dup /EP eq%
11800           {cleartomark cleartomark grestore}%
11801           {cleartomark}%
11802           ifelse%
11803         }ifelse %
11804       end%
11805     }def\Hy@ps@CR
11806     ___pdfmark___ not{/pdfmark /betterpdfmark load def}if%
11807   }% end of \headerps@out
11808 }% end of \AtBeginShipoutFirst
11809 %
11810 \input{pdfmark.def}%
11811 %
11812 \ifx\@pdfproducer\relax
11813   \def\@pdfproducer{Textures + Distiller}%
11814 \fi
11815 \providecommand*\@pdfborder{0 0 1}
11816 \providecommand*\@pdfborderstyle{}
11817 \providecommand*\@pdfview{XYZ}
11818 \providecommand*\@pdfviewparams{ H.V}
11819 %

```

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 .

```

11820 \Hy@AtBeginDocument{%
11821   \headerps@out{%

```

`Textures` lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

11822     /vsize {\Hy@pageheight} def%
11823     /DvipsToPDF {} def%
11824     /PDFToDvips {} def%
11825     /BPToDvips {} def%
11826     /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
11827     /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
11828     /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
11829     /H.S {%
11830       currentpoint %
11831       HyperBorder add /pdf@lly exch def %
11832       dup DvipsToPDF 72 add /pdf@hoff exch def %
11833       HyperBorder sub /pdf@llx exch def%
11834     } def\Hy@ps@CR

```

```

11835 /H.L {%
11836 2 sub %
11837 PDFToDvips /HyperBase exch def %
11838 currentpoint %
11839 HyperBase sub /pdf@ury exch def%
11840 /pdf@urx exch def%
11841 } def\Hy@ps@CR
11842 /H.A {%
11843 H.L %
11844 currentpoint exch pop %
11845 vsize 72 sub exch DvipsToPDF %
11846 HyperBase sub % baseline skip
11847 sub /pdf@voff exch def%
11848 } def\Hy@ps@CR
11849 /H.R {%
11850 currentpoint %
11851 HyperBorder sub /pdf@ury exch def %
11852 HyperBorder add /pdf@urx exch def %
11853 currentpoint exch pop vsize 72 sub %
11854 exch DvipsToPDF sub /pdf@voff exch def%
11855 } def\Hy@ps@CR
11856 }%
11857 }

11858 \def\setpdfinkmargin#1{%
11859 \begingroup
11860 \setlength{\dimen@}{#1}%
11861 \literalps@out{%
11862 /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
11863 }%
11864 \endgroup
11865 }

11866 \Hy@AtBeginDocument{%
11867 \ifHy@colorlinks
11868 \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
11869 \fi
11870 }

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.

11871 \expandafter\let\expandafter\keepPDF@SetupDoc
11872 \csname PDF@SetupDoc\endcsname
11873 \def\PDF@SetupDoc{%
11874 \ifx\@baseurl\@empty
11875 \else
11876 \special{html:<base href="\@baseurl">}%
11877 \fi
11878 \keepPDF@SetupDoc
11879 }
11880 \Hy@WrapperDef\hyper@anchor#1{%
11881 \Hy@SaveLastskip
11882 \Hy@VerboseAnchor{#1}%
11883 \begingroup

```

```

11884 \let\protect=\string
11885 \special{html:<a name=%
11886 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11887 \endgroup
11888 \Hy@activeanchortrue
11889 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11890 \special{html:</a>}%
11891 \Hy@activeanchorfalse
11892 \Hy@RestoreLastskip
11893 }
11894 \Hy@WrapperDef\hyper@anchorstart#1{%
11895 \Hy@SaveLastskip
11896 \Hy@VerboseAnchor{#1}%
11897 \begingroup
11898 \hyper@chars
11899 \special{html:<a name=%
11900 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11901 \endgroup
11902 \Hy@activeanchortrue
11903 }
11904 \def\hyper@anchorend{%
11905 \special{html:</a>}%
11906 \Hy@activeanchorfalse
11907 \Hy@RestoreLastskip
11908 }
11909 \def\@urltype{url}
11910 \def\hyper@linkstart#1#2{%
11911 \Hy@VerboseLinkStart{#1}{#2}%
11912 \expandafter\Hy@colorlink\csname @#1color\endcsname
11913 \def\Hy@tempa{#1}%
11914 \ifx\Hy@tempa\@urltype
11915 \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11916 \else
11917 \begingroup
11918 \hyper@chars
11919 \special{%
11920 html:<a href=%
11921 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>%
11922 }%
11923 \endgroup
11924 \fi
11925 }
11926 \def\hyper@linkend{%
11927 \special{html:</a>}%
11928 \Hy@endcolorlink
11929 }
11930 \def\hyper@linkfile#1#2#3{%
11931 \hyper@linkurl{#1}{%
11932 \Hy@linkfileprefix#2\ifx\#3\\\else\#3\fi
11933 }%
11934 }
11935 \def\hyper@linkurl#1#2{%
11936 \leavevmode
11937 \ifHy@raiselinks

```

```

11938 \Hy@SaveSpaceFactor
11939 \Hy@SaveSavedSpaceFactor
11940 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
11941 \Hy@RestoreSavedSpaceFactor
11942 \@linkdim\dp\@tempboxa
11943 \lower\@linkdim\hbox{%
11944   \hyper@chars
11945   \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
11946 }%
11947 \Hy@colorlink\@urlcolor
11948 \Hy@RestoreSpaceFactor
11949 #1\Hy@xspace@end
11950 \Hy@SaveSpaceFactor
11951 \@linkdim\ht\@tempboxa
11952 \advance\@linkdim by -6.5\p@
11953 \raise\@linkdim\hbox{\special{html:</a>}}%
11954 \Hy@endcolorlink
11955 \Hy@RestoreSpaceFactor
11956 \else
11957 \begingroup
11958 \hyper@chars
11959 \special{html:<a href=\hyper@quote#2\hyper@quote>}}%
11960 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
11961 \special{html:</a>}}%
11962 \Hy@endcolorlink
11963 \endgroup
11964 \fi
11965 }

```

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

```

11966 \def\hyper@link#1#2#3{%
11967   \Hy@VerboseLinkStart{#1}{#2}%
11968   \hyper@linkurl{#3}{\#\Hy@DestNameFilter{#2}}%
11969 }
11970 \def\hyper@image#1#2{%
11971   \begingroup
11972   \hyper@chars
11973   \special{html:<img src=\hyper@quote#1\hyper@quote>}}%
11974 \endgroup
11975 }
11976 </textures>

```

43.12 dvipsone

```

11977 % \subsection{dvipsone driver}
11978 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
11979 % |\special| commands.
11980 <*dvipsone>
11981 \providecommand*\XR@ext{}{pdf}
11982 \let\Hy@raisedlink\ltx@empty
11983 \providecommand*\@pdfborder{0 0 1}
11984 \providecommand*\@pdfborderstyle{}
11985 \def\literalps@out#1{\special{ps:#1}}%
11986 \def\headerps@out#1{\special{headertext=#1}}%

```

```

11987 \input{pdfmark.def}%
11988 \HyInfo@AddonUnsupportedtrue
11989 \def\PDF@FinishDoc{%
11990   \Hy@UseMaketitleInfos
11991   \HyInfo@TrappedUnsupported
11992   \special{PDF: Keywords \@pdfkeywords}%
11993   \special{PDF: Title \@pdftitle}%
11994   \special{PDF: Creator \@pdfcreator}%
11995   \ifx\@pdfcreationdate\@empty
11996   \else
11997     \special{PDF: CreationDate \@pdfcreationdate}%
11998   \fi
11999   \ifx\@pdfmoddate\@empty
12000   \else
12001     \special{PDF: ModDate \@pdfmoddate}%
12002   \fi
12003   \special{PDF: Author \@pdfauthor}%
12004   \ifx\@pdfproducer\relax
12005   \else
12006     \special{PDF: Producer \@pdfproducer}%
12007   \fi
12008   \special{PDF: Subject \@pdfsubject}%
12009   \Hy@DisableOption{pdfauthor}%
12010   \Hy@DisableOption{pdftitle}%
12011   \Hy@DisableOption{pdfsubject}%
12012   \Hy@DisableOption{pdfcreator}%
12013   \Hy@DisableOption{addtopdfcreator}%
12014   \Hy@DisableOption{pdfcreationdate}%
12015   \Hy@DisableOption{pdfcreationdate}%
12016   \Hy@DisableOption{pdfmoddate}%
12017   \Hy@DisableOption{pdfproducer}%
12018   \Hy@DisableOption{pdfkeywords}%
12019   \Hy@DisableOption{pdftrapped}%
12020   \Hy@DisableOption{pdfinfo}%
12021 }
12022 \def\PDF@SetupDoc{%
12023   \def\Hy@temp{}%
12024   \ifx\@pdfstartpage\@empty
12025   \else
12026     \ifx\@pdfstartview\@empty
12027     \else
12028       \edef\Hy@temp{%
12029         ,Page=\@pdfstartpage
12030         ,View=\@pdfstartview
12031       }%
12032     \fi
12033   \fi
12034   \edef\Hy@temp{%
12035     \noexpand\pdfmark{%
12036       pdfmark=/DOCVIEW,%
12037       PageMode=/\@pdfpagemode
12038     }\Hy@temp
12039   }%
12040 }%

```



```

12041 \Hy@temp
12042 \ifx\@pdfpagescrop\@empty
12043 \else
12044 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
12045 \fi
12046 \edef\Hy@temp{%
12047 \ifHy@pdftoolbar\else /HideToolbar true\fi
12048 \ifHy@pdfmenubar\else /HideMenubar true\fi
12049 \ifHy@pdfwindowui\else /HideWindowUI true\fi
12050 \ifHy@pdffitwindow /FitWindow true\fi
12051 \ifHy@pdfcenterwindow /CenterWindow true\fi
12052 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12053 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12054 \Hy@UseNameKey{Direction}\@pdfdirection
12055 \Hy@UseNameKey{ViewArea}\@pdfviewarea
12056 \Hy@UseNameKey{ViewClip}\@pdfviewclip
12057 \Hy@UseNameKey{PrintArea}\@pdfprintarea
12058 \Hy@UseNameKey{PrintClip}\@pdfprintclip
12059 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12060 \Hy@UseNameKey{Duplex}\@pdfduplex
12061 \ifx\@pdfpicktraybypdfsize\@empty
12062 \else
12063 /PickTrayByPDFSize \@pdfpicktraybypdfsize
12064 \fi
12065 \ifx\@pdfprintpagerange\@empty
12066 \else
12067 /PrintPageRange[\@pdfprintpagerange]%
12068 \fi
12069 \ifx\@pdfnumcopies\@empty
12070 \else
12071 /NumCopies \@pdfnumcopies
12072 \fi
12073 }%
12074 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12075 \pdfmark{%
12076 pdfmark=/PUT,%
12077 Raw={%
12078 \string{Catalog\string}<<%
12079 \ifx\Hy@temp\@empty
12080 \else
12081 /ViewerPreferences<<\Hy@temp>>%
12082 \fi
12083 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12084 \ifx\@pdflang\relax
12085 \else
12086 /Lang(\@pdflang)%
12087 \fi
12088 \ifx\@baseurl\@empty
12089 \else
12090 /URI<</Base(\Hy@pstringB)>>%
12091 \fi
12092 >>%
12093 }%
12094 }%

```

```

12095 }
12096 \providecommand*\@pdfview{XYZ}
12097 \providecommand*\@pdfviewparams{ %
12098   gsave revscl currentpoint grestore %
12099   72 add exch pop null exch null%
12100 }
12101 \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 .

```

12102 \g@addto@macro\Hy@FirstPageHook{%
12103   \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

12104   /DvipsToPDF { 65781 div } def%
12105   /PDFToDvips { 65781 mul } def%
12106   /BPToDvips{65781 mul}def%
12107   /HyperBorder { 1 PDFToDvips } def%
12108   /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.

```

12109   /BorderArrayPatch{%
12110     [exch{%
12111       dup dup type/integertype eq exch type/realtype eq or%
12112       {BPToDvips}if%
12113     }forall]%
12114   }def%
12115   /H.S {%
12116     currentpoint %
12117     HyperBorder add /pdf@lly exch def %
12118     dup DvipsToPDF 72 add /pdf@hoff exch def %
12119     HyperBorder sub /pdf@llx exch def%
12120   } def%
12121   /H.L {%
12122     2 sub %
12123     PDFToDvips /HyperBase exch def %
12124     currentpoint %
12125     HyperBase sub /pdf@ury exch def%
12126     /pdf@urx exch def%
12127   } def%
12128   /H.A {%
12129     H.L %
12130     currentpoint exch pop %
12131     HyperBase sub % baseline skip
12132     DvipsToPDF /pdf@voff exch def%
12133   } def%
12134   /H.R {%
12135     currentpoint %
12136     HyperBorder sub /pdf@ury exch def %
12137     HyperBorder add /pdf@urx exch def %

```

```

12138     currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12139   } def%
12140 }%
12141 }

12142 \def\setpdfinkmargin#1{%
12143   \begingroup
12144     \setlength{\dimen@}{#1}%
12145     \literalps@out{%
12146       /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
12147     }%
12148   \endgroup
12149 }

12150 </dvipsone>

```

43.13 TeX4ht

```

12151 (*tex4ht)
12152 \providecommand*{\XR@ext}{html}
12153 \let\Hy@raisedlink\ltx@empty
12154 \@ifpackageloaded{tex4ht}{%
12155   \Hy@InfoNoLine{tex4ht is already loaded}%
12156 }{%
12157   \RequirePackage[hTeX4ht]{tex4ht}%
12158 }
12159 \hyperlinkfileprefix{}
12160 \let\PDF@FinishDoc\ltx@empty
12161 \def\PDF@SetupDoc{%
12162   \ifx\@baseurl\@empty
12163     \else
12164       \special{t4ht=<base href="\@baseurl">}%
12165     \fi
12166 }
12167 \Hy@WrapperDef\hyper@anchor#1{%
12168   \Hy@SaveLastskip
12169   \Hy@VerboseAnchor{#1}%
12170   \begingroup
12171     \let\protect=\string
12172     \special{t4ht=<a name=%
12173       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12174   \endgroup
12175   \Hy@activeanchortrue
12176   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12177   \special{t4ht=</a>}%
12178   \Hy@activeanchorfalse
12179   \Hy@RestoreLastskip
12180 }
12181 \Hy@WrapperDef\hyper@anchorstart#1{%
12182   \Hy@SaveLastskip
12183   \Hy@VerboseAnchor{#1}%
12184   \begingroup
12185     \hyper@chars\special{t4ht=<a name=%
12186       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
12187   \endgroup
12188   \Hy@activeanchortrue

```

```

12189 }
12190 \def\hyper@anchorend{%
12191   \special{t4ht=</a>}%
12192   \Hy@activeanchorfalse
12193   \Hy@RestoreLastskip
12194 }
12195 \def\@urltype{url}
12196 \def\hyper@linkstart#1#2{%
12197   \Hy@VerboseLinkStart{#1}{#2}%
12198   \expandafter\Hy@colorlink\csname @#1color\endcsname
12199   \def\Hy@tempa{#1}%
12200   \ifx\Hy@tempa\@urltype
12201     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12202   \else
12203     \begingroup
12204       \hyper@chars
12205       \special{t4ht=<a href=%
12206         \hyper@quote\#\Hy@DestNameFilter{#2}\hyper@quote>}%
12207     \endgroup
12208   \fi
12209 }
12210 \def\hyper@linkend{%
12211   \special{t4ht=</a>}%
12212   \Hy@endcolorlink
12213 }
12214 \def\hyper@linkfile#1#2#3{%
12215   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
12216 }
12217 \def\hyper@linkurl#1#2{%
12218   \leavevmode
12219   \ifHy@raiselinks
12220     \Hy@SaveSpaceFactor
12221     \Hy@SaveSavedSpaceFactor
12222     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12223     \Hy@RestoreSavedSpaceFactor
12224     \@linkdim\dp\@tempboxa
12225     \lower\@linkdim\hbox{%
12226       \begingroup
12227         \hyper@chars
12228         \special{%
12229           t4ht=<a href=\hyper@quote#2\hyper@quote>%
12230         }%
12231       \endgroup
12232     }%
12233     \Hy@colorlink\@urlcolor
12234     \Hy@RestoreSpaceFactor
12235     #1\Hy@xspace@end
12236     \Hy@SaveSpaceFactor
12237     \Hy@endcolorlink
12238     \@linkdim\ht\@tempboxa
12239     \advance\@linkdim by -6.5\p@
12240     \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12241     \Hy@RestoreSpaceFactor
12242   \else

```

```

12243 \begingroup
12244 \hyper@chars
12245 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12246 \Hy@colorlink\@urlcolor
12247 #1\Hy@xspace@end
12248 \Hy@endcolorlink
12249 \special{t4ht=</a>}%
12250 \endgroup
12251 \fi
12252 }

```

Poor implementation of \hyper@link without considering #1.

```

12253 \def\hyper@link#1#2#3{%
12254 \Hy@VerboseLinkStart{#1}{#2}%
12255 \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}%
12256 }
12257 \def\hyper@image#1#2{%
12258 \begingroup
12259 \hyper@chars
12260 \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12261 \endgroup
12262 }
12263 \let\autoref\ref
12264 \ifx \rEFLiNK \UnDef
12265 \def\rEFLiNK #1#2{#2}%
12266 \fi
12267 \let\backref\ltx@gobble

```

Fix for tex4ht.

```

12268 \AtBeginDocument{%
12269 \expandafter
12270 \let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
12271 \expandafter\def\csname Make:Label\endcsname#1#2{%
12272 \ifhmode
12273 \Hy@SaveSpaceFactor
12274 \else
12275 \global\Hy@SavedSpaceFactor=1000 %
12276 \fi
12277 \Hy@OrgMakeLabel{#1}{#2}%
12278 \Hy@RestoreSpaceFactor
12279 #2\Hy@xspace@end%
12280 \Hy@SaveSpaceFactor
12281 }%
12282 \Hy@RestoreSpaceFactor
12283 }%
12284 }
12285 </tex4ht>
12286 <*\tex4htcfg>
12287 \IfFileExists{\jobname.cfg}{\endinput}{}
12288 \Preamble{html}
12289 \begin{document}%
12290 \EndPreamble
12291 \def\TeX{TeX}
12292 \def\OMEGA{Omega}
12293 \def\LaTeX{LaTeX}

```

```

12294 \def\LaTeXe{\LaTeX2e}
12295 \def\TeX{e-TeX}
12296 \def\MF{Metafont}
12297 \def\MP{MetaPost}
12298 \</tex4htcfg>

```

44 Driver-specific form support

44.1 pdfmarks

change 2020-06-20: added /Euro to encoding

```

12299 \*pdfmark
12300 \long\def\@Form[#1]{%
12301 \g@addto@macro\Hy@FirstPageHook{%
12302 \headerps@out{%
12303 [%
12304 /_objdef{pdfDocEncoding}%
12305 /type/dict%
12306 /OBJ pdfmark%
12307 [%
12308 {pdfDocEncoding}%
12309 <<%
12310 /Type/Encoding%
12311 /Differences[%
12312 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
12313 /tilde %
12314 39/quotesingle %
12315 96/grave %
12316 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
12317 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12318 /quotedblbase/quotedblleft/quotedblright/quoteleft%
12319 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
12320 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12321 160/Euro %
12322 164/currency %
12323 166/brokenbar %
12324 168/dieresis/copyright/ordfeminine %
12325 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12326 /twosuperior/threesuperior/acute/mu %
12327 183/periodcentered/cedilla/onesuperior/ordmasculine %
12328 188/onequarter/onehalf/threequarters %
12329 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12330 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12331 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12332 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12333 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12334 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
12335 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12336 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
12337 /ocircumflex/otilde/odieresis/divide/oslash/ugrave/uacute%
12338 /ucircumflex/udieresis/yacute/thorn/ydieresis%
12339 ]%
12340 >>%
12341 /PUT pdfmark%

```

```

12342 [%
12343   /_objdef{ZaDb}%
12344   /type/dict%
12345 /OBJ pdfmark%
12346 [%
12347   {ZaDb}%
12348   <<%
12349     /Type/Font%
12350     /Subtype/Type1%
12351     /Name/ZaDb%
12352     /BaseFont/ZapfDingbats%
12353   >>%
12354 /PUT pdfmark%
12355 [%
12356   /_objdef{Helv}%
12357   /type/dict%
12358 /OBJ pdfmark%
12359 [%
12360   {Helv}%
12361   <<%
12362     /Type/Font%
12363     /Subtype/Type1%
12364     /Name/Helv%
12365     /BaseFont/Helvetica%
12366     /Encoding{pdfDocEncoding}%
12367   >>%
12368 /PUT pdfmark%
12369 [%
12370   /_objdef{aform}%
12371   /type/dict%
12372 /OBJ pdfmark%
12373 [%
12374   /_objdef{afields}%
12375   /type/array%
12376 /OBJ pdfmark%
12377 [%
12378   /_objdef{corder}%
12379   /type/array%
12380 /OBJ pdfmark%
12381 {%
12382 [%
12383   /BBox[0 0 100 100]%
12384   /_objdef{Check}%
12385 /BP pdfmark %
12386 1 0 0 setrgbcolor%
12387 /ZapfDingbats 80 selectfont %
12388 20 20 moveto%
12389 (4)show%
12390 [/EP pdfmark%
12391 [%
12392   /BBox[0 0 100 100]%
12393   /_objdef{Cross}%
12394 /BP pdfmark %
12395 1 0 0 setrgbcolor%

```

```

12396 /ZapfDingbats 80 selectfont %
12397 20 20 moveto%
12398 (8)show%
12399 [/EP pdfmark%
12400 [%
12401 /BBox[0 0 250 100]%
12402 /_objdef{Submit}%
12403 /BP pdfmark %
12404 0.6 setgray %
12405 0 0 250 100 rectfill %
12406 1 setgray %
12407 2 2 moveto %
12408 2 98 lineto %
12409 248 98 lineto %
12410 246 96 lineto %
12411 4 96 lineto %
12412 4 4 lineto %
12413 fill %
12414 0.34 setgray %
12415 248 98 moveto %
12416 248 2 lineto %
12417 2 2 lineto %
12418 4 4 lineto %
12419 246 4 lineto %
12420 246 96 lineto %
12421 fill%
12422 /Helvetica 76 selectfont %
12423 0 setgray %
12424 8 22.5 moveto%
12425 (Submit)show%
12426 [/EP pdfmark%
12427 [%
12428 /BBox[0 0 250 100]%
12429 /_objdef{SubmitP}%
12430 /BP pdfmark %
12431 0.6 setgray %
12432 0 0 250 100 rectfill %
12433 0.34 setgray %
12434 2 2 moveto %
12435 2 98 lineto %
12436 248 98 lineto %
12437 246 96 lineto %
12438 4 96 lineto %
12439 4 4 lineto %
12440 fill %
12441 1 setgray %
12442 248 98 moveto %
12443 248 2 lineto %
12444 2 2 lineto %
12445 4 4 lineto %
12446 246 4 lineto %
12447 246 96 lineto %
12448 fill%
12449 /Helvetica 76 selectfont %

```



```

12450 0 setgray %
12451 10 20.5 moveto%
12452 (Submit)show%
12453 [/EP pdfmark%
12454 } ?pdfmark%
12455 [%
12456 {aform}%
12457 <<%
12458 /Fields{afields}%
12459 /DR<<%
12460 /Font<<%
12461 /ZaDb{ZaDb}%
12462 /Helv{Helv}%
12463 >>%
12464 >>%
12465 /DA(/Helv 10 Tf 0 g)%
12466 /CO{corder}%
12467 \ifHy@pdfa
12468 \else
12469 \ifHyField@NeedAppearances
12470 /NeedAppearances true%
12471 \fi
12472 \fi
12473 >>%
12474 /PUT pdfmark%
12475 [%
12476 {Catalog}%
12477 <<%
12478 /AcroForm{aform}%
12479 >>%
12480 /PUT pdfmark%
12481 }}%
12482 \kvsetkeys{Form}{#1}%
12483 }
12484 \let\@endForm\ltx@empty
12485 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12486 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12487 }

12488 \newcount\HyField@AnnotCount
12489 \HyField@AnnotCount=\z@
12490 \def\HyField@AdvanceAnnotCount{%
12491 \global\advance\HyField@AnnotCount\@ne
12492 }
12493 \def\HyField@TheAnnotCount{%
12494 \the\HyField@AnnotCount
12495 }

12496 \edef\Fld@pageobjref{/P\string{ThisPage\string}}
12497 \def\HyField@AddToFields#1{%
12498 \pdfmark{%
12499 pdfmark=/APPEND,%
12500 Raw={%
12501 \string{afields\string}%
12502 \string{#1\HyField@TheAnnotCount\string}%

```

```

12503 }%
12504 }%
12505 \ifx\Fld@calculate@code\ltx@empty
12506 \else
12507 \pdfmark{%
12508 pdfmark=/APPEND,%
12509 Raw={%
12510 \string{corder\string}%
12511 \string{#1\HyField@TheAnnotCount\string}%
12512 }%
12513 }%
12514 \fi
12515 }

12516 \def\@TextField[#1]#2{% parameters, label
12517 \def\Fld@name{#2}%
12518 \let\Fld@default\ltx@empty
12519 \let\Fld@value\@empty
12520 \def\Fld@width{\DefaultWidthofText}%
12521 \def\Fld@height{%
12522 \ifFld@multiline
12523 \DefaultHeightofTextMultiline
12524 \else
12525 \DefaultHeightofText
12526 \fi
12527 }%
12528 \begingroup
12529 \expandafter\HyField@SetKeys\expandafter{%
12530 \DefaultOptionsofText,#1%
12531 }%
12532 \HyField@FlagsText
12533 \ifFld@hidden\def\Fld@width{1sp}\fi
12534 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12535 \HyField@AdvanceAnnotCount
12536 \LayoutTextField{#2}{%
12537 \leavevmode
12538 \Hy@escapeform\PDFForm@Text
12539 \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
12540 pdfmark=/ANN,%
12541 objdef=text\HyField@TheAnnotCount,%
12542 Raw={\PDFForm@Text}%
12543 }%
12544 }%
12545 \HyField@AddToFields{text}%
12546 \endgroup
12547 }

12548 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12549 \def\Fld@name{#2}%
12550 \let\Fld@default\relax
12551 \let\Fld@value\relax
12552 \def\Fld@width{\DefaultWidthofChoiceMenu}%
12553 \def\Fld@height{\DefaultHeightofChoiceMenu}%
12554 \begingroup
12555 \Fld@menulength=0 %
12556 \@tempdima\z@

```

```

12557 \@for\@curropt:=#3\do{%
12558 \expandafter\Fld@checkequals\@curropt==\\%
12559 \Hy@StepCount\Fld@menulength
12560 \settowidth{\@tempdimb}{\@currDisplay}%
12561 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12562 }%
12563 \advance\@tempdima by 15\p@
12564 \begingroup
12565 \HyField@SetKeys{#1}%
12566 \edef\x{\endgroup
12567 \noexpand\expandafter
12568 \noexpand\HyField@SetKeys
12569 \noexpand\expandafter{%
12570 \expandafter\noexpand\csname DefaultOptionsof%
12571 \ifFld@radio
12572 Radio%
12573 \else
12574 \ifFld@combo
12575 \ifFld@popdown
12576 PopdownBox%
12577 \else
12578 ComboBox%
12579 \fi
12580 \else
12581 ListBox%
12582 \fi
12583 \fi
12584 \endcsname
12585 }%
12586 }\x
12587 \HyField@SetKeys{#1}%
12588 \ifFld@hidden\def\Fld@width{1sp}\fi
12589 \ifx\Fld@value\relax
12590 \let\Fld@value\Fld@default
12591 \fi
12592 \LayoutChoiceField{#2}{%
12593 \ifFld@radio
12594 \HyField@FlagsRadioButton
12595 \@@Radio{#3}%
12596 \else
12597 \begingroup
12598 \HyField@FlagsChoice
12599 \ifdim\Fld@width<\@tempdima
12600 \ifdim\@tempdima<1cm\@tempdima1cm\fi
12601 \edef\Fld@width{\the\@tempdima}%
12602 \fi
12603 \ifFld@combo
12604 \else
12605 \@tempdima=\the\Fld@menulength\Fld@charsize
12606 \advance\@tempdima by \Fld@borderwidth bp %
12607 \advance\@tempdima by \Fld@borderwidth bp %
12608 \edef\Fld@height{\the\@tempdima}%
12609 \fi
12610 \@@ListBox{#3}%

```

```

12611     \endgroup
12612     \fi
12613 }%
12614 \endgroup
12615 }
12616 \def\@@Radio#1{%
12617   \Fld@listcount=0 %
12618   \EdefEscapeName\Fld@default{\Fld@default}%
12619   \@for\@curropt:=#1\do{%
12620     \expandafter\Fld@checkequals\@curropt==\%
12621     \EdefEscapeName\@currValue{\@currValue}%
12622     \Hy@StepCount\Fld@listcount
12623     \@currDisplay\space
12624     \Hy@escapeform\PDFForm@Radio
12625     \ifnum\Fld@listcount=1 %
12626       \HyField@AdvanceAnnotCount
12627     \fi
12628     \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12629       pdfmark=/ANN,%
12630       objdef=\ifnum\Fld@listcount=1 radio\HyField@TheAnnotCount\fi,%
12631       Raw={%
12632         \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12633       }%
12634     } % deliberate space between radio buttons
12635     \ifnum\Fld@listcount=1 %
12636       \HyField@AddToFields{radio}%
12637     \fi
12638   }%
12639 }
12640 \newcount\Fld@listcount
12641 \def\@@Listbox#1{%
12642   \HyField@PDFChoices{#1}%
12643   \Hy@escapeform\PDFForm@List
12644   \HyField@AdvanceAnnotCount
12645   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12646     pdfmark=/ANN,%
12647     objdef=list\HyField@TheAnnotCount,%
12648     Raw={\PDFForm@List}%
12649   }%
12650   \HyField@AddToFields{list}%
12651 }
12652 \def\@PushButton[#1]#2{% parameters, label
12653   \def\Fld@name{#2}%
12654   \begingroup
12655     \expandafter\HyField@SetKeys\expandafter{%
12656       \DefaultOptionsofPushButton,#1%
12657     }%
12658     \ifHy@pdfa
12659       \Hy@Error{%
12660         PDF/A: Push button with JavaScript is prohibited%
12661       }\@ehc
12662     \LayoutPushButtonField{%
12663       \leavevmode
12664       \MakeButtonField{#2}%

```

```

12665     }%
12666   \else
12667     \HyField@FlagsPushButton
12668     \ifFld@hidden\def\Fld@width{1sp}\fi
12669     \HyField@AdvanceAnnotCount
12670     \LayoutPushButtonField{%
12671       \leavevmode
12672       \Hy@escapeform\PDFForm@Push
12673       \pdfmark[\MakeButtonField{#2}]{%
12674         pdfmark=/ANN,%
12675         objdef=push\HyField@TheAnnotCount,%
12676         Raw={\PDFForm@Push}%
12677       }%
12678     }%
12679     \HyField@AddToFields{push}%
12680   \fi
12681 \endgroup
12682 }
12683 \def\@Submit[#1]#2{%
12684   \def\Fld@width{\DefaultWidthofSubmit}%
12685   \def\Fld@height{\DefaultHeightofSubmit}%
12686   \begingroup
12687     \expandafter\HyField@SetKeys\expandafter{%
12688       \DefaultOptionsofSubmit,#1%
12689     }%
12690     \HyField@FlagsPushButton
12691     \HyField@FlagsSubmit
12692     \ifFld@hidden\def\Fld@width{1sp}\fi
12693     \Hy@escapeform\PDFForm@Submit
12694     \HyField@AdvanceAnnotCount
12695     \pdfmark[\MakeButtonField{#2}]{%
12696       pdfmark=/ANN,%
12697       objdef=submit\HyField@TheAnnotCount,%
12698       Raw={\PDFForm@Submit /AP<</N{Submit}/D{SubmitP}>>}%
12699     }%
12700     \HyField@AddToFields{submit}%
12701   \endgroup
12702 }
12703 \def\@Reset[#1]#2{%
12704   \def\Fld@width{\DefaultWidthofReset}%
12705   \def\Fld@height{\DefaultHeightofReset}%
12706   \begingroup
12707     \expandafter\HyField@SetKeys\expandafter{%
12708       \DefaultOptionsofReset,#1%
12709     }%
12710     \leavevmode
12711     \ifHy@pdfa
12712       \Hy@Error{%
12713         PDF/A: Reset action is prohibited%
12714       }\@ehc
12715       \MakeButtonField{#2}%
12716     \else
12717       \HyField@FlagsPushButton
12718       \ifFld@hidden\def\Fld@width{1sp}\fi

```

```

12719 \Hy@escapeform\PDFForm@Reset
12720 \HyField@AdvanceAnnotCount
12721 \pdfmark[\MakeButtonField{#2}]{%
12722 pdfmark=/ANN,%
12723 objdef=reset\HyField@TheAnnotCount,%
12724 Raw={\PDFForm@Reset}%
12725 }%
12726 \HyField@AddToFields{reset}%
12727 \fi
12728 \endgroup
12729 }%
12730 \def\@CheckBox[#1]#2{% parameters, label
12731 \def\Fld@name{#2}%
12732 \def\Fld@default{0}%
12733 \begingroup
12734 \def\Fld@width{\DefaultWidthofCheckBox}%
12735 \def\Fld@height{\DefaultHeightofCheckBox}%
12736 \expandafter\HyField@SetKeys\expandafter{%
12737 \DefaultOptionsofCheckBox,#1%
12738 }%
12739 \HyField@FlagsCheckBox
12740 \ifFld@hidden\def\Fld@width{1sp}\fi
12741 \HyField@AdvanceAnnotCount
12742 \LayoutCheckField{#2}{%
12743 \leavevmode
12744 \Hy@escapeform\PDFForm@Check
12745 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
12746 pdfmark=/ANN,%
12747 objdef=check\HyField@TheAnnotCount,%
12748 Raw={\PDFForm@Check}%
12749 }%
12750 }%
12751 \HyField@AddToFields{check}%
12752 \endgroup
12753 }
12754 \pdfmark

```

44.2 HyperTeX

```

12755 (*hypertex)
12756 \def\@Form[#1]{%
12757 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12758 }
12759 \let\@endForm\ltx@empty
12760 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12761 \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
12762 }
12763 \def\@TextField[#1]#2{% parameters, label
12764 \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
12765 }
12766 \def\@CheckBox[#1]#2{% parameters, label
12767 \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
12768 }
12769 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices

```

```

12770 \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
12771 }
12772 \def\@PushButton[#1]#2{% parameters, label
12773 \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
12774 }
12775 \def\@Reset[#1]#2{%
12776 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12777 }
12778 \def\@Submit[#1]#2{%
12779 \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12780 }
12781 \</hypertex>

```

44.3 TeX4ht

```

12782 \*tex4ht
12783 \def\@Form[#1]{%
12784 \kvsetkeys{Form}{#1}%
12785 \HCode{<form action="\Form@action" method="\Form@method">}%
12786 }
12787 \def\@endForm{\HCode{</form>}}
12788 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12789 \Hy@Message{Sorry, TeX4ht does not support gauges}%
12790 }
12791 \def\@TextField[#1]#2{% parameters, label
12792 \let\Hy@reserved@a\@empty
12793 \def\Fld@name{#2}%
12794 \let\Fld@default\ltx@empty
12795 \bgroup
12796 \Field@toks={ }%
12797 \kvsetkeys{Field}{#1}%
12798 \HCode{<label for="\Fld@name">#2</label>}%
12799 \ifFld@password
12800 \@@PasswordField
12801 \else
12802 \@@TextField
12803 \fi
12804 \egroup
12805 }
12806 \def\@@PasswordField{%
12807 \HCode{%
12808 <input type="password" %
12809 id="\Fld@name" %
12810 name="\Fld@name" %
12811 \ifFld@hidden type="hidden" \fi
12812 value="\Fld@default" %
12813 \the\Field@toks
12814 >%
12815 }%
12816 }
12817 \def\@@TextField{%
12818 \ifFld@multiline
12819 \HCode{<textarea %
12820 \ifFld@readonly readonly \fi
12821 id="\Fld@name" %

```

```

12822     name="\Fld@name" %
12823     \ifFld@hidden type="hidden" \fi
12824     \the\Field@toks>%
12825 }%
12826 \Fld@default
12827 \HCode{</textarea>}%
12828 \else
12829 \HCode{<input type="textbox" %
12830     \ifFld@readonly readonly \fi
12831     id="\Fld@name" %
12832     name="\Fld@name" %
12833     \ifFld@hidden type="hidden" \fi
12834     value="\Fld@default" %
12835     \the\Field@toks>%
12836 }%
12837 \fi
12838 }
12839 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12840 \def\Fld@name{#2}%
12841 \let\Fld@default\tx@empty
12842 \let\Hy@reserved@a\relax
12843 \begingroup
12844 \expandafter\Fld@findlength#3\\%
12845 \Field@toks={ }%
12846 \kvsetkeys{Field}{#1}%
12847 #2%
12848 \ifFld@radio
12849 \expandafter\@@Radio#3\\%
12850 \else
12851 \expandafter\@@Menu#3\\%
12852 \fi
12853 \endgroup
12854 }
12855 \def\Fld@findlength#1\\{%
12856 \Fld@menulength=0 %
12857 \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
12858 }
12859 \def\@@Menu#1\\{%
12860 \HCode{<select size="\the\Fld@menulength" %
12861     name="\Fld@name" %
12862     \the\Field@toks>%
12863 }%
12864 \@for\@curropt:=#1\do{%
12865 \expandafter\Fld@checkequals\@curropt==\\%
12866 \HCode{<option %
12867     \ifx\@curropt\Fld@default selected \fi
12868     value="\@currValue">\@currDisplay</option>%
12869 }%
12870 }%
12871 \HCode{</select>}%
12872 }
12873 \def\@@Radio#1\\{%
12874 \@for\@curropt:=#1\do{%
12875 \expandafter\Fld@checkequals\@curropt==\\%

```



```

12876 \HCode{<input type="radio" %
12877 \ifx\@curropt\Fld@default checked \fi
12878 name="\Fld@name" %
12879 value="\@currValue" %
12880 \the\Field@toks>%
12881 }%
12882 \@currDisplay
12883 }%
12884 }
12885 \def\@PushButton[#1]#2{% parameters, label
12886 \def\Fld@name{#2}%
12887 \bgroup
12888 \Field@toks={ }%
12889 \kvsetkeys{Field}{#1}%
12890 \HCode{<input type="button" %
12891 name="\Fld@name" %
12892 value="#2" %
12893 \the\Field@toks>%
12894 }%
12895 \HCode{</button>}%
12896 \egroup
12897 }
12898 \def\@Submit[#1]#2{%
12899 \HCode{<button type="submit">#2</button>}%
12900 }
12901 \def\@Reset[#1]#2{%
12902 \HCode{<button type="reset">#2</button>}%
12903 }
12904 \def\@CheckBox[#1]#2{% parameters, label
12905 \let\Hy@reserved@a\@empty
12906 \def\Fld@name{#2}%
12907 \def\Fld@default{0}%
12908 \bgroup
12909 \Field@toks={ }%
12910 \kvsetkeys{Field}{#1}%
12911 \HCode{<input type="checkbox" %
12912 \ifFld@checked checked \fi
12913 \ifFld@disabled disabled \fi
12914 \ifFld@readonly readonly \fi
12915 name="\Fld@name" %
12916 \ifFld@hidden type="hidden" \fi
12917 value="\Fld@default" %
12918 \the\Field@toks>%
12919 #2%
12920 }%
12921 \egroup
12922 }
12923 </tex4ht>

```

44.4 pdfTeX

```

12924 <*pdfTeX>
12925 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12926 \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
12927 }

```

```

12928 \def\MakeFieldObject#1#2{\sbox0{#1}%
12929 \immediate\pdfxform0 %
12930 \expandafter\edef\csname #2Object\endcsname{%
12931 \the\pdflastxform\space 0 R%
12932 }%
12933 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}}%
12934 }%
12935 \let\HyField@afields\ltx@empty
12936 \let\HyField@cofields\ltx@empty
12937 \@ifundefined{pdflastlink}
12938 {%
12939 \let\HyField@AddToFields\relax
12940 \PackageInfo{hyperref}{%
12941 You need pdfTeX 1.40.0 for setting the /Fields entry.%
12942 \MessageBreak
12943 Adobe Reader/Acrobat accepts an empty /Field array,%
12944 \MessageBreak
12945 but other PDF viewers might complain%
12946 }}%
12947 {%
12948 \let\HyField@AuxAddToFields\ltx@gobble
12949 \let\HyField@AuxAddToCoFields\ltx@gobbletwo
12950 \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.

```

12951 \def\HyField@ABD@AuxAddToCoFields#1#2{%
12952 \begingroup
12953 \Hy@safe@activetrue
12954 \let\ltx@secondoftwo\relax
12955 \ifx\HyField@cofields\ltx@empty
12956 \xdef\HyField@cofields{%
12957 \ltx@secondoftwo{#1}{ #2 0 R}%
12958 }%
12959 \else
12960 \let\ltx@secondoftwo\relax
12961 \def\HyField@AddCoField##1##2##3{%
12962 \ifx##1\ltx@empty
12963 \ltx@secondoftwo{#1}{ #2 0 R}%
12964 \expandafter\ltx@gobble
12965 \else
12966 \ifnum\pdfstrcmp{##2}{#1}>\ltx@zero
12967 \ltx@secondoftwo{#1}{ #2 0 R}%
12968 \ltx@secondoftwo{##2}{##3}%
12969 \expandafter\expandafter\expandafter\ltx@gobble
12970 \else
12971 \ltx@secondoftwo{##2}{##3}%
12972 \fi
12973 \fi
12974 \HyField@AddCoField
12975 }%
12976 \xdef\HyField@cofields{%
12977 \expandafter\HyField@AddCoField
12978 \HyField@cofields\ltx@empty\ltx@empty\ltx@empty
12979 }%

```

```

12980     \fi
12981   \endgroup
12982 }%
12983 \Hy@AtBeginDocument{%
12984   \if@filesw
12985     \immediate\write\@mainaux{%
12986       \string\providecommand\string\HyField@AuxAddToFields[1]{}%
12987     }%
12988     \immediate\write\@mainaux{%
12989       \string\providecommand\string\HyField@AuxAddToCoFields[2]{}%
12990     }%
12991   \fi
12992   \let\HyField@AfterAuxOpen\@firstofone
12993   \def\HyField@AuxAddToFields#1{%
12994     \xdef\HyField@afields{%
12995       \ifx\HyField@afields\@empty
12996       \else
12997         \HyField@afields
12998       \space
12999     \fi
13000     #1 0 R%
13001   }%
13002 }%
13003 \let\HyField@AuxAddToCoFields\HyField@ABD@AuxAddToCoFields
13004 }%
13005 \def\HyField@AddToFields{%
13006   \expandafter\HyField@@AddToFields\expandafter{%
13007     \the\pdfastlink
13008   }%
13009   \ifx\Fld@calculate@code\ltx@empty
13010   \else
13011     \begingroup
13012     \Hy@safe@activestrue
13013     \edef\Hy@temp{%
13014       \endgroup
13015       \if@filesw
13016         \write\@mainaux{%
13017           \string\HyField@AuxAddToCoFields{%
13018             \Fld@calculate@sortkey
13019           }{%
13020             \the\pdfastlink
13021           }%
13022         }%
13023       \fi
13024     }%
13025     \Hy@temp
13026   \fi
13027 }%
13028 \def\HyField@@AddToFields#1{%
13029   \HyField@AfterAuxOpen{%
13030     \if@filesw
13031       \write\@mainaux{%
13032         \string\HyField@AuxAddToFields{#1}%
13033       }%

```

```

13034     \fi
13035   }%
13036 }%
13037 }
13038 \def\@Form[#1]{%
13039   \@ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13040   \kvsetkeys{Form}{#1}%
13041   \pdf@ifdraftmode{}{%
13042     \Hy@FormObjects
13043     \ifnum\pdfTeXversion>13 %
13044       \pdfrefobj\OBJ@pdfdocencoding
13045       \pdfrefobj\OBJ@ZaDb
13046       \pdfrefobj\OBJ@Helv
13047     \fi
13048     \AtVeryEndDocument{%
13049       \immediate\pdfobj{%
13050         <<%
13051         /Fields[\HyField@afields]%
13052         \ifx\HyField@cofields\ltx@empty
13053         \else
13054           /CO[\romannumeral-`\Q\HyField@cofields]%
13055         \fi
13056         /DR<<%
13057         /Font<<%
13058         /ZaDb \OBJ@ZaDb\space 0 R%
13059         /Helv \OBJ@Helv\space 0 R%
13060         >>%
13061       >>%
13062       /DA(/Helv 10 Tf 0 g)%
13063       \ifHy@pdfa
13064       \else
13065         \ifHyField@NeedAppearances
13066         /NeedAppearances true%
13067       \fi
13068       \fi
13069     >>%
13070   }%
13071   \edef\OBJ@acroform{\the\pdflastobj}%
13072   \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
13073 }%
13074 }%
13075 \MakeFieldObject{%
Same as \ding{123} of package pifont.
13076   \begingroup
13077   \fontfamily{pzd}%
13078   \fontencoding{U}%
13079   \fontseries{m}%
13080   \fontshape{n}%
13081   \selectfont
13082   \char123 %
13083   \endgroup
13084 }{Ding}%
13085 \MakeFieldObject{%
13086   \fbox{\textcolor{yellow}{\textsff{Submit}}}%

```

```

13087 }{Submit}%
13088 \MakeFieldObject{%
13089   \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
13090 }{SubmitP}%
13091 }
13092 \let\@endForm\ltx@empty
13093 \let\HyAnn@AbsPageLabel\ltx@empty
13094 \let\Fld@pageobjref\ltx@empty
13095 \ltx@ifundefined{pdfpageref}{%
13096 }{%
13097   \ltx@ifpackageloaded{zref-abspage}{%
13098     \newcount\HyAnn@Count
13099     \HyAnn@Count=\ltx@zero
13100     \def\HyAnn@AbsPageLabel{%
13101       \global\advance\HyAnn@Count by\ltx@one
13102       \zref@labelbyprops{HyAnn@\the\HyAnn@Count}{abspage}%
13103       \zref@refused{HyAnn@\the\HyAnn@Count}%
13104     }%
13105     \def\Fld@pageobjref{%
13106       \zref@ifrefundefined{HyAnn@\the\HyAnn@Count}{%
13107       }{%
13108         \zref@ifrefcontainsprop{HyAnn@\the\HyAnn@Count}{abspage}{%
13109           /P \pdfpageref
13110           \zref@extractdefault{HyAnn@\the\HyAnn@Count}{abspage}{1} %
13111           \space 0 R%
13112         }{%
13113         }%
13114       }%
13115     }%
13116   }{%
13117   }%
13118 }
13119 \def\@TextField[#1]#2{% parameters, label
13120   \def\Fld@name{#2}%
13121   \let\Fld@default\ltx@empty
13122   \let\Fld@value\@empty
13123   \def\Fld@width{\DefaultWidthofText}%
13124   \def\Fld@height{%
13125     \ifFld@multiline
13126       \DefaultHeightofTextMultiline
13127     \else
13128       \DefaultHeightofText
13129     \fi
13130   }%
13131   \begingroup
13132     \expandafter\HyField@SetKeys\expandafter{%
13133       \DefaultOptionsofText,#1%
13134     }%
13135     \PDFForm@Name
13136     \HyField@FlagsText
13137     \ifFld@hidden\def\Fld@width{1sp}\fi
13138     \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13139     \LayoutTextField{#2}%
13140     \leavevmode

```

```

13141 \HyAnn@AbsPageLabel
13142 \Hy@escapeform\PDFForm@Text
13143 \pdfstartlink user {\PDFForm@Text}\relax
13144 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
13145 \HyField@AddToFields
13146 }%
13147 \endgroup
13148 }
13149 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13150 \def\Fld@name{#2}%
13151 \let\Fld@default\relax
13152 \let\Fld@value\relax
13153 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13154 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13155 \begingroup
13156 \Fld@menulength=0 %
13157 \@tempdima\z@
13158 \@for\@curropt:=#3\do{%
13159 \expandafter\Fld@checkequals\@curropt==\%
13160 \Hy@StepCount\Fld@menulength
13161 \settowidth{\@tempdimb}{\@currDisplay}%
13162 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13163 }%
13164 \advance\@tempdima by 15\p@
13165 \begingroup
13166 \HyField@SetKeys{#1}%
13167 \edef\x{\endgroup
13168 \noexpand\expandafter
13169 \noexpand\HyField@SetKeys
13170 \noexpand\expandafter{%
13171 \expandafter\noexpand\curname DefaultOptionsof%
13172 \ifFld@radio
13173 Radio%
13174 \else
13175 \ifFld@combo
13176 \ifFld@popdown
13177 PopdownBox%
13178 \else
13179 ComboBox%
13180 \fi
13181 \else
13182 ListBox%
13183 \fi
13184 \fi
13185 \endcurname
13186 }%
13187 }\x
13188 \HyField@SetKeys{#1}%
13189 \PDFForm@Name
13190 \ifFld@hidden\def\Fld@width{1sp}\fi
13191 \ifx\Fld@value\relax
13192 \let\Fld@value\Fld@default
13193 \fi
13194 \LayoutChoiceField{#2}{%

```

```

13195 \ifFld@radio
13196 \HyField@FlagsRadioButton
13197 \@@Radio{#3}%
13198 \else
13199 \beginngroup
13200 \HyField@FlagsChoice
13201 \ifdim\Fld@width<\@tempdima
13202 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13203 \edef\Fld@width{\the\@tempdima}%
13204 \fi
13205 \ifFld@combo
13206 \else
13207 \@tempdima=\the\Fld@menulength\Fld@charsize
13208 \advance\@tempdima by \Fld@borderwidth bp %
13209 \advance\@tempdima by \Fld@borderwidth bp %
13210 \edef\Fld@height{\the\@tempdima}%
13211 \fi
13212 \@@ListBox{#3}%
13213 \endgroup
13214 \fi
13215 }%
13216 \endgroup
13217 }
13218 \def\@@Radio#1{%
13219 \Fld@listcount=0 %
13220 \EdefEscapeName\Fld@default{\Fld@default}%
13221 \@for\@curropt:=#1\do{%
13222 \expandafter\Fld@checkequals\@curropt==\%
13223 \EdefEscapeName\@currValue{\@currValue}%
13224 \Hy@StepCount\Fld@listcount
13225 \@currDisplay\space
13226 \leavevmode
13227 \HyAnn@AbsPageLabel
13228 \Hy@escapeform\PDFForm@Radio
13229 \pdfstartlink user {%
13230 \PDFForm@Radio
13231 /AP<<%
13232 /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.

```

13233 /\@currValue\space \DingObject
13234 >>%
13235 >>%
13236 }%
13237 \relax
13238 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
13239 \ifnum\Fld@listcount=1 %
13240 \HyField@AddToFields
13241 \fi
13242 \space % deliberate space between radio buttons
13243 }%
13244 }

```

```

13245 \newcount\Fld@listcount
13246 \def\@@Listbox#1{%
13247   \HyField@PDFChoices{#1}%
13248   \leavevmode
13249   \HyAnn@AbsPageLabel
13250   \Hy@escapeform\PDFForm@List
13251   \pdfstartlink user {\PDFForm@List}\relax
13252   \MakeChoiceField{\Fld@width}{\Fld@height}%
13253   \pdfendlink
13254   \HyField@AddToFields
13255 }
13256 \def\@PushButton[#1]#2{% parameters, label
13257   \def\Fld@name{#2}%
13258   \begingroup
13259     \expandafter\HyField@SetKeys\expandafter{%
13260       \DefaultOptionsofPushButton,#1%
13261     }%
13262     \PDFForm@Name
13263     \ifHy@pdfa
13264       \Hy@Error{%
13265         PDF/A: Push button with JavaScript is prohibited%
13266       }\@ehc
13267       \LayoutPushButtonField{%
13268         \leavevmode
13269         \MakeButtonField{#2}%
13270       }%
13271     \else
13272       \HyField@FlagsPushButton
13273       \ifFld@hidden\def\Fld@width{1sp}\fi
13274       \LayoutPushButtonField{%
13275         \leavevmode
13276         \HyAnn@AbsPageLabel
13277         \Hy@escapeform\PDFForm@Push
13278         \pdfstartlink user {\PDFForm@Push}\relax
13279         \MakeButtonField{#2}%
13280         \pdfendlink
13281         \HyField@AddToFields
13282       }%
13283     \fi
13284   \endgroup
13285 }
13286 \def\@Submit[#1]#2{%
13287   \def\Fld@width{\DefaultWidthofSubmit}%
13288   \def\Fld@height{\DefaultHeightofSubmit}%
13289   \begingroup
13290     \expandafter\HyField@SetKeys\expandafter{%
13291       \DefaultOptionsofSubmit,#1%
13292     }%
13293     \HyField@FlagsPushButton
13294     \HyField@FlagsSubmit
13295     \ifFld@hidden\def\Fld@width{1sp}\fi
13296     \leavevmode
13297     \HyAnn@AbsPageLabel
13298     \Hy@escapeform\PDFForm@Submit

```



```

13299 \pdfstartlink user {%
13300 \PDFForm@Submit
13301 /AP<</N \SubmitObject/D \SubmitPObject>>%
13302 }%
13303 \relax
13304 \MakeButtonField{#2}%
13305 \pdfendlink
13306 \HyField@AddToFields
13307 \endgroup
13308 }
13309 \def\@Reset[#1]#2{%
13310 \def\Fld@width{\DefaultWidthofReset}%
13311 \def\Fld@height{\DefaultHeightofReset}%
13312 \begingroup
13313 \expandafter\HyField@SetKeys\expandafter{%
13314 \DefaultOptionsofReset,#1%
13315 }%
13316 \leavevmode
13317 \ifHy@pdfa
13318 \Hy@Error{%
13319 PDF/A: Reset action is prohibited%
13320 }\@ehc
13321 \MakeButtonField{#2}%
13322 \else
13323 \HyField@FlagsPushButton
13324 \ifFld@hidden\def\Fld@width{1sp}\fi
13325 \HyAnn@AbsPageLabel
13326 \Hy@escapeform\PDFForm@Reset
13327 \pdfstartlink user {\PDFForm@Reset}\relax
13328 \MakeButtonField{#2}%
13329 \pdfendlink
13330 \HyField@AddToFields
13331 \fi
13332 \endgroup
13333 }
13334 \def\@CheckBox[#1]#2{% parameters, label
13335 \def\Fld@name{#2}%
13336 \def\Fld@default{0}%
13337 \begingroup
13338 \def\Fld@width{\DefaultWidthofCheckBox}%
13339 \def\Fld@height{\DefaultHeightofCheckBox}%
13340 \expandafter\HyField@SetKeys\expandafter{%
13341 \DefaultOptionsofCheckBox,#1%
13342 }%
13343 \PDFForm@Name
13344 \HyField@FlagsCheckBox
13345 \ifFld@hidden\def\Fld@width{1sp}\fi
13346 \LayoutCheckField{#2}{%
13347 \leavevmode
13348 \HyAnn@AbsPageLabel
13349 \Hy@escapeform\PDFForm@Check
13350 \pdfstartlink user {\PDFForm@Check}\relax
13351 \MakeCheckField{\Fld@width}{\Fld@height}%
13352 \pdfendlink

```

```

13353 \HyField@AddToFields
13354 }%
13355 \endgroup
13356 }
13357 \def\Hy@FormObjects{%
13358 \pdfobj {%
13359 <<%
13360 /Type/Encoding%
13361 /Differences[%
13362 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13363 /ring/tilde %
13364 39/quotesingle %
13365 96/grave %
13366 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13367 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13368 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13369 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13370 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13371 160/Euro %
13372 164/currency %
13373 166/brokenbar %
13374 168/dieresis/copyright/ordfeminine %
13375 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13376 /twosuperior/threesuperior/acute/mu %
13377 183/periodcentered/cedilla/onesuperior/ordmasculine %
13378 188/onequarter/onehalf/threequarters %
13379 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13380 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
13381 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13382 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13383 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13384 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13385 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13386 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13387 /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
13388 /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
13389 ]%
13390 >>%
13391 }%
13392 \xdef\OBJ@pdfdocencoding{\the\pdfastobj}%
13393 \pdfobj{%
13394 <<%
13395 /Type/Font%
13396 /Subtype/Type1%
13397 /Name/ZaDb%
13398 /BaseFont/ZapfDingbats%
13399 >>%
13400 }%
13401 \xdef\OBJ@ZaDb{\the\pdfastobj}%
13402 \pdfobj{%
13403 <<%
13404 /Type/Font%
13405 /Subtype/Type1%
13406 /Name/Helv%

```

```

13407 /BaseFont/Helvetica%
13408 /Encoding \OBJ@pdfdocencoding\space 0 R%
13409 >>%
13410 }%
13411 \xdef\OBJ@Helv{\the\pdfastobj}%
13412 \global\let\Hy@FormObjects\relax
13413 }
13414 \pdfTeX

```

44.5 dvipdfm, xetex

D. P. Story adapted the pdf_TE_X forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```

13415 \*dvipdfm | xetex

```

\@Gauge

```

13416 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13417 \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13418 }

```

\@Form

```

13419 \def\@Form[#1]{%
13420 \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13421 \kvsetkeys{Form}{#1}%
13422 \Hy@FormObjects
13423 \@pdfm@mark{obj @afields []}%
13424 \@pdfm@mark{obj @corder []}%
13425 \@pdfm@mark{%
13426 obj @aform <<%
13427 /Fields @afields%
13428 /DR<<%
13429 /Font<<%
13430 /ZaDb @OBJZaDb%
13431 /Helv @OBJHelv%
13432 >>%
13433 >>%
13434 /DA(/Helv 10 Tf 0 g)%
13435 /CO @corder%
13436 \ifHy@pdfa
13437 \else
13438 \ifHyField@NeedAppearances
13439 /NeedAppearances true%
13440 \fi
13441 \fi
13442 >>%
13443 }%
13444 \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
13445 }

```

\@endForm

```

13446 \let\@endForm\ltx@empty

```

\dvipdfm@setdim \dvipdfm@setdim sets dimensions for ann using \pdfm@box.

```

13447 \def\dvipdfm@setdim{%

```

```

13448 height \the\ht\pdfm@box\space
13449 width \the\wd\pdfm@box\space
13450 depth \the\dp\pdfm@box\space
13451 }

\HyField@AnnotCount
13452 \newcount\HyField@AnnotCount
13453 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount
13454 \def\HyField@AdvanceAnnotCount{%
13455 \global\advance\HyField@AnnotCount\@ne
13456 }

\HyField@TheAnnotCount
13457 \def\HyField@TheAnnotCount{%
13458 \the\HyField@AnnotCount
13459 }

\Fld@pageobjref
13460 \def\Fld@pageobjref{/P @thispage}%

\HyField@AddToFields
13461 \def\HyField@AddToFields#1{%
13462 \@pdfm@mark{put @afields @#1\HyField@TheAnnotCount}%
13463 \ifx\Fld@calculate@code\ltx@empty
13464 \else
13465 \@pdfm@mark{put @corder @#1\HyField@TheAnnotCount}%
13466 \fi
13467 }

\@TextField
13468 \def\@TextField[#1]#2{% parameters, label
13469 \def\Fld@name{#2}%
13470 \let\Fld@default\ltx@empty
13471 \let\Fld@value\@empty
13472 \def\Fld@width{\DefaultWidthofText}%
13473 \def\Fld@height{%
13474 \ifFld@multiline
13475 \DefaultHeightofTextMultiline
13476 \else
13477 \DefaultHeightofText
13478 \fi
13479 }%
13480 \begingroup
13481 \expandafter\HyField@SetKeys\expandafter{%
13482 \DefaultOptionsofText,#1%
13483 }%
13484 \PDFForm@Name
13485 \HyField@FlagsText
13486 \ifFld@hidden\def\Fld@width{1sp}\fi
13487 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13488 \setbox\pdfm@box=\hbox{%

```

```

13489 \MakeTextField{\Fld@width}{\Fld@height}%
13490 }%
13491 \HyField@AdvanceAnnotCount
13492 \LayoutTextField{#2}{%
13493 \leavevmode
13494 \Hy@escapeform\PDFForm@Text
13495 \@pdfm@mark{%
13496 ann @text\HyField@TheAnnotCount\space
13497 \dvipdfm@setdim << \PDFForm@Text >>%
13498 }%
13499 }%
13500 \unhbox\pdfm@box
13501 \HyField@AddToFields{text}%
13502 % record in @afields array
13503 \endgroup
13504 }

```

\@ChoiceMenu

```

13505 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13506 \def\Fld@name{#2}%
13507 \let\Fld@default\relax
13508 \let\Fld@value\relax
13509 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13510 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13511 \begingroup
13512 \Fld@menulength=0 %
13513 \@tempdima\z@
13514 \@for\@curropt:=#3\do{%
13515 \expandafter\Fld@checkequals\@curropt==\%
13516 \Hy@StepCount\Fld@menulength
13517 \settowidth{\@tempdimb}{\@currDisplay}%
13518 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13519 }%
13520 \advance\@tempdima by 15\p@
13521 \begingroup
13522 \HyField@SetKeys{#1}%
13523 \edef\x{\endgroup
13524 \noexpand\expandafter
13525 \noexpand\HyField@SetKeys
13526 \noexpand\expandafter{%
13527 \expandafter\noexpand\curname DefaultOptionsof%
13528 \ifFld@radio
13529 Radio%
13530 \else
13531 \ifFld@combo
13532 \ifFld@popdown
13533 PopdownBox%
13534 \else
13535 ComboBox%
13536 \fi
13537 \else
13538 ListBox%
13539 \fi
13540 \fi

```

```

13541     \endcsname
13542   }%
13543 } \x
13544 \HyField@SetKeys{#1}%
13545 \PDFForm@Name
13546 \ifFld@hidden\def\Fld@width{1sp}\fi
13547 \ifx\Fld@value\relax
13548   \let\Fld@value\Fld@default
13549 \fi
13550 \LayoutChoiceField{#2}{%
13551   \ifFld@radio
13552     \HyField@FlagsRadioButton
13553     \@@Radio{#3}%
13554   \else
13555     \begingroup
13556     \HyField@FlagsChoice
13557     \ifdim\Fld@width<\@tempdima
13558       \ifdim\@tempdima<1cm\@tempdima1cm\fi
13559       \edef\Fld@width{\the\@tempdima}%
13560     \fi
13561     \ifFld@combo
13562     \else
13563       \@tempdima=\the\Fld@menulength\Fld@charsize
13564       \advance\@tempdima by \Fld@borderwidth bp %
13565       \advance\@tempdima by \Fld@borderwidth bp %
13566       \edef\Fld@height{\the\@tempdima}%
13567     \fi
13568     \@@ListBox{#3}%
13569   \endgroup
13570 \fi
13571 }%
13572 \endgroup
13573 }

```

\@@Radio

```

13574 \def\@@Radio#1{%
13575   \Fld@listcount=0 %
13576   \EdefEscapeName\Fld@default{\Fld@default}%
13577   \setbox\pdfm@box=\hbox{%
13578     \MakeRadioField{\Fld@width}{\Fld@height}%
13579   }%
13580   \@for\@curropt:=#1\do{%
13581     \expandafter\Fld@checkequals\@curropt==\%
13582     \EdefEscapeName\@currValue{\@currValue}%
13583     \Hy@StepCount\Fld@listcount
13584     \@currDisplay\space
13585     \leavevmode
13586     \Hy@escapeform\PDFForm@Radio
13587     \ifnum\Fld@listcount=1 %
13588       \HyField@AdvanceAnnotCount
13589     \fi
13590     \@pdfm@mark{%
13591       ann %
13592     \ifnum\Fld@listcount=1 %

```

```

13593      @radio\HyField@TheAnnotCount%
13594      \space
13595      \fi
13596      \dvipdfm@setdim
13597      <<%
13598      \PDFForm@Radio
13599      /AP<</N<</\@currValue /null>>>>%
13600      >>%
13601      }%
13602      \unhcopy\pdfm@box\space% deliberate space between radio buttons
13603      \ifnum\Fld@listcount=1 %
13604      \HyField@AddToFields{radio}%
13605      \fi
13606      }%
13607  }

\Fld@listcount
13608 \newcount\Fld@listcount

\@@Listbox
13609 \def\@@Listbox#1{%
13610   \HyField@PDFChoices{#1}%
13611   \setbox\pdfm@box=\hbox{%
13612     \MakeChoiceField{\Fld@width}{\Fld@height}%
13613   }%
13614   \leavevmode
13615   \Hy@escapeform\PDFForm@List
13616   \HyField@AdvanceAnnotCount
13617   \@pdfm@mark{%
13618     ann @list\HyField@TheAnnotCount\space
13619     \dvipdfm@setdim
13620     <<\PDFForm@List>>%
13621   }%
13622   \unhbox\pdfm@box
13623   \HyField@AddToFields{list}%
13624  }

\@PushButton
13625 \def\@PushButton[#1]#2{% parameters, label
13626   \def\Fld@name{#2}%
13627   \begingroup
13628     \expandafter\HyField@SetKeys\expandafter{%
13629       \DefaultOptionsofPushButton,#1%
13630     }%
13631     \PDFForm@Name
13632     \ifHy@pdfa
13633       \Hy@Error{%
13634         PDF/A: Push button with JavaScript is prohibited%
13635       }\@ehc
13636       \LayoutPushButtonField{%
13637         \leavevmode
13638         \MakeButtonField{#2}%
13639       }%
13640     \else

```

```

13641 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}}%
13642 \HyField@FlagsPushButton
13643 \ifFld@hidden\def\Fld@width{1sp}\fi
13644 \HyField@AdvanceAnnotCount
13645 \LayoutPushButtonField{%
13646 \leavevmode
13647 \Hy@escapeform\PDFForm@Push
13648 \@pdfm@mark{%
13649 ann @push\HyField@TheAnnotCount\space
13650 \dvi pdfm@setdim
13651 <<\PDFForm@Push>>%
13652 }%
13653 }%
13654 \unhbox\pdfm@box
13655 \HyField@AddToFields{push}%
13656 \fi
13657 \endgroup
13658 }

\@Submit
13659 \def\@Submit[#1]#2{%
13660 \def\Fld@width{\DefaultWidthofSubmit}%
13661 \def\Fld@height{\DefaultHeightofSubmit}%
13662 \begingroup
13663 \expandafter\HyField@SetKeys\expandafter{%
13664 \DefaultOptionsofSubmit,#1%
13665 }%
13666 \HyField@FlagsPushButton
13667 \HyField@FlagsSubmit
13668 \ifFld@hidden\def\Fld@width{1sp}\fi
13669 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}}%
13670 \leavevmode
13671 \Hy@escapeform\PDFForm@Submit
13672 \HyField@AdvanceAnnotCount
13673 \@pdfm@mark{%
13674 ann @submit\HyField@TheAnnotCount\space
13675 \dvi pdfm@setdim
13676 <<\PDFForm@Submit>>%
13677 }%
13678 \unhbox\pdfm@box%
13679 \HyField@AddToFields{submit}%
13680 \endgroup
13681 }

\@Reset
13682 \def\@Reset[#1]#2{%
13683 \def\Fld@width{\DefaultWidthofReset}%
13684 \def\Fld@height{\DefaultHeightofReset}%
13685 \begingroup
13686 \expandafter\HyField@SetKeys\expandafter{%
13687 \DefaultOptionsofReset,#1%
13688 }%
13689 \leavevmode
13690 \ifHy@pdfa

```



```

13691 \Hy@Error{%
13692     PDF/A: Reset action is prohibited%
13693 } \@ehc
13694 \MakeButtonField{#2}%
13695 \else
13696 \HyField@FlagsPushButton
13697 \ifFld@hidden\def\Fld@width{1sp}\fi
13698 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13699 \Hy@escapeform\PDFForm@Reset
13700 \HyField@AdvanceAnnotCount
13701 \@pdfm@mark{%
13702     ann @reset\HyField@TheAnnotCount\space
13703     \dvipdfm@setdim
13704     <<\PDFForm@Reset>>%
13705 }%
13706 \unhbox\pdfm@box
13707 \HyField@AddToFields{reset}%
13708 \fi
13709 \endgroup
13710 }

```

\@CheckBox

```

13711 \def\@CheckBox[#1]#2{% parameters, label
13712 \def\Fld@name{#2}%
13713 \def\Fld@default{0}%
13714 \begingroup
13715 \def\Fld@width{\DefaultWidthofCheckBox}%
13716 \def\Fld@height{\DefaultHeightofCheckBox}%
13717 \expandafter\HyField@SetKeys\expandafter{%
13718     \DefaultOptionsofCheckBox,#1%
13719 }%
13720 \PDFForm@Name
13721 \HyField@FlagsCheckBox
13722 \ifFld@hidden\def\Fld@width{1sp}\fi
13723 \setbox\pdfm@box=\hbox{%
13724     \MakeCheckField{\Fld@width}{\Fld@height}%
13725 }%
13726 \HyField@AdvanceAnnotCount
13727 \LayoutCheckField{#2}{%
13728     \leavevmode
13729     \Hy@escapeform\PDFForm@Check
13730 \@pdfm@mark{%
13731     ann @check\HyField@TheAnnotCount\space
13732     \dvipdfm@setdim
13733     <<\PDFForm@Check>>%
13734 }%
13735 \unhbox\pdfm@box
13736 \HyField@AddToFields{check}%
13737 }%
13738 \endgroup
13739 }

13740 \def\Hy@FormObjects{%
13741 \@pdfm@mark{obj @OBJpdfdocencoding%

```

```

13742 <<%
13743 /Type/Encoding%
13744 /Differences[%
13745 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
13746 39/quotesingle %
13747 96/grave %
13748 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13749 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13750 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13751 /quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron/Ydieresis%
13752 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13753 160/Euro %
13754 164/currency %
13755 166/brokenbar %
13756 168/dieresis/copyright/ordfeminine %
13757 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13758 /twosuperior/threesuperior/acute/mu %
13759 183/periodcentered/cedilla/onesuperior/ordmasculine %
13760 188/onequarter/onehalf/threequarters %
13761 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13762 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13763 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
13764 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13765 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
13766 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
13767 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
13768 /eth/ntilde/ograde/oacute/ocircumflex/otilde/odieresis%
13769 /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
13770 /thorn/ydieresis%
13771 ]%
13772 >>%
13773 }%
13774 \@pdfmark{obj @OBJZaDb%
13775 <<%
13776 /Type/Font%
13777 /Subtype/Type1%
13778 /Name/ZaDb%
13779 /BaseFont/ZapfDingbats%
13780 >>%
13781 }%
13782 \@pdfmark{obj @OBJHelv%
13783 <<%
13784 /Type/Font%
13785 /Subtype/Type1%
13786 /Name/Helv%
13787 /BaseFont/Helvetica%
13788 /Encoding @OBJpdfdocencoding%
13789 >>%
13790 }%
13791 \global\let\Hy@FormObjects\relax
13792 }
13793 \dvipdfm | xetex)

```

44.6 Common forms part

```

13794 (*pdfform)

\Fld@pageobjref
13795 \providecommand*{\Fld@pageobjref}{%

\Hy@escapestring
13796 \@ifundefined{pdf@escapestring}
13797 {%
13798 \let\Hy@escapestring\@firstofone
13799 \def\Hy@escapeform#1{%
13800 \ifHy@pdfescapeform
13801 \def\Hy@escapestring##1{%
13802 \noexpand\Hy@escapestring{\noexpand##1}%
13803 }%
13804 \edef\Hy@temp{##1}%
13805 \expandafter\Hy@@@escapeform\Hy@temp\Hy@escapestring{}\@nil
13806 \def\Hy@escapestring##1{%
13807 \@ifundefined{Hy@esc@\string##1}{%
13808 ##1%
13809 \ThisShouldNotHappen
13810 }{%
13811 \csname Hy@esc@\string##1\endcsname
13812 }%
13813 }%
13814 \else
13815 \let\Hy@escapestring\@firstofone
13816 \fi
13817 }%
13818 \def\Hy@@@escapeform#1\Hy@escapestring#2#3\@nil{%
13819 \ifx\#3\%
13820 \else
13821 \expandafter
13822 \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
13823 \ltx@ReturnAfterFi{%
13824 \Hy@@@escapeform#3\@nil
13825 }%
13826 \fi
13827 }%
13828 }{%
13829 \def\Hy@escapeform#1{%
13830 \ifHy@pdfescapeform
13831 \let\Hy@escapestring\pdfescapestring
13832 \else
13833 \let\Hy@escapestring\@firstofone
13834 \fi
13835 }%
13836 \Hy@escapeform}%
13837 }

\PDFForm@Name
13838 \def\PDFForm@Name{%
13839 \PDFForm@@@Name\Fld@name
13840 \ifx\Fld@altname\relax

```

```

13841 \else
13842   \PDFForm@@Name\Fld@altname
13843 \fi
13844 \ifx\Fld@mappingname\relax
13845 \else
13846   \PDFForm@@Name\Fld@mappingname
13847 \fi
13848 }

```

\PDFForm@@Name

```

13849 \def\PDFForm@@Name#1{%
13850   \begingroup
13851   \ifnum\Hy@pdf@majorminor@version<105 % implementation note 117, PDF spec 1.7
13852     \ifHy@unicode
13853       \Hy@unicodedefalse
13854     \fi
13855   \fi
13856   \pdfstringdef\Hy@gtemp#1%
13857 \endgroup
13858 \let#1\Hy@gtemp
13859 }

```

\Fld@additionalactions

```

13860 \def\Fld@@additionalactions{%
K input (keystroke) format
13861 \ifx\Fld@keystroke@code\@empty
13862 \else
13863   /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
13864 \fi
F display format
13865 \ifx\Fld@format@code\@empty
13866 \else
13867   /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
13868 \fi
V validation
13869 \ifx\Fld@validate@code\@empty
13870 \else
13871   /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
13872 \fi
C calculation
13873 \ifx\Fld@calculate@code\@empty
13874 \else
13875   /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
13876 \fi
Fo receiving the input focus
13877 \ifx\Fld@onfocus@code\@empty
13878 \else
13879   /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
13880 \fi

```

Bl loosing the input focus (blurred)

```
13881 \ifx\Fld@onblur@code\@empty
13882 \else
13883 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
13884 \fi
```

D pressing the mouse button (down)

```
13885 \ifx\Fld@onmousedown@code\@empty
13886 \else
13887 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
13888 \fi
```

U releasing the mouse button (up)

```
13889 \ifx\Fld@onmouseup@code\@empty
13890 \else
13891 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
13892 \fi
```

E cursor enters the annotation's active area.

```
13893 \ifx\Fld@onenter@code\@empty
13894 \else
13895 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
13896 \fi
```

X cursor exits the annotation's active area.

```
13897 \ifx\Fld@onexit@code\@empty
13898 \else
13899 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
13900 \fi
13901 }
13902 \def\Fld@additionalactions{%
13903 \if\Fld@@additionalactions-%
13904 \else
13905 \ifHy@pdfa
13906 \else
13907 /AA<<\Fld@@additionalactions>>%
13908 \fi
13909 \fi
13910 }
```

\Fld@annotnames

```
13911 \def\Fld@annotnames{%
13912 /T(\Fld@name)%
13913 \ifx\Fld@altname\relax
13914 \else
13915 /TU(\Fld@altname)%
13916 \fi
13917 \ifx\Fld@mappingname\relax
13918 \else
13919 /TM(\Fld@mappingname)%
13920 \fi
13921 }
```

\PDFForm@Check

```
13922 \def\PDFForm@Check{%
```

```

13923 /Subtype/Widget%
13924 \Fld@annotflags
13925 \Fld@pageobjref
13926 \Fld@annotnames
13927 /FT/Btn%
13928 \Fld@flags
13929 /Q \Fld@align
13930 /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
13931 /AP<< /N <</Yes<<>>>> >> %new string /Yes is from below
13932 /MK<<%
13933 \ifnum\Fld@rotation=\z@
13934 \else
13935 /R \Fld@rotation
13936 \fi
13937 \ifx\Fld@bordercolor\relax
13938 \else
13939 /BC[\Fld@bordercolor]%
13940 \fi
13941 \ifx\Fld@bcolor\relax
13942 \else
13943 /BG[\Fld@bcolor]%
13944 \fi
13945 /CA(\Hy@escapestring{\Fld@cbsymbol})%
13946 >>%
13947 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13948 \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13949 /H/P%
13950 \ifFld@checked /V/Yes/AS/Yes\else /V/Off/AS/Off\fi
13951 \Fld@additionalactions
13952 }

```

\PDFForm@Push

```

13953 \ifHy@pdfa
13954 \else
13955 \def\PDFForm@Push{%
13956 /Subtype/Widget%
13957 \Fld@annotflags
13958 \Fld@pageobjref
13959 \Fld@annotnames
13960 /FT/Btn%
13961 \Fld@flags
13962 /H/P%
13963 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13964 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13965 \ifx\Fld@bordercolor\relax\else 1\fi
13966 \space
13967 \else
13968 /MK<<%
13969 \ifnum\Fld@rotation=\z@
13970 \else
13971 /R \Fld@rotation
13972 \fi
13973 \ifx\Fld@bordercolor\relax
13974 \else

```

```

13975         /BC[\Fld@bordercolor]%
13976     \fi
13977     >>%
13978 \fi
13979 /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
13980 \Fld@additionalactions
13981 }%
13982 \fi

```

\PDFForm@List

```

13983 \def\PDFForm@List{%
13984 /Subtype/Widget%
13985 \Fld@annotflags
13986 \Fld@pageobjref
13987 \Fld@annotnames
13988 /FT/Ch%
13989 \Fld@flags
13990 /Q \Fld@align
13991 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13992 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13993     \ifx\Fld@bordercolor\relax\else 1\fi
13994     \ifx\Fld@bcolor\relax \else 1\fi
13995     \space
13996 \else
13997 /MK<<%
13998     \ifnum\Fld@rotation=\z@
13999     \else
14000     /R \Fld@rotation
14001     \fi
14002     \ifx\Fld@bordercolor\relax
14003     \else
14004     /BC[\Fld@bordercolor]%
14005     \fi
14006     \ifx\Fld@bcolor\relax
14007     \else
14008     /BG[\Fld@bcolor]%
14009     \fi
14010     >>%
14011 \fi
14012 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14013     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14014 \Fld@choices
14015 \Fld@additionalactions
14016 }

```

\PDFForm@Radio

```

14017 \def\PDFForm@Radio{%
14018 /Subtype/Widget%
14019 \Fld@annotflags
14020 \Fld@pageobjref
14021 \Fld@annotnames
14022 /FT/Btn%
14023 \Fld@flags
14024 /H/P%

```

```

14025 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14026 /MK<<%
14027   \ifnum\Fld@rotation=\z@
14028   \else
14029     /R \Fld@rotation
14030   \fi
14031   \ifx\Fld@bordercolor\relax
14032   \else
14033     /BC[\Fld@bordercolor]%
14034   \fi
14035   \ifx\Fld@bcolor\relax
14036   \else
14037     /BG[\Fld@bcolor]%
14038   \fi
14039   /CA(\Hy@escapestring{\Fld@radiosymbol})%
14040 >>%
14041 /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14042   \ifx\Fld@color\@empty\else\space\Fld@color\fi)%

```

New code, the default value is used for all buttons

```

14043 \ifx\Fld@default\@empty
14044   /V/Off%
14045   /DV/Off%
14046 \else
14047   /V/\Fld@default
14048   /DV/\Fld@default
14049 \fi
14050 \Fld@additionalactions
14051 }

```

\PDFForm@Text

```

14052 \def\PDFForm@Text{%
14053   /Subtype/Widget%
14054   \Fld@annotflags
14055   \Fld@pageobjref
14056   \Fld@annotnames
14057   /FT/Tx%
14058   \Fld@flags
14059   /Q \Fld@align
14060   /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
14061   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14062     \ifx\Fld@bordercolor\relax\else 1\fi
14063     \ifx\Fld@bcolor\relax \else 1\fi
14064     \space
14065   \else
14066     /MK<<%
14067     \ifnum\Fld@rotation=\z@
14068     \else
14069       /R \Fld@rotation
14070     \fi
14071     \ifx\Fld@bordercolor\relax
14072     \else
14073       /BC[\Fld@bordercolor]%
14074     \fi

```



```

14075     \ifx\Fld@bcolor\relax
14076     \else
14077         /BG[\Fld@bcolor]%
14078     \fi
14079     >>%
14080 \fi
14081 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14082     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14083 /DV(\Hy@escapestring{\Fld@default})%
14084 /V(\Hy@escapestring{\Fld@value})%
14085 \Fld@additionalactions
14086 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
14087 }

```

\PDFForm@Submit

```

14088 \def\PDFForm@Submit{%
14089     /Subtype/Widget%
14090     \Fld@annotflags
14091     \Fld@pageobjref
14092     \Fld@annotnames
14093     /FT/Btn%
14094     \Fld@flags
14095     /H/P%
14096     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14097     \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14098         \ifx\Fld@bordercolor\relax\else 1\fi
14099         \space
14100     \else
14101         /MK<<%
14102         \ifnum\Fld@rotation=\z@
14103             \else
14104                 /R \Fld@rotation
14105             \fi
14106         \ifx\Fld@bordercolor\relax
14107             \else
14108                 /BC[\Fld@bordercolor]%
14109             \fi
14110         >>%
14111     \fi
14112 /A<<%
14113     /S/SubmitForm%
14114     /F<<%
14115         /FS/URL%
14116         /F(\Hy@escapestring{\Form@action})%
14117     >>%
14118     \Fld@submitflags
14119     >>%
14120     \Fld@additionalactions
14121 }

```

\PDFForm@Reset

```

14122 \ifHy@pdfa
14123 \else
14124     \def\PDFForm@Reset{%

```

```

14125 /Subtype/Widget%
14126 \Fld@annotflags
14127 \Fld@pageobjref
14128 \Fld@annotnames
14129 /FT/Btn%
14130 \Fld@flags
14131 /H/P%
14132 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
14133 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14134 \ifx\Fld@bordercolor\relax\else 1\fi
14135 \space
14136 \else
14137 /MK<<%
14138 \ifnum\Fld@rotation=\z@
14139 \else
14140 /R \Fld@rotation
14141 \fi
14142 \ifx\Fld@bordercolor\relax
14143 \else
14144 /BC[\Fld@bordercolor]%
14145 \fi
14146 % /CA (Clear)
14147 % /AC (Done)
14148 >>%
14149 \fi
14150 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14151 /A<</S/ResetForm>>%
14152 \Fld@additionalactions
14153 }%
14154 \fi

14155 </pdfform>
14156 <*packageEnd>

```

45 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`

```

14157 \def\phantomsection{%
14158 \Hy@MakeCurrentHrefAuto{section*}%
14159 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
14160 }
14161 </packageEnd>

```

45.1 Bookmarks

14162 (*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 ε -TeX, the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of ε -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.

```
14163 \def\Hy@writebookmark#1#2#3#4#5{%
14164   % section number, text, label, level, file
14165   \ifx\WriteBookmarks\relax%
14166   \else
14167     \ifnum#4>\Hy@bookmarksdepth\relax
14168     \else
14169       \@@writetorep{#1}{#2}{#3}{#4}{#5}%
14170     \fi
14171   \fi
14172 }
14173 \def\Hy@currentbookmarklevel{0}
14174 \def\Hy@numberline#1{#1 }
14175 \def\@@writetorep#1#2#3#4#5{%
14176   \begingroup
14177   \edef\Hy@tempa{#5}%
14178   \ifx\Hy@tempa\Hy@bookmarkstype
14179     \edef\Hy@level{#4}%
14180     \ifx\Hy@levelcheck Y%
14181       \@tempcnta\Hy@level\relax
14182       \advance\@tempcnta by -1 %
14183       \ifnum\Hy@currentbookmarklevel<\@tempcnta
14184         \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
14185         \advance\@tempcnta by 1 %
14186         \Hy@Warning{%
14187           Difference (\the\@tempcnta) between bookmark levels is %
14188           greater \MessageBreak than one, level fixed%
14189         }%
14190         \@tempcnta\Hy@currentbookmarklevel
14191         \advance\@tempcnta by 1 %
14192         \edef\Hy@level{\the\@tempcnta}%
14193       \fi
14194     \else
14195       \global\let\Hy@levelcheck Y%
14196     \fi
14197     \global\let\Hy@currentbookmarklevel\Hy@level
```

```

14198 \@tempcnta\Hy@level\relax
14199 \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
14200 \advance\@tempcnta by -1 %
14201 \edef\Hy@tempa{#3}%
14202 \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
14203 \ifx\Hy@tempa\Hy@tempb
14204 \Hy@Warning{%
14205 The anchor of a bookmark and its parent's must not%
14206 \MessageBreak be the same. Added a new anchor%
14207 }%
14208 \phantomsection
14209 \fi
14210 \ifHy@bookmarksnumbered
14211 \let\numberline\Hy@numberline
14212 \let\booknumberline\Hy@numberline
14213 \let\partnumberline\Hy@numberline
14214 \let\chapternumberline\Hy@numberline
14215 \else
14216 \let\numberline\@gobble
14217 \let\booknumberline\@gobble
14218 \let\partnumberline\@gobble
14219 \let\chapternumberline\@gobble
14220 \fi
14221 \pdfstringdef\Hy@tempa{#2}%
14222 \HyPsd@SanitizeForOutFile\Hy@tempa
14223 \if@filesw
14224 \stepcounter{bookmark@seq@number}%
14225 \@ifundefined{@outlinefile}{%
14226 }{%
14227 \protected@write\@outlinefile{}{%
14228 \protect\BOOKMARK
14229 [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
14230 {\Hy@tempa}{\Hy@tempb}%
14231 \@percentchar\space\thebookmark@seq@number
14232 }%
14233 }%
14234 \fi
14235 \fi
14236 \endgroup
14237 }
14238 \newcounter{bookmark@seq@number}
14239 \begingroup
14240 \lccode`=(`{%
14241 \lccode`)=`}%
14242 \lccode`1=\z@
14243 \lccode`2=\z@
14244 \lccode`3=\z@
14245 \lccode`5=\z@
14246 \lccode`7=\z@
14247 \lccode`\#=\z@
14248 \lccode``=\z@
14249 \lccode`\{=\z@
14250 \lccode`\}= \z@
14251 \lowercase{%

```

```

14252 \endgroup
14253 \def\HyPsd@SanitizeForOutFile#1{%
14254   \@onelevel@sanitize\Hy@tempa
14255   \escapechar`\\%
14256   \edef\Hy@tempa{%
14257     \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
14258   }%
14259   \edef\Hy@tempa{%
14260     \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
14261   }%
14262 }%
14263 \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
14264   #1%
14265   \ifx\\#2\\%
14266     \expandafter\ltx@gobble
14267   \else
14268     \expandafter\ltx@firstofone
14269   \fi
14270   {%
14271     \string\173%
14272     \HyPsd@SanitizeOut@BraceLeft#2\@nil
14273   }%
14274 }%
14275 \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
14276   #1%
14277   \ifx\\#2\\%
14278     \expandafter\ltx@gobble
14279   \else
14280     \expandafter\ltx@firstofone
14281   \fi
14282   {%
14283     \string\175%
14284     \HyPsd@SanitizeOut@BraceRight#2\@nil
14285   }%
14286 }%
14287 }

```

In the call of \BOOKMARK the braces around #4 are omitted, because it is not likely, that the level number contains].

```

14288 \newcommand{\currentpdfbookmark}{%
14289   \pdfbookmark[\Hy@currentbookmarklevel]%
14290 }
14291 \newcommand{\subpdfbookmark}{%
14292   \@tempcnta\Hy@currentbookmarklevel
14293   \Hy@StepCount\@tempcnta
14294   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
14295 }
14296 \newcommand{\belowpdfbookmark}[2]{%
14297   \@tempcnta\Hy@currentbookmarklevel
14298   \Hy@StepCount\@tempcnta
14299   \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
14300   \advance\@tempcnta by -1 %
14301   \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
14302 }

```

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.

```

14303 \renewcommand\pdfbookmark[3][0]{%
14304   \Hy@writebookmark{}{#2}{#3.#1}{#1}{toc}%
14305   \hyper@anchorstart{#3.#1}\hyper@anchorend
14306 }
14307 \def\BOOKMARK{%
14308   \@ifnextchar[{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
14309 }
14310 \def\@BOOKMARK[#1]{%
14311   \@ifnextchar[{\@@BOOKMARK[{#1}]}{\@@BOOKMARK[{#1}][-]}%
14312 }

```

The macros for calculating structure of outlines are derived from those by Petr Olsak used in the `texinfopdf` macros.

45.1.1 Rerun warning

`\Hy@OutlineRerunCheck`

```

14313 \RequirePackage{rerunfilecheck}[2009/12/10]
14314 \def\Hy@OutlineRerunCheck{%
14315   \RerunFileCheck{\jobname.out}{%
14316     \immediate\closeout\@outlinefile
14317   }{%
14318     Rerun to get outlines right\MessageBreak
14319     or use package `bookmark'%
14320   }%
14321 }

```

45.1.2 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.

```

14322 <*vtx>
14323 \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.

```

14324 \begingroup
14325   \catcode`\'=12 %
14326   \ifnum\Hy@VTeXversion<650 %
14327     \catcode`\ "=12 %
14328     \gdef\hv@pdf@char#1#2#3{%
14329       \char
14330       \ifcase'#1#2#3 %
14331         "00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%
14332         \or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%
14333         \or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%
14334         \or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%

```

```

14335 \or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%
14336 \or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%
14337 \or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%
14338 \or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%
14339 \or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%
14340 \or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%
14341 \or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%
14342 \or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%
14343 \or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%
14344 \or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%
14345 \or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%
14346 \or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%
14347 \or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%
14348 \or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%
14349 \or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%
14350 \or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%
14351 \or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%
14352 \or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%
14353 \or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%
14354 \or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%
14355 \or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%
14356 \or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%
14357 \or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%
14358 \or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%
14359 \or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%
14360 \or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%
14361 \or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%
14362 \or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%
14363 \fi
14364 }%
14365 \else
14366 \gdef\hv@pdf@char{\char'}%
14367 \fi
14368 \endgroup

```

\@@BOOKMARK

```

14369 \def\@@BOOKMARK[#1][#2]#3#4#5{%
14370 \expandafter\edef\csname @count@#3\endcsname{%
14371 \the\@serial@counter
14372 }%
14373 \edef\@mycount{\the\@serial@counter}%
14374 \Hy@StepCount\@serial@counter
14375 \edef\@parcount{%
14376 \expandafter\ifx\csname @count@#5\endcsname\relax
14377 0%
14378 \else
14379 \csname @count@#5\endcsname
14380 \fi
14381 }%
14382 \immediate\special{%
14383 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14384 s=\ifx#2-c\else o\fi,t=#4%
14385 }%
14386 }%

```

\ReadBookmarks

```
14387 \def\ReadBookmarks{%
14388   \begingroup
14389   \def\0{\hv@pdf@char 0}%
14390   \def\1{\hv@pdf@char 1}%
14391   \def\2{\hv@pdf@char 2}%
14392   \def\3{\hv@pdf@char 3}%
14393   \def\{({}%
14394   \def\)}{)%
14395   \def\do###1{%
14396     \ifnum\catcode`###1=\active
14397       \@makeother###1%
14398     \else
14399       \ifnum\catcode`###1=6 %
14400         \@makeother###1%
14401       \fi
14402     \fi
14403   }%
14404   \dospecials
14405   \Hy@safe@activetrue
14406   \InputIfFileExists{\jobname.out}{\}{}%
14407 \endgroup
14408 \ifx\WriteBookmarks\relax
14409 \else
14410   \if@filesw
14411     \newwrite\@outlinefile
14412     \Hy@OutlineRerunCheck
14413     \immediate\openout\@outlinefile=\jobname.out\relax
14414   \fi
14415 \fi
14416 }

14417 </vtex>
14418 <*\vtex>
14419 \def\ReadBookmarks{%
14420   \pdf@ifdraftmode{\}%
14421   \begingroup
14422     \def\do###1{%
14423       \ifnum\catcode`###1=\active
14424         \@makeother###1%
14425       \else
14426         \ifnum\catcode`###1=6 %
14427           \@makeother###1%
14428         \fi
14429       \fi
14430     }%
14431     \dospecials
14432     \Hy@safe@activetrue
14433     \escapechar=`\%
14434     \def\@@BOOKMARK[##1][##2]##3##4##5{%
14435       \calc@bm@number{##5}%
14436     }%
14437     \InputIfFileExists{\jobname.out}{\}{}%
14438     \ifx\WriteBookmarks\relax
```



```

14439     \global\let\WriteBookmarks\relax
14440   \fi
14441   \def\@@BOOKMARK[##1][##2]##3##4##5{%
14442     \def\Hy@temp{##4}%
14443   \*pdfTeX)
14444     \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14445     \Hy@OutlineName{}\Hy@pstringName{%
14446       ##2\check@bm@number{##3}%
14447     }{%
14448       \expandafter\strip@prefix\meaning\Hy@temp
14449     }%
14450   \*pdfTeX)
14451   \*pdfmark)
14452     \pdfmark{%
14453       pdfmark=/OUT,%
14454       Count={##2\check@bm@number{##3}},%
14455       Dest={##3},%
14456       Title=\expandafter\strip@prefix\meaning\Hy@temp
14457     }%
14458   \*pdfmark)
14459   \*dvipdfm|xetex)
14460     \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14461     \@pdfm@mark{%
14462       outline \ifHy@DvipdfmxOutlineOpen
14463         [%
14464           \ifnum##21>\z@
14465           \else
14466             -%
14467           \fi
14468         ] %
14469       \fi
14470       ##1<<%
14471       /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14472       /A<<%
14473       /S/GoTo%
14474       /D(\Hy@pstringName)%
14475       >>%
14476     >>%
14477   }%
14478   \*dvipdfm|xetex)
14479   }%
14480   \begingroup
14481     \def\WriteBookmarks{0}%
14482     \InputIfFileExists{jobname.out}{-}{-}%
14483   \endgroup
14484   %\escapechar\m@ne\InputIfFileExists{jobname.out}{-}{-}%
14485   \endgroup
14486   }%
14487   \ifx\WriteBookmarks\relax
14488   \else
14489     \if@files
14490       \newwrite\@outlinefile
14491       \Hy@OutlineRerunCheck
14492       \immediate\openout\@outlinefile=jobname.out\relax

```

```

14493 \fi
14494 \fi
14495 }
14496 \*pdfTeX
14497 \def\Hy@OutlineName#1#2#3#4{%
14498 \pdfoutline goto name{#2}count#3{#4}%
14499 }
14500 \pdfTeX
14501 \def\check@bm@number#1{%
14502 \expandafter\ifx\csname B_#1\endcsname\relax
14503 0%
14504 \else
14505 \csname B_#1\endcsname
14506 \fi
14507 }
14508 \def\calc@bm@number#1{%
14509 \@tempcnta=\check@bm@number{#1}\relax
14510 \advance\@tempcnta by 1 %
14511 \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
14512 }
14513 \!vTeX
14514 \ifHy@implicit
14515 \else
14516 \expandafter\endinput
14517 \fi
14518 \outlines
14519 \*outlines | hypertex
14520 \newlength\Hy@SectionHShift
14521 \def\Hy@SectionAnchorHref#1{%
14522 \ifx\protect\@typeset@protect
14523 \Hy@@@SectionAnchor{#1}%
14524 \fi
14525 }
14526 \DeclareRobustCommand*{\Hy@@@SectionAnchor}[1]{%
14527 \leavevmode
14528 \hbox to 0pt{%
14529 \kern-\Hy@SectionHShift
14530 \Hy@raisedlink{%
14531 \hyper@anchorstart{#1}\hyper@anchorend
14532 }%
14533 \hss
14534 }%
14535 }
14536 \AddToNoCaseChangeList{\Hy@@@SectionAnchor}
14537 \@ifundefined{hyper@nopatch@sectioning}
14538 {
14539 \let\H@old@ssect\@ssect
14540 \def\@ssect#1#2#3#4#5{%
14541 \Hy@MakeCurrentHrefAuto{section*}%
14542 \setlength{\Hy@SectionHShift}{#1}%
14543 \begingroup
14544 \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14545 \toks\tw@\expandafter{%

```

```

14546 \expandafter\Hy@sectionAnchorHref\expandafter{\@currentHref}%
14547 #5%
14548 }%
14549 \edef\x{\endgroup
14550 \the\toks@{\the\toks\tw@}}%
14551 }\x
14552 }
14553 \let\H@old@schapter\@schapter
14554 \def\@schapter#1{%
14555 \begingroup
14556 \let\@mkboth\@gobbletwo
14557 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14558 \Hy@raisedlink{%
14559 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14560 }%
14561 \endgroup
14562 \H@old@schapter{#1}%
14563 }

```

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:

```

14564 \ltx@ifundefined{chapter}{-}{%
14565 \let\Hy@org@chapter\@chapter
14566 \def\@chapter{%
14567 \def\Hy@next{%
14568 \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14569 \Hy@raisedlink{%
14570 \hyper@anchorstart{\@currentHref}\hyper@anchorend
14571 }%
14572 }%
14573 \ifnum\c@secnumdepth>\m@ne
14574 \ltx@ifundefined{if@mainmatter}%
14575 \iftrue{\csname if@mainmatter\endcsname}%
14576 \let\Hy@next\relax
14577 \fi
14578 \fi
14579 \Hy@next
14580 \Hy@org@chapter
14581 }%
14582 }

14583 \let\H@old@part\@part
14584 \@ifundefined{chapter}
14585 {\let\Hy@secnum@part\z@}
14586 {\let\Hy@secnum@part\m@ne}
14587 \def\@part{%
14588 \ifnum\Hy@secnum@part>\c@secnumdepth
14589 \phantomsection
14590 \fi
14591 \H@old@part
14592 }

14593 \let\H@old@spart\@spart
14594 \def\@spart#1{%

```

```

14595 \Hy@MakeCurrentHrefAuto{part*}%
14596 \Hy@raisedlink{%
14597   \hyper@anchorstart{\@currentHref}\hyper@anchorend
14598 }%
14599 \H@old@spart{#1}%
14600 }
14601 \let\H@old@sect\@sect
14602 \def\@sect#1#2#3#4#5#6[#7]#8{%
14603   \ifnum #2>\c@secnumdepth
14604     \expandafter\@firstoftwo
14605   \else
14606     \expandafter\@secondoftwo
14607   \fi
14608   {%
14609     \Hy@MakeCurrentHrefAuto{section*}%
14610     \setlength{\Hy@SectionHShift}{#3}%
14611     \begingroup
14612       \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
14613       \toks\tw@\expandafter{%
14614         \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14615         #8%
14616       }%
14617       \edef\x{\endgroup
14618         \the\toks@{\the\toks\tw@}}%
14619       }\x
14620     }{%
14621       \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
14622     }%
14623   }
14624 }{}

14625 </outlines | hypertex>
14626 <*outlines>

14627 \expandafter\def\csname Parent-4\endcsname{}
14628 \expandafter\def\csname Parent-3\endcsname{}
14629 \expandafter\def\csname Parent-2\endcsname{}
14630 \expandafter\def\csname Parent-1\endcsname{}
14631 \expandafter\def\csname Parent0\endcsname{}
14632 \expandafter\def\csname Parent1\endcsname{}
14633 \expandafter\def\csname Parent2\endcsname{}
14634 \expandafter\def\csname Parent3\endcsname{}
14635 \expandafter\def\csname Parent4\endcsname{}

14636 </outlines>

```

46 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

46.1 PD1 encoding

```
14637 <*pd1enc>
```

14638 \DeclareFontEncoding{PD1}{-}{-}

Accents

```
14639 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
14640 \DeclareTextAccent{\' }{PD1}{\textacute}
14641 \DeclareTextAccent{\^}{PD1}{\textasciicircum}
14642 \DeclareTextAccent{\~}{PD1}{\texttilde}
14643 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
14644 \DeclareTextAccent{\r}{PD1}{\textstring}
14645 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
14646 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
14647 \DeclareTextAccent{\c}{PD1}{\textcedilla}
14648 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
14649 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
14650 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
14651 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
14652 \DeclareTextCompositeCommand{\' }{PD1}{\@empty}{\textacute}
14653 \DeclareTextCompositeCommand{\^}{PD1}{\@empty}{\textasciicircum}
14654 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
14655 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
14656 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textstring}
14657 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
14658 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
14659 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
14660 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
14661 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
14662 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
14663 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
14664 \DeclareTextCompositeCommand{\' }{PD1}{\ }{\textacute}
14665 \DeclareTextCompositeCommand{\^}{PD1}{\ }{\textasciicircum}
14666 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
14667 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
14668 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textstring}
14669 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
14670 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
14671 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
14672 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
14673 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
14674 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
14675 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}{#1}}
14676 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}{#1}}
14677 \DeclareTextCommand{\newtie}{PD1}[1]{%
14678   \TextSymbolUnavailable{\newtie{#1}}{#1}%
14679 }
```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```
14680 % U+0009 (CHARACTER TABULATION)
14681 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
14682 % U+000A (LINE FEED)
14683 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
14684 % U+000D (CARRIAGE RETURN)
14685 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D
```

Accent glyph names

```
14686 % U+02D8 BREVE; breve
```

14687 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
14688 % U+02C7 CARON; caron
14689 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
14690 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
14691 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
14692 % U+02D9 DOT ABOVE; dotaccent
14693 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
14694 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
14695 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
14696 % U+02DB OGONEK; ogonek
14697 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
14698 % U+02DA RING ABOVE; ring
14699 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
14700 % U+02DC SMALL TILDE; ilde, *tilde
14701 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

\040: U+0020 SPACE; *space, spacehackarabic
\041: U+0021 EXCLAMATION MARK; exclam
14702 % U+0022 QUOTATION MARK; quotedbl
14703 \DeclareTextCommand{\textquotedbl}{PD1}{"}% \042 U+0022
14704 % U+0023 NUMBER SIGN; numbersign
14705 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
14706 % U+0024 DOLLAR SIGN; dollar
14707 \DeclareTextCommand{\textdollar}{PD1}{\044}% U+0024
14708 % U+0025 PERCENT SIGN; percent
14709 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
14710 % U+0026 AMPERSAND; ampersand
14711 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

\047: U+0027 APOSTROPHE; quotesingle

14712 % U+0028 LEFT PARENTHESIS; parenleft
14713 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028
14714 % U+0029 RIGHT PARENTHESIS; parenright
14715 \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
14716 % U+002E FULL STOP; period
14717 \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
14718 % U+003C LESS-THAN SIGN; less
14719 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C

\075: U+003D EQUALS SIGN; equal
14720 % U+003E GREATER-THAN SIGN; greater
14721 \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
 14722 % U+005C REVERSE SOLIDUS; backslash
 14723 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
 14724 % "U+2216 SET MINUS" simulated by "U+005C REVERSE SOLIDUS"
 14725 \DeclareTextCommand{\textsetminus}{PD1}{\textbackslash}
 \135: U+005D RIGHT SQUARE BRACKET; bracketright
 14726 % U+005E CIRCUMFLEX ACCENT; asciicircum
 14727 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
 14728 % U+005F LOW LINE; underscore
 14729 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
 14730 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
 14731 % U+0060 GRAVE ACCENT; grave
 14732 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
 \141: U+0061 LATIN SMALL LETTER A; a
 ...
 \150: U+0068 LATIN SMALL LETTER H; h
 14733 % U+0069 LATIN SMALL LETTER I; i
 14734 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
 \152: U+006A LATIN SMALL LETTER J; j
 ...
 \172: U+007A LATIN SMALL LETTER Z; z
 14735 % U+007B LEFT CURLY BRACKET; braceleft
 14736 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
 14737 % U+007C VERTICAL LINE; *bar, verticalbar
 14738 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
 14739 % U+007D RIGHT CURLY BRACKET; braceright
 14740 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
 14741 % U+007E TILDE; asciitilde
 14742 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
 Slot \177 (0x7F) is undefined in PDFDocEncoding.
 14743 % U+2022 BULLET; bullet
 14744 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
 14745 % U+2020 DAGGER; dagger
 14746 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
 14747 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)
 14748 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
 14749 \DeclareTextCommand{\textddagger}{PD1}{\textddagger}
 14750 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 14751 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
 14752 % U+2014 EM DASH; emdash
 14753 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
 14754 % U+2013 EN DASH; endash
 14755 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
 14756 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 14757 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
 14758 % U+2044 FRACTION SLASH; fraction
 14759 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044

14760 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guilleft
14761 \DeclareTextCommand{\guilleft}{PD1}{\210}% U+2039
14762 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guilright
14763 \DeclareTextCommand{\guilright}{PD1}{\211}% U+203A
14764 % U+2212 MINUS SIGN; minus
14765 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
14766 % U+2030 PER MILLE SIGN; perthousand
14767 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
14768 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
14769 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
14770 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
14771 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
14772 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
14773 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
14774 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
14775 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
14776 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
14777 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
14778 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
14779 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
14780 % U+2122 TRADE MARK SIGN; trademark
14781 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
14782 % U+FB01 LATIN SMALL LIGATURE FI; fi
14783 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
14784 % U+FB02 LATIN SMALL LIGATURE FL; fl
14785 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02
14786 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
14787 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
14788 % U+0152 LATIN CAPITAL LIGATURE OE; OE
14789 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
14790 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
14791 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
14792 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
14793 \DeclareTextCompositeCommand{"}{PD1}{Y}{\230}% U+0178
14794 \DeclareTextCommand{\IJ}{PD1}{IJ}% ligature U+0049 U+004A
14795 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
14796 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
14797 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
14798 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
14799 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
14800 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
14801 % U+0153 LATIN SMALL LIGATURE OE; oe
14802 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
14803 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
14804 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
14805 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
14806 \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.
14807 % U+20AC EURO SIGN; *Euro, euro
14808 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
14809 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown

14810 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
14811 % U+00A2 CENT SIGN; cent
14812 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
14813 % U+00A3 POUND SIGN; sterling
14814 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
14815 % U+00A4 CURRENCY SIGN; currency
14816 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
14817 % U+00A5 YEN SIGN; yen
14818 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
14819 % U+00A6 BROKEN BAR; brokenbar
14820 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
14821 % U+00A7 SECTION SIGN; section
14822 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
14823 % U+00A8 DIAERESIS; dieresis
14824 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
14825 % U+00A9 COPYRIGHT SIGN; copyright
14826 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
14827 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
14828 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
14829 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetleft
14830 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
14831 \DeclareTextCommand{\guillemetleft}{PD1}{\253}% U+00AB
14832 % U+00AC NOT SIGN; logicalnot
14833 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
14834 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not

No glyph \255 in PDFDocEncoding.
14835 % U+00AE REGISTERED SIGN; registered
14836 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
14837 % U+00AF MACRON; *macron, overscore
14838 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
14839 % U+00B0 DEGREE SIGN; degree
14840 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
14841 % U+00B1 PLUS-MINUS SIGN; plusminus
14842 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
14843 % U+00B2 SUPERSCRIPT TWO; twosuperior
14844 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}%* U+00B2
14845 % U+00B3 SUPERSCRIPT THREE; threesuperior
14846 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}%* U+00B3
14847 % U+00B4 ACUTE ACCENT; acute
14848 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
14849 % U+00B5 MICRO SIGN; mu, mul
14850 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
14851 % U+00B6 PILCROW SIGN; paragraph
14852 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
14853 % U+00B7 MIDDLE DOT; middot, *periodcentered
14854 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
14855 % U+00B8 CEDILLA; cedilla
14856 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
14857 % U+00B9 SUPERSCRIPT ONE; onesuperior
14858 \DeclareTextCommand{\textonesuperior}{PD1}{\271}%* U+00B9
14859 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
14860 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
14861 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetright
14862 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB

14863 \DeclareTextCommand{\guillemetright}{PD1}{\273}% U+00BB
14864 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
14865 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
14866 % U+00BD VULGAR FRACTION ONE HALF; onehalf
14867 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
14868 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
14869 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
14870 % U+00BF INVERTED QUESTION MARK; questiondown
14871 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
14872 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
14873 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
14874 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
14875 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
14876 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
14877 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
14878 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
14879 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
14880 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
14881 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
14882 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
14883 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
14884 % U+00C6 LATIN CAPITAL LETTER AE; AE
14885 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
14886 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
14887 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
14888 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
14889 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8
14890 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
14891 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9
14892 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
14893 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA
14894 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
14895 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB
14896 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
14897 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
14898 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
14899 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD
14900 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
14901 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE
14902 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
14903 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF
14904 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
14905 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
14906 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
14907 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
14908 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
14909 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
14910 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
14911 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
14912 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
14913 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
14914 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
14915 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
14916 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5

14917 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
14918 \DeclareTextCompositeCommand{"}{PD1}{O}{\326}% U+00D6
14919 % U+00D7 MULTIPLICATION SIGN; multiply
14920 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
14921 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
14922 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
14923 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
14924 \DeclareTextCompositeCommand{"}{PD1}{U}{\331}% U+00D9
14925 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
14926 \DeclareTextCompositeCommand{"}{PD1}{U}{\332}% U+00DA
14927 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
14928 \DeclareTextCompositeCommand{"}{PD1}{U}{\333}% U+00DB
14929 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
14930 \DeclareTextCompositeCommand{"}{PD1}{U}{\334}% U+00DC
14931 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
14932 \DeclareTextCompositeCommand{"}{PD1}{Y}{\335}% U+00DD
14933 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)
14934 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
14935 \DeclareTextCommand{\textThorn}{PD1}{\336}%* U+00DE
14936 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
14937 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
14938 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
14939 \DeclareTextCompositeCommand{"}{PD1}{a}{\340}% U+00E0
14940 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
14941 \DeclareTextCompositeCommand{"}{PD1}{a}{\341}% U+00E1
14942 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
14943 \DeclareTextCompositeCommand{"}{PD1}{a}{\342}% U+00E2
14944 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
14945 \DeclareTextCompositeCommand{"}{PD1}{a}{\343}% U+00E3
14946 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
14947 \DeclareTextCompositeCommand{"}{PD1}{a}{\344}% U+00E4
14948 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
14949 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5
14950 % U+00E6 LATIN SMALL LETTER AE; ae
14951 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
14952 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
14953 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7
14954 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
14955 \DeclareTextCompositeCommand{"}{PD1}{e}{\350}% U+00E8
14956 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
14957 \DeclareTextCompositeCommand{"}{PD1}{e}{\351}% U+00E9
14958 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
14959 \DeclareTextCompositeCommand{"}{PD1}{e}{\352}% U+00EA
14960 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
14961 \DeclareTextCompositeCommand{"}{PD1}{e}{\353}% U+00EB
14962 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
14963 \DeclareTextCompositeCommand{"}{PD1}{i}{\354}% U+00EC
14964 \DeclareTextCompositeCommand{"}{PD1}{i}{\354}% U+00EC
14965 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
14966 \DeclareTextCompositeCommand{"}{PD1}{i}{\355}% U+00ED
14967 \DeclareTextCompositeCommand{"}{PD1}{i}{\355}% U+00ED
14968 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
14969 \DeclareTextCompositeCommand{"}{PD1}{i}{\356}% U+00EE
14970 \DeclareTextCompositeCommand{"}{PD1}{i}{\356}% U+00EE

14971 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
 14972 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF
 14973 \DeclareTextCompositeCommand{"}{PD1}{i}{\357}% U+00EF
 14974 % U+00F0 LATIN SMALL LETTER ETH; eth
 14975 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
 14976 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
 14977 \DeclareTextCompositeCommand{~}{PD1}{n}{\361}% U+00F1
 14978 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
 14979 \DeclareTextCompositeCommand{"}{PD1}{o}{\362}% U+00F2
 14980 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
 14981 \DeclareTextCompositeCommand{"}{PD1}{o}{\363}% U+00F3
 14982 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
 14983 \DeclareTextCompositeCommand{"}{PD1}{o}{\364}% U+00F4
 14984 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
 14985 \DeclareTextCompositeCommand{~}{PD1}{o}{\365}% U+00F5
 14986 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
 14987 \DeclareTextCompositeCommand{"}{PD1}{o}{\366}% U+00F6
 14988 % U+00F7 DIVISION SIGN; divide
 14989 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
 14990 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
 14991 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
 14992 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
 14993 \DeclareTextCompositeCommand{"}{PD1}{u}{\371}% U+00F9
 14994 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
 14995 \DeclareTextCompositeCommand{"}{PD1}{u}{\372}% U+00FA
 14996 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 14997 \DeclareTextCompositeCommand{"}{PD1}{u}{\373}% U+00FB
 14998 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 14999 \DeclareTextCompositeCommand{"}{PD1}{u}{\374}% U+00FC
 15000 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 15001 \DeclareTextCompositeCommand{"}{PD1}{y}{\375}% U+00FD
 15002 % U+00FE LATIN SMALL LETTER THORN; thorn; \th, \thorn (wasysym)
 15003 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
 15004 \DeclareTextCommand{\textthorn}{PD1}{\376}%* U+00FE
 15005 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 15006 \DeclareTextCompositeCommand{"}{PD1}{y}{\377}% U+00FF
 15007 \DeclareTextCommand{\ij}{PD1}{ij}% ligature U+0069 U+006A
 Glyphs that consist of several characters.
 15008 \DeclareTextCommand{\SS}{PD1}{SS}%
 15009 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}%
 Aliases (german.sty)
 15010 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}%
 15011 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}%
 15012 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}%
 15013 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}%
 15014 \DeclareTextCommand{\textflqq}{PD1}{\guillemetleft}%
 15015 \DeclareTextCommand{\textfrqq}{PD1}{\guillemetright}%
 15016 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}%
 15017 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}%
 Aliases (math names)
 15018 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}%
 15019 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}%
 15020 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}%

```

15021 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}%
15022 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}%
15023 \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).

```

15024 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
15025 \DeclareTextCompositeCommand{\'}{PD1}{c}{c}% cacute
15026 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
15027 \DeclareTextCompositeCommand{\'}{PD1}{n}{n}% nacute
15028 \DeclareTextCompositeCommand{\'}{PD1}{s}{s}% sacute
15029 \DeclareTextCompositeCommand{\'}{PD1}{z}{z}% zacute
15030 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
15031 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
15032 \DeclareTextCompositeCommand{\'}{PD1}{C}{C}% Cacute
15033 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
15034 \DeclareTextCompositeCommand{\'}{PD1}{N}{N}% Nacute
15035 \DeclareTextCompositeCommand{\'}{PD1}{S}{S}% Sacute
15036 \DeclareTextCompositeCommand{\'}{PD1}{Z}{Z}% Zacute
15037 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot
15038 </pd1enc>

```

46.2 PU encoding

```

15039 <*puenc>
15040 \DeclareFontEncoding{PU}{}{}

```

46.2.1 NFSS2 accents

```

15041 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
15042 \DeclareTextCommand{\`}{PU}[1]{#1\83\000}% U+0300
15043 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
15044 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
15045 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
15046 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
15047 % U+0303 COMBINING TILDE; tildecmb, *tildecomb
15048 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
15049 % U+0304 COMBINING MACRON; macroncmb
15050 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
15051 % U+0306 COMBINING BREVE; brevecmb
15052 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
15053 \ifx\CYRDZE@undefined \else
15054 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
15055 \fi
15056 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
15057 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
15058 % U+0308 COMBINING DIAERESIS; dieresiscmb
15059 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
15060 % U+030A COMBINING RING ABOVE; ringcmb
15061 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
15062 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
15063 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
15064 % U+030C COMBINING CARON; caroncmb
15065 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
15066 </puenc>

```

```

15067 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
15068 \DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
15069 \*puenc)
15070 \ifx\CYRDZE\@undefined \else
15071 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
15072 \fi
15073 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
15074 \DeclareTextCommand{\textinvbreve}{PU}[1]{#1\83\021}% U+0311
15075 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
15076 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcmb
15077 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
15078 % U+0324 COMBINING DIAERESIS BELOW; dieresisbelowcmb; \textsubum-
    laut (tipa)
15079 \DeclareTextCommand{\textsubumlaut}{PU}[1]{#1\83\044}% U+0324
15080 % U+0325 COMBINING RING BELOW; ringbelowcmb; \textsubring (tipa)
15081 \DeclareTextCommand{\textsubring}{PU}[1]{#1\83\045}% U+0325
15082 % U+0327 COMBINING CEDILLA; cedillacmb
15083 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
15084 % U+0328 COMBINING OGONEK; ogonekcmb
15085 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
15086 % U+032D COMBINING CIRCUMFLEX ACCENT BELOW;
15087 % \textsubcircum (tipa)
15088 \DeclareTextCommand{\textsubcircum}{PU}[1]{#1\83\055}% U+032D
15089 % U+032E COMBINING BREVE BELOW; brevebelowcmb
15090 \DeclareTextCommand{\textsubbreve}{PU}[1]{#1\83\056}% U+032E
15091 % U+0330 COMBINING TILDE BELOW; tildebelowcmb; \textsubtilde (tipa)
15092 \DeclareTextCommand{\textsubtilde}{PU}[1]{#1\83\060}% U+0330
15093 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
15094 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
15095 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-
    blecmb
15096 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
15097 % U+20DD COMBINING ENCLOSING CIRCLE
15098 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

```

Double accents.

```

15099 \DeclareTextCommand{\textacutemacron}{PU}[1]{#1\83\001\83\004}% U+0301 U+0304
15100 \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.

```

15101 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}%
15102 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}%
15103 \DeclareTextCompositeCommand{\^}{PU}{\@empty}{\textasciicircum}%
15104 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}%
15105 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}%
15106 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textstring}%
15107 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}%
15108 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}%
15109 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}%
15110 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}%
15111 \*puenc)
15112 \puextra\DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}%
15113 \*puenc)
15114 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}%

```

```

15115 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}%
15116 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}%
15117 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\@empty}{\{\ \83\021\}}% U+0311
15118 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\@empty}{\{\ \83\044\}}% U+0324
15119 \DeclareTextCompositeCommand{\textsubring}{PU}{\@empty}{\textringlow}%
15120 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\@empty}{\textcircum-
low}%
15121 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\@empty}{\{\ \83\056\}}% U+032E
15122 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\@empty}{\texttildebelow}%
15123 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}%
15124 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}%
15125 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}%
15126 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}%
15127 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}%
15128 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\@empty}{\{\ \83\001\83\004\}}% U+0301 U
15129 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\@empty}{\{\ \83\000\83\004\}}% U+0300 U
15130 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciigrave}%
15131 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}%
15132 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}%
15133 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}%
15134 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}%
15135 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}%
15136 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}%
15137 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}%
15138 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}%
15139 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}%
15140 (/puenc)
15141 (puextra)\DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}%
15142 (*puenc)
15143 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}%
15144 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}%
15145 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}%
15146 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\ }{\{\ \83\021\}}% U+0311
15147 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\ }{\{\ \83\044\}}% U+0324
15148 \DeclareTextCompositeCommand{\textsubring}{PU}{\ }{\textringlow}%
15149 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\ }{\textcircumlow}%
15150 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\ }{\{\ \83\056\}}% U+032E
15151 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\ }{\texttildebelow}%
15152 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}%
15153 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}%
15154 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}%
15155 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}%
15156 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}%
15157 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\ }{\{\ \83\001\83\004\}}% U+0301 U+0304
15158 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\ }{\{\ \83\000\83\004\}}% U+0300 U+0304

Accents for capitals (see encoding TS1)
15159 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}%
15160 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}%
15161 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}%
15162 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}%
15163 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}%
15164 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}%
15165 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}%

```

```

15166 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}%
15167 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}%
15168 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}%
15169 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}%
15170 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}%
15171 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.\{#1\}}%
15172 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}%
15173 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}%

```

46.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

15174 % U+0009 (CHARACTER TABULATION)
15175 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
15176 % U+000A (LINE FEED)
15177 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
15178 % U+000D (CARRIAGE RETURN)
15179 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

15180 % U+0022 QUOTATION MARK; quotedbl
15181 \DeclareTextCommand{\textquotedbl}{PU}{"}% \80\042 U+0022
15182 % U+0023 NUMBER SIGN; numbersign
15183 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
15184 % U+0024 DOLLAR SIGN; dollar
15185 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
15186 %* \textdollar -> \mathdollar
15187 %* \textdollar -> \EyesDollar (marvosym)
15188 % U+0025 PERCENT SIGN; percent
15189 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
15190 % U+0026 AMPERSAND; ampersand
15191 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
15192 %* \textampersand -> \binampersand (stmaryrd)
15193 %* \textampersand -> \with (cml)
15194 % U+0027 APOSTROPHE; quotesingle
15195 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
15196 % U+0028 LEFT PARENTHESIS; parenleft
15197 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
15198 % U+0029 RIGHT PARENTHESIS; parenright
15199 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
15200 % U+002A ASTERISK; asterisk; (?)
15201 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A
15202 % U+002B PLUS SIGN; plus; \MVPlus (marvosym)
15203 \DeclareTextCommand{\textMVPlus}{PU}{\80\053}%* U+002B
15204 % U+002C COMMA; comma; \MVComma (marvosym)
15205 \DeclareTextCommand{\textMVComma}{PU}{\80\054}%* U+002C
15206 % U+002D HYPHEN-MINUS; hyphen; \MVMinus (marvosym)
15207 \DeclareTextCommand{\textMVMinus}{PU}{\80\055}%* U+002D
15208 % U+002E FULL STOP; period; \MVPeriod (marvosym)
15209 \DeclareTextCommand{\textMVPeriod}{PU}{\80\056}%* U+002E
15210 % U+002F SOLIDUS; slash; \MVDivision (marvosym)
15211 \DeclareTextCommand{\textMVDivision}{PU}{\80\057}%* U+002F
15212 % U+0030 DIGIT ZERO; zero; \MVZero (marvosym)
15213 \DeclareTextCommand{\textMVZero}{PU}{\80\060}%* U+0030

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15214 % U+0031 DIGIT ONE; one; \MVOne (marvosym)
15215 \DeclareTextCommand{\textMVOne}{PU}{\80\061}%* U+0031
15216 % U+0032 DIGIT TWO; two; \MVTwo (marvosym)
15217 \DeclareTextCommand{\textMVTwo}{PU}{\80\062}%* U+0032
15218 % U+0033 DIGIT THREE; three; \MVThree (marvosym)
15219 \DeclareTextCommand{\textMVThree}{PU}{\80\063}%* U+0033
15220 % U+0034 DIGIT FOUR; four; \MVFour (marvosym)
15221 \DeclareTextCommand{\textMVFour}{PU}{\80\064}%* U+0034
15222 % U+0035 DIGIT FIVE; five; \MVFive (marvosym)
15223 \DeclareTextCommand{\textMVFive}{PU}{\80\065}%* U+0035
15224 % U+0036 DIGIT SIX; six; \MVSix (marvosym)
15225 \DeclareTextCommand{\textMVSix}{PU}{\80\066}%* U+0036
15226 % U+0037 DIGIT SEVEN; seven; \MVSeven (marvosym)
15227 \DeclareTextCommand{\textMVSeven}{PU}{\80\067}%* U+0037
15228 % U+0038 DIGIT EIGHT; eight; \MVEight (marvosym)
15229 \DeclareTextCommand{\textMVEight}{PU}{\80\070}%* U+0038
15230 % U+0039 DIGIT NINE; nine; \MVNine (marvosym)
15231 \DeclareTextCommand{\textMVNine}{PU}{\80\071}%* U+0039

\80\072: U+003A COLON; colon
\80\073: U+003B SEMICOLON; semicolon

15232 % U+003C LESS-THAN SIGN; less
15233 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C

\80\075: U+003D EQUALS SIGN; equal

15234 % U+003E GREATER-THAN SIGN; greater
15235 \DeclareTextCommand{\textgreater}{PU}{>}% \80\076 U+003E

\80\077: U+003F QUESTION MARK; question

15236 % U+0040 COMMERCIAL AT; at; \MVAt (marvosym)
15237 \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

15238 % U+005C REVERSE SOLIDUS; backslash
15239 \DeclareTextCommand{\textbackslash}{PU}{\80\134}% U+005C

\80\135: U+005D RIGHT SQUARE BRACKET; bracketright

15240 % U+005E CIRCUMFLEX ACCENT; asciicircum
15241 \DeclareTextCommand{\textasciicircum}{PU}{\80\136}% U+005E
15242 % U+005F LOW LINE; underscore
15243 \DeclareTextCommand{\textunderscore}{PU}{\80\137}% U+005F
15244 %* \textunderscore -> \mathunderscore (LaTeX)
15245 % U+0060 GRAVE ACCENT; grave
15246 \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

15247 % U+0069 LATIN SMALL LETTER I; i
15248 \DeclareTextCompositeCommand{\.}{PU}{i}% \80\151 U+0069
15249 \DeclareTextCompositeCommand{\.}{PU}{i}% \80\151 U+0069

$\backslash 80\backslash 152$: U+006A LATIN SMALL LETTER J; j
 ...
 $\backslash 80\backslash 172$: U+007A LATIN SMALL LETTER Z; z
 15250 % U+007B LEFT CURLY BRACKET; braceleft
 15251 \DeclareTextCommand{\textbraceleft}{PU}{\80\173}% U+007B
 15252 % U+007C VERTICAL LINE; *bar, verticalbar
 15253 \DeclareTextCommand{\textbar}{PU}{|}% \80\174 U+007C
 15254 %* \textbar -> \textvtrline (tipa)
 15255 % U+007D RIGHT CURLY BRACKET; braceright
 15256 \DeclareTextCommand{\textbraceright}{PU}{\80\175}% U+007D
 15257 % U+007E TILDE; asciitilde
 15258 \DeclareTextCommand{\textasciitilde}{PU}{\80\176}% U+007E

46.2.3 Latin-1 Supplement: U+0080 to U+00FF

$\backslash 80\backslash 240$: U+00A0 NO-BREAK SPACE; nbspace, nonbreakingspace
 15259 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 15260 \DeclareTextCommand{\textexclamdown}{PU}{\80\241}% U+00A1
 15261 % U+00A2 CENT SIGN; cent
 15262 \DeclareTextCommand{\textcent}{PU}{\80\242}% U+00A2
 15263 % U+00A3 POUND SIGN; sterling
 15264 \DeclareTextCommand{\textsterling}{PU}{\80\243}% U+00A3
 15265 %* \textsterling -> \mathsterling (LaTeX)
 15266 %* \textsterling -> \pounds (LaTeX)
 15267 % U+00A4 CURRENCY SIGN; currency
 15268 \DeclareTextCommand{\textcurrency}{PU}{\80\244}% U+00A4
 15269 % U+00A5 YEN SIGN; yen
 15270 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
 15271 % U+00A6 BROKEN BAR; brokenbar
 15272 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
 15273 %* \textbrokenbar -> \brokenvert (wasysym)
 15274 % U+00A7 SECTION SIGN; section
 15275 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
 15276 %* \textsection -> \mathsection (LaTeX)
 15277 %* \textsection -> \S (LaTeX)
 15278 % U+00A8 DIAERESIS; dieresis
 15279 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
 15280 % U+00A9 COPYRIGHT SIGN; copyright
 15281 \DeclareTextCommand{\textcopyright}{PU}{\80\251}%* U+00A9
 15282 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 15283 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
 15284 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetleft
 15285 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
 15286 \DeclareTextCommand{\guillemetleft}{PU}{\80\253}% U+00AB
 15287 % U+00AC NOT SIGN; logicalnot
 15288 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
 15289 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
 $\backslash 80\backslash 255$: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
 15290 % U+00AE REGISTERED SIGN; registered
 15291 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
 15292 % U+00AF MACRON; *macron, overscore
 15293 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
 15294 % U+00B0 DEGREE SIGN; degree

15295 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
15296 % U+00B1 PLUS-MINUS SIGN; plusminus
15297 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
15298 % U+00B2 SUPERSCRIPT TWO; twosuperior
15299 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}%* U+00B2
15300 % U+00B3 SUPERSCRIPT THREE; threesuperior
15301 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}%* U+00B3
15302 % U+00B4 ACUTE ACCENT; acute
15303 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
15304 \DeclareTextCommand{\textasciicute}{PU}{\80\264}% U+00B4
15305 % U+00B5 MICRO SIGN; mu, mu1
15306 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
15307 % U+00B6 PILCROW SIGN; paragraph
15308 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
15309 %* \textparagraph -> \mathparagraph (LaTeX)
15310 % U+00B7 MIDDLE DOT; middot, *periodcentered
15311 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
15312 %* \textperiodcentered -> \MultiplicationDot (marvosym)
15313 %* \textperiodcentered -> \Squaredot (marvosym)
15314 % U+00B8 CEDILLA; cedilla
15315 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
15316 % U+00B9 SUPERSCRIPT ONE; onesuperior
15317 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}%* U+00B9
15318 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
15319 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
15320 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetright
15321 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
15322 \DeclareTextCommand{\guillemetright}{PU}{\80\273}% U+00BB
15323 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
15324 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
15325 % U+00BD VULGAR FRACTION ONE HALF; onehalf
15326 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
15327 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
15328 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
15329 % U+00BF INVERTED QUESTION MARK; questiondown
15330 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
15331 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
15332 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
15333 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
15334 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
15335 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
15336 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
15337 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
15338 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
15339 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
15340 \DeclareTextCompositeCommand{\\"}{PU}{A}{\80\304}% U+00C4
15341 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
15342 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
15343 % U+00C6 LATIN CAPITAL LETTER AE; AE
15344 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
15345 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
15346 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
15347 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
15348 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8

15349 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
15350 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
15351 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
15352 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
15353 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
15354 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
15355 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
15356 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
15357 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
15358 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
15359 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
15360 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
15361 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
15362 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF
15363 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
15364 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
15365 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
15366 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
15367 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
15368 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
15369 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
15370 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
15371 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
15372 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4
15373 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
15374 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
15375 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
15376 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6
15377 % U+00D7 MULTIPLICATION SIGN; multiply
15378 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
15379 %* \textmultiply -> \vartimes (stmaryrd)
15380 %* \textmultiply -> \MVMultiplication (marvosym)
15381 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
15382 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
15383 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
15384 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
15385 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
15386 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
15387 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
15388 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB
15389 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
15390 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC
15391 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
15392 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
15393 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)
15394 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
15395 \DeclareTextCommand{\textThorn}{PU}{\80\336}%* U+00DE
15396 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
15397 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
15398 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
15399 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
15400 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
15401 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
15402 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex

15403 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\342}% U+00E2
15404 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
15405 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
15406 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
15407 \DeclareTextCompositeCommand{"}{PU}{a}{\80\344}% U+00E4
15408 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
15409 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
15410 % U+00E6 LATIN SMALL LETTER AE; ae
15411 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
15412 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
15413 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
15414 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
15415 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
15416 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
15417 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
15418 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
15419 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA
15420 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
15421 \DeclareTextCompositeCommand{"}{PU}{e}{\80\353}% U+00EB
15422 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
15423 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
15424 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
15425 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
15426 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
15427 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
15428 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
15429 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
15430 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
15431 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
15432 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF
15433 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF
15434 % U+00F0 LATIN SMALL LETTER ETH; eth
15435 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
15436 %* \dh -> \eth (wsuipa, phonetic)
15437 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
15438 \DeclareTextCompositeCommand{\~}{PU}{n}{\80\361}% U+00F1
15439 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
15440 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2
15441 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
15442 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
15443 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
15444 \DeclareTextCompositeCommand{\^}{PU}{o}{\80\364}% U+00F4
15445 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
15446 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
15447 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
15448 \DeclareTextCompositeCommand{"}{PU}{o}{\80\366}% U+00F6
15449 % U+00F7 DIVISION SIGN; divide
15450 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
15451 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
15452 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
15453 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
15454 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9
15455 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
15456 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA

15457 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 15458 \DeclareTextCompositeCommand{\~}{PU}{u}{\80\373}% U+00FB
 15459 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 15460 \DeclareTextCompositeCommand{\\"}{PU}{u}{\80\374}% U+00FC
 15461 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 15462 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
 15463 % U+00FE LATIN SMALL LETTER THORN; thorn;
 15464 % \th, \thorn (wasysym), \textthorn (tipa)
 15465 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
 15466 \DeclareTextCommand{\textthorn}{PU}{\80\376}%* U+00FE
 15467 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 15468 \DeclareTextCompositeCommand{\\"}{PU}{y}{\80\377}% U+00FF

46.2.4 Latin Extended-A: U+0080 to U+017F

15469 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
 15470 \DeclareTextCompositeCommand{=}{PU}{A}{\81\000}% U+0100
 15471 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
 15472 \DeclareTextCompositeCommand{=}{PU}{a}{\81\001}% U+0101
 15473 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
 15474 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
 15475 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
 15476 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
 15477 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
 15478 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
 15479 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
 15480 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
 15481 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute
 15482 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
 15483 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
 15484 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107
 15485 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
 15486 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108
 15487 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
 15488 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109
 15489 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotac-
 cent
 15490 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
 15491 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
 15492 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
 15493 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
 15494 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
 15495 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
 15496 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
 15497 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
 15498 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
 15499 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
 15500 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
 15501 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
 15502 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
 15503 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron;
 15504 % \textcrd (tipa)
 15505 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
 15506 \DeclareTextCommand{\textcrd}{PU}{\81\021}% U+0111

15507 %* \textcrd -> \crossd (wsuipa)
 15508 % An alternate glyph with the stroke through the bowl:
 15509 %* \textcrd -> \textbard (tipa)
 15510 %* \textcrd -> \bard (wsuipa)
 15511 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
 15512 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112
 15513 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
 15514 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113
 15515 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
 15516 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
 15517 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
 15518 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
 15519 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
 15520 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
 15521 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
 15522 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
 15523 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
 15524 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
 15525 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
 15526 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
 15527 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
 15528 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
 15529 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
 15530 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
 15531 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
 15532 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
 15533 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
 15534 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D
 15535 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
 15536 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
 15537 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
 15538 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
 15539 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotac-
 cent
 15540 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
 15541 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
 15542 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
 15543 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcom-
 maaccent
 15544 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
 15545 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
 15546 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
 15547 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
 15548 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
 15549 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
 15550 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
 15551 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
 15552 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
 15553 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar; \hbar (AmS)
 15554 \DeclareTextCommand{\textthbar}{PU}{\81\047}%* U+0127
 15555 %* \textthbar -> \textcrh (tipa)
 15556 %* \textthbar -> \crossh (wsuipa)
 15557 %* \textthbar -> \planck (phonetic)
 15558 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde

15559 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
15560 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
15561 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
15562 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
15563 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
15564 \DeclareTextCompositeCommand{=} {PU}{I}{\81\052}% U+012A
15565 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
15566 \DeclareTextCompositeCommand{=} {PU}{i}{\81\053}% U+012B
15567 \DeclareTextCompositeCommand{=} {PU}{i}{\81\053}% U+012B
15568 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
15569 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
15570 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
15571 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
15572 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
15573 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
15574 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
15575 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
15576 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
15577 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
15578 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
15579 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
15580 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
15581 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
15582 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
15583 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
15584 % U+0133 LATIN SMALL LIGATURE IJ; ij
15585 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
15586 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex
15587 \DeclareTextCompositeCommand{\^}{PU}{J}{\81\064}% U+0134
15588 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
15589 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
15590 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
15591 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaaccent
15592 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
15593 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
15594 \DeclareTextCompositeCommand{\c}{PU}{k}{\81\067}% U+0137

The canonical name of U+0138, small letter kra, would be `\textkgreenlandic`, following the glyph naming convention. However `latex/base/inputenc.dtx` has choosen `\textkra`.

15595 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
15596 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
15597 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
15598 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
15599 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
15600 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
15601 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaaccent
15602 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
15603 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
15604 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
15605 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
15606 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D

15607 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
 15608 \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.
 15609 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotac-
 cent
 15610 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
 15611 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
 15612 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
 15613 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
 15614 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
 15615 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
 15616 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
 15617 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
 15618 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
 15619 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
 15620 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
 15621 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaac-
 cent
 15622 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
 15623 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
 15624 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
 15625 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
 15626 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
 15627 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
 15628 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
 15629 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napos-
 trophe, quoterightn
 15630 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
 15631 % U+014A LATIN CAPITAL LETTER ENG; Eng
 15632 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
 15633 % U+014B LATIN SMALL LETTER ENG; eng
 15634 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
 15635 %* \ng -> \eng (wsuipa)
 15636 %* \ng -> \engma (phonetic)
 15637 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
 15638 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C
 15639 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
 15640 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D
 15641 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
 15642 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
 15643 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
 15644 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
 15645 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odbla-
 cute, Ohungarumlaut
 15646 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
 15647 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odbla-
 cute, ohungarumlaut
 15648 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
 15649 % U+0152 LATIN CAPITAL LIGATURE OE; OE
 15650 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
 15651 % U+0153 LATIN SMALL LIGATURE OE; oe
 15652 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153

15653 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
 15654 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
 15655 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
 15656 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
 15657 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaac-
 cent
 15658 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
 15659 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
 15660 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
 15661 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
 15662 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
 15663 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
 15664 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
 15665 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
 15666 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A
 15667 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
 15668 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B
 15669 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
 15670 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C
 15671 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
 15672 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D
 15673 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
 15674 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
 15675 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
 15676 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
 15677 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
 15678 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
 15679 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
 15680 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
 15681 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaac-
 cent
 15682 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
 15683 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
 15684 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
 15685 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
 15686 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
 15687 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
 15688 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
 15689 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
 15690 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
 15691 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
 15692 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
 15693 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
 15694 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
 15695 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
 15696 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
 15697 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
 15698 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
 15699 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
 15700 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
 15701 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
 15702 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
 15703 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
 15704 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D

15705 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
 15706 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
 15707 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
 15708 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
 15709 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udbla-
 cute, Uhungarumlaut
 15710 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
 15711 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udbla-
 cute, uhungarumlaut
 15712 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
 15713 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
 15714 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
 15715 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
 15716 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
 15717 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
 15718 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
 15719 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
 15720 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
 15721 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
 15722 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
 15723 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
 15724 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
 15725 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 15726 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
 15727 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
 15728 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
 15729 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
 15730 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A
 15731 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
 15732 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
 15733 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
 15734 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
 15735 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 15736 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
 15737 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 15738 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
 15739 % U+017F LATIN SMALL LETTER LONG S; longs, slong
 15740 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

46.2.5 Latin Extended-B: U+0180 to U+024F

15741 % U+0180 LATIN SMALL LETTER B WITH STROKE; bstroke; \textcrb (tipa)
 15742 \DeclareTextCommand{\textcrb}{PU}{\81\200}% U+0180
 15743 %* \textcrb -> \crossb (wsuipa)
 15744 % An alternate glyph with the stroke through the bowl:
 15745 %* \textcrb -> \textbarb (tipa)
 15746 %* \textcrb -> \barb (wsuipa)
 15747 % U+0181 LATIN CAPITAL LETTER B WITH HOOK; Bhook; \hausab (pho-
 netic)
 15748 \DeclareTextCommand{\texthausab}{PU}{\81\201}%* U+0181
 15749 % U+0188 LATIN SMALL LETTER C WITH HOOK; chook; \texthtc (tipa)
 15750 \DeclareTextCommand{\texthtc}{PU}{\81\210}% U+0188
 15751 % U+018A LATIN CAPITAL LETTER D WITH HOOK; Dhook; \hausad (pho-
 netic)
 15752 \DeclareTextCommand{\texthausad}{PU}{\81\212}%* U+018A

15753 % U+018E LATIN CAPITAL LETTER REVERSED E; Ereversed
15754 \DeclareTextCommand{\textEreversed}{PU}{\81\216}% U+018E
15755 \DeclareTextCommand{\textrevE}{PU}{\81\216}% U+018E
15756 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
15757 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
15758 %* \textflorin -> \Florin (marvosym)
15759 % U+0195 LATIN SMALL LETTER HV; hv; \texthvlig (tipa)
15760 \DeclareTextCommand{\texthvlig}{PU}{\81\225}% U+0195
15761 %* \texthvlig -> \hv (wsuipa)
15762 % U+0198 LATIN CAPITAL LETTER K WITH HOOK; Khook; \hausak (pho-
netic)
15763 \DeclareTextCommand{\texthausak}{PU}{\81\230}%* U+0198
15764 % U+0199 LATIN SMALL LETTER K WITH HOOK; khook; \texthtk (tipa)
15765 \DeclareTextCommand{\texthtk}{PU}{\81\231}% U+0199
15766 %* \texthtk -> \hausak (phonetic)
15767 % U+019A LATIN SMALL LETTER L WITH BAR; lbar;
15768 % \textbarl (tipa), \barl (wsuipa)
15769 \DeclareTextCommand{\textbarl}{PU}{\81\232}%* U+019A
15770 % U+019B LATIN SMALL LETTER LAMBDA WITH STROKE/
15771 % LATIN SMALL LETTER BARRED LAMBDA; lambdastroke;
15772 % \textclambda (tipa)
15773 \DeclareTextCommand{\textclambda}{PU}{\81\233}% U+019B
15774 %* \textclambda -> \crossnilambda (wsuipa)
15775 %* \textclambda -> \barlambd (phonetic)
15776 %* \textclambda -> \lambdabar (txfonts/pxfonts)
15777 %* \textclambda -> \lambdaslash (txfonts/pxfonts)
15778 % U+019E LATIN SMALL LETTER N WITH LONG RIGHT LEG; nlegright-
long;
15779 % \textnrleg (tipx)
15780 \DeclareTextCommand{\textPUnrleg}{PU}{\81\236}% U+019E
15781 %* \textPUnrleg -> \textnrleg (tipx)
15782 % U+01A5 LATIN SMALL LETTER P WITH HOOK; phook; \texthtp (tipa)
15783 \DeclareTextCommand{\texthtp}{PU}{\81\245}% U+01A5
15784 % U+01AB LATIN SMALL LETTER T WITH PALATAL HOOK; tpalatalhook;
15785 % \textlhookt (tipa)
15786 \DeclareTextCommand{\textlhookt}{PU}{\81\253}% U+01AB
15787 % U+01AD LATIN SMALL LETTER T WITH HOOK; thook; \texthtt (tipa)
15788 \DeclareTextCommand{\texthtt}{PU}{\81\255}% U+01AD
15789 % U+01B9 LATIN SMALL LETTER EZH REVERSED/
15790 % LATIN SMALL LETTER REVERSED YOGH; \textrevyogh (tipa)
15791 \DeclareTextCommand{\textrevyogh}{PU}{\81\271}% U+01B9
15792 % U+01BB LATIN LETTER TWO WITH STROKE; twostroke; \textcrtwo (tipa)
15793 \DeclareTextCommand{\textcrtwo}{PU}{\81\273}% U+01BB
15794 % U+01BE LATIN LETTER INVERTED GLOTTAL STOP WITH STROKE;
15795 % glottalinvertedstroke; \textcrinvglotstop (tipa)
15796 \DeclareTextCommand{\textcrinvglotstop}{PU}{\81\276}% U+01BE
15797 % U+01BF LATIN LETTER WYNN; wynn; \textwynn (tipa)
15798 \DeclareTextCommand{\textwynn}{PU}{\81\277}% U+01BF
15799 % U+01C0 LATIN LETTER DENTAL CLICK/LATIN LETTER PIPE; clickden-
tal;
15800 % \textpipe (tipa)
15801 \DeclareTextCommand{\textpipe}{PU}{\81\300}% U+01C0
15802 %* \textpipe -> \textpipevar (tipx)
15803 % U+01C1 LATIN LETTER LATERAL CLICK/LATIN LETTER

15804 % DOUBLE PIPE; clicklateral; \textdoublepipe (tipa)
15805 \DeclareTextCommand{\textdoublepipe}{PU}{\81\301}% U+01C1
15806 %* \textdoublepipe -> \textdoublepipevar (tipx)
15807 % U+01C2 LATIN LETTER ALVEOLAR CLICK/LATIN LETTER PIPE DOUBLE BAR;
15808 % clickalveolar; \textdoublebarpipe (tipa)
15809 \DeclareTextCommand{\textdoublebarpipe}{PU}{\81\302}% U+01C2
15810 %* \textdoublebarpipe -> \textdoublebarpipevar (tipx)
15811 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
15812 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
15813 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
15814 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
15815 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
15816 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
15817 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
15818 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
15819 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
15820 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
15821 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
15822 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
15823 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
15824 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
15825 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
15826 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
15827 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
15828 % U+01DD LATIN SMALL LETTER TURNED E; eturned; \inve (wasysym)
15829 \DeclareTextCommand{\textinve}{PU}{\81\335}%* U+01DD
15830 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke
15831 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
15832 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
15833 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
15834 %* \textgslash -> \textcrg (tipa)
15835 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
15836 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
15837 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
15838 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
15839 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
15840 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
15841 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
15842 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
15843 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
15844 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
15845 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
15846 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
15847 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
15848 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
15849 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
15850 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
15851 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
15852 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
15853 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
15854 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
15855 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8
15856 % U+01F9 LATIN SMALL LETTER N WITH GRAVE

15857 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\371}% U+01F9
15858 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
15859 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC
15860 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
15861 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD
15862 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE;
15863 % *Oslashacute, Ostrokeacut
15864 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE
15865 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE;
15866 % *oslashacute, ostrokeacute
15867 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF
15868 </puenc>
15869 <*puextra>
15870 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
15871 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
15872 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
15873 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
15874 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
15875 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
15876 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
15877 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
15878 </puextra>
15879 <*puenc>
15880 % U+0206 LATIN CAPITAL LETTER E WITH INVERTED BREVE; Einvert-
edbreve
15881 \DeclareTextCompositeCommand{\textinvbreve}{PU}{E}{\82\006}% U+0206
15882 % U+0207 LATIN SMALL LETTER E WITH INVERTED BREVE; einvert-
breve
15883 \DeclareTextCompositeCommand{\textinvbreve}{PU}{e}{\82\007}% U+0207
15884 </puenc>
15885 <*puextra>
15886 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
15887 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
15888 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
15889 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
15890 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
15891 </puextra>
15892 <*puenc>
15893 % U+020A LATIN CAPITAL LETTER I WITH INVERTED BREVE; Iinvert-
breve
15894 \DeclareTextCompositeCommand{\textinvbreve}{PU}{I}{\82\012}% U+020A
15895 % U+020B LATIN SMALL LETTER I WITH INVERTED BREVE; iinvert-
breve
15896 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B
15897 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B
15898 </puenc>
15899 <*puextra>
15900 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
15901 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
15902 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
15903 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
15904 </puextra>
15905 <*puenc>
15906 % U+020E LATIN CAPITAL LETTER O WITH INVERTED BREVE; Oinvert-

edbreve
 15907 \DeclareTextCompositeCommand{\textinvbreve}{PU}{O}{\82\016}% U+020E
 15908 % U+020F LATIN SMALL LETTER O WITH INVERTED BREVE; oinverted-
 breve
 15909 \DeclareTextCompositeCommand{\textinvbreve}{PU}{o}{\82\017}% U+020F
 15910 \puenc)
 15911 (*puextra)
 15912 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
 15913 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
 15914 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
 15915 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
 15916 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
 15917 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
 15918 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
 15919 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
 15920 \puextra)
 15921 (*puenc)
 15922 % U+0216 LATIN CAPITAL LETTER U WITH INVERTED BREVE; Uinvert-
 edbreve
 15923 \DeclareTextCompositeCommand{\textinvbreve}{PU}{U}{\82\026}% U+0216
 15924 % U+0217 LATIN SMALL LETTER U WITH INVERTED BREVE; uinverted-
 breve
 15925 \DeclareTextCompositeCommand{\textinvbreve}{PU}{u}{\82\027}% U+0217
 15926 % U+021E LATIN CAPITAL LETTER H WITH CARON
 15927 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
 15928 % U+021F LATIN SMALL LETTER H WITH CARON
 15929 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
 15930 % U+0221 LATIN SMALL LETTER D WITH CURL; \textctd (tipa)
 15931 \DeclareTextCommand{\textctd}{PU}{\82\041}% U+0221
 15932 % U+0225 LATIN SMALL LETTER Z WITH HOOK; \textcommatailz (tipa)
 15933 \DeclareTextCommand{\textcommatailz}{PU}{\82\045}% U+0225
 15934 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
 15935 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
 15936 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
 15937 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
 15938 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
 15939 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
 15940 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
 15941 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
 15942 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
 15943 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
 15944 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 15945 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 15946 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 15947 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232
 15948 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 15949 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233
 15950 % U+0235 LATIN SMALL LETTER N WITH CURL; \textctn (tipa)
 15951 \DeclareTextCommand{\textctn}{PU}{\82\065}% U+0235
 15952 % U+0236 LATIN SMALL LETTER T WITH CURL; \textctt (tipa)
 15953 \DeclareTextCommand{\textctt}{PU}{\82\066}% U+0236
 15954 % U+0237 LATIN SMALL LETTER DOTLESS J
 15955 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237
 15956 % U+0238 LATIN SMALL LETTER DB DIGRAPH; \textdblig (tipx)

15957 \DeclareTextCommand{\textPUdblig}{PU}{\82\070}% U+0238
 15958 %* \textPUdblig -> \textdblig (tipx)
 15959 % U+0239 LATIN SMALL LETTER QP DIGRAPH; \textqplig (tipx)
 15960 \DeclareTextCommand{\textPUqplig}{PU}{\82\071}% U+0239
 15961 %* \textPUqplig -> \textqplig (tipx)
 15962 % U+023C LATIN SMALL LETTER C WITH STROKE; \slashc (wsuipa)
 15963 \DeclareTextCommand{\textslashc}{PU}{\82\074}%* U+023C
 15964 %* \textslashc -> \textcentoldstyle (textcomp)
 15965 % With bar instead of stroke:
 15966 %* \textslashc -> \textbarc (tipa)

46.2.6 IPA Extensions: U+0250 to U+02AF

15967 % U+0250 LATIN SMALL LETTER TURNED A; aturned; \textturna (tipa)
 15968 \DeclareTextCommand{\textturna}{PU}{\82\120}% U+0250
 15969 %* \textturna -> \inva (wasysym)
 15970 % U+0251 LATIN SMALL LETTER ALPHA/LATIN SMALL LETTER
 15971 % SCRIPT A; ascript; \textscripta (tipa), \scripta (wsuipa)
 15972 \DeclareTextCommand{\textscripta}{PU}{\82\121}%* U+0251
 15973 %* \textscripta -> \vara (phonetic)
 15974 % U+0252 LATIN SMALL LETTER TURNED ALPHA; ascriptturned;
 15975 % \textturnscripta (tipa)
 15976 \DeclareTextCommand{\textturnscripta}{PU}{\82\122}% U+0252
 15977 %* \textturnscripta -> \invscripta (wsuipa)
 15978 %* \textturnscripta -> \rotvara (phonetic)
 15979 % U+0253 LATIN CAPITAL LETTER B WITH HOOK; bhook; \texthtb (tipa)
 15980 \DeclareTextCommand{\texthtb}{PU}{\82\123}% U+0253
 15981 %* \texthtb -> \hookb (wsuipa)
 15982 %* \texthtb -> \hausab (phonetic)
 15983 % U+0254 LATIN SMALL LETTER OPEN O; oopen;
 15984 % \textopeno (tipa), \openo (wasysym)
 15985 \DeclareTextCommand{\textopeno}{PU}{\82\124}%* U+0254
 15986 %* \textopeno -> \varopeno (phonetic)
 15987 % U+0255 LATIN SMALL LETTER C WITH CURL; ccurl; \textctc (tipa)
 15988 \DeclareTextCommand{\textctc}{PU}{\82\125}% U+0255
 15989 %* \textctc -> \curlyc (wsuipa)
 15990 % U+0256 LATIN SMALL LETTER D WITH TAIL; dtail; \textrtaild (tipa)
 15991 \DeclareTextCommand{\textrtaild}{PU}{\82\126}%* U+0256
 15992 %* \textrtaild -> \taild (wsuipa)
 15993 % U+0257 LATIN SMALL LETTER D WITH HOOK; dhook; \texthtd (tipa)
 15994 \DeclareTextCommand{\texthtd}{PU}{\82\127}% U+0257
 15995 %* \texthtd -> \hookd (wsuipa)
 15996 %* \texthtd -> \hausad (phonetic)
 15997 % U+0258 LATIN SMALL LETTER REVERSED E; ereversed;
 15998 % \textreve (tipa), \reve (wsuipa)
 15999 \DeclareTextCommand{\textreve}{PU}{\82\130}%* U+0258
 16000 % U+0259 LATIN SMALL LETTER SCHWA; schwa;
 16001 % \textschwa (tipa), \schwa (wsuipa, phonetic)
 16002 \DeclareTextCommand{\textschwa}{PU}{\82\131}%* U+0259
 16003 % U+025A LATIN SMALL LETTER SCHWA WITH HOOK; schwahook;
 16004 % \textrhookschwa (tipa)
 16005 \DeclareTextCommand{\textrhookschwa}{PU}{\82\132}% U+025A
 16006 %* \textrhookschwa -> \er (wsuipa)
 16007 % U+025B LATIN SMALL LETTER OPEN E/LATIN SMALL LETTER EP-
 SILON; eopen;

16008 % \niepsilon (wsuipa)
16009 \DeclareTextCommand{\textniepsilon}{PU}{\82\133}%* U+025B
16010 %* \textniepsilon -> \epsi (phonetic)
16011 % U+025C LATIN SMALL LETTER REVERSED OPEN E; eopenreversed;
16012 % \textreversedepsilon (tipa), \reversedepsilon (wsuipa)
16013 \DeclareTextCommand{\textreversedepsilon}{PU}{\82\134}%* U+025C
16014 % U+025D LATIN SMALL LETTER REVERSED OPEN E WITH HOOK; eopenreversedhook;
16015 % \texthookreversedepsilon (tipa)
16016 \DeclareTextCommand{\texthookreversedepsilon}{PU}{\82\135}%* U+025D
16017 %* \texthookreversedepsilon -> \hookreversedepsilon (wsuipa)
16018 % U+025E LATIN SMALL LETTER CLOSED REVERSED OPEN E; eopenreversedclosed;
16019 % \textclosedreversedepsilon (tipa)
16020 \DeclareTextCommand{\textclosedreversedepsilon}{PU}{\82\136}% U+025E
16021 %* \textclosedreversedepsilon -> \closedreversedepsilon (wsuipa)
16022 % U+025F LATIN SMALL LETTER DOTLESS J WITH STROKE; jdotlessstroke;
16023 % \textbardotlessj (tipa)
16024 \DeclareTextCommand{\textbardotlessj}{PU}{\82\137}% U+025F
16025 %* \textbardotlessj -> \barj (phonetic)
16026 % U+0260 LATIN SMALL LETTER G WITH HOOK; ghook; \texthtg (tipa)
16027 \DeclareTextCommand{\texthtg}{PU}{\82\140}% U+0260
16028 %* \texthtg -> \hookg (wsuipa)
16029 % U+0261 LATIN SMALL LETTER SCRIPT G; gscript;
16030 % \textscriptg (tipa), \scriptg (wsuipa)
16031 \DeclareTextCommand{\textscriptg}{PU}{\82\141}%* U+0261
16032 %* \textscriptg -> \varg (phonetic)
16033 % U+0262 LATIN LETTER SMALL CAPITAL G; \textscg (tipa), \scg (wsuipa)
16034 \DeclareTextCommand{\textscg}{PU}{\82\142}%* U+0262
16035 % U+0263 LATIN SMALL LETTER GAMMA; gammalatinsmall;
16036 % \ipagamma (wsuipa), \vod (phonetic)
16037 \DeclareTextCommand{\textipagamma}{PU}{\82\143}%* U+0263
16038 %* \textipagamma -> \vod (pnonetic)
16039 % U+0264 LATIN SMALL LETTER RAMS HORN; ramshorn;
16040 % \babygamma (wsuipa)
16041 \DeclareTextCommand{\textbabygamma}{PU}{\82\144}%* U+0264
16042 % U+0265 LATIN SMALL LETTER TURNED H; hturned; \textturnh (tipa)
16043 \DeclareTextCommand{\textturnh}{PU}{\82\145}% U+0265
16044 %* \textturnh -> \invh (wsuipa)
16045 %* \textturnh -> \udesc (phonetic)
16046 % U+0266 LATIN SMALL LETTER H WITH HOOK; hhook; \texthth (tipa)
16047 \DeclareTextCommand{\texthth}{PU}{\82\146}% U+0266
16048 %* \texthth -> \hookh (wsuipa)
16049 %* \texthth -> \voicedh (phonetic)
16050 % U+0267 LATIN SMALL LETTER HENG WITH HOOK; henghook; \textheng (tipa)
16051 \DeclareTextCommand{\textheng}{PU}{\82\147}% U+0267
16052 %* \textheng -> \hookheng (wsuipa)
16053 % U+0268 LATIN SMALL LETTER I WITH STROKE;
16054 % \textbari (tipa), \bari (wsuipa)
16055 \DeclareTextCommand{\textbari}{PU}{\82\150}%* U+0268
16056 %* \textbari -> \ibar (phonetic)
16057 % U+0269 LATIN SMALL LETTER IOTA; iotalatin; \niota (wsuipa)

16058 \DeclareTextCommand{\textnniota}{PU}{\82\151}%* U+0269
16059 %* \textnniota -> \vari (phonetic)
16060 % U+026A LATIN LETTER SMALL CAPITAL I; \textsci (tipa), \sci (wsuipa)
16061 \DeclareTextCommand{\textsci}{PU}{\82\152}%* U+026A
16062 % U+026B LATIN SMALL LETTER L WITH MIDDLE TILDE; \lmiddletilde;
16063 % \textltilde (tipa)
16064 \DeclareTextCommand{\textltilde}{PU}{\82\153}% U+026B
16065 %* \textltilde -> \tildel (wsuipa)
16066 % U+026C LATIN SMALL LETTER L WITH BELT; \lbelt; \textbeltl (tipa)
16067 \DeclareTextCommand{\textbeltl}{PU}{\82\154}% U+026C
16068 %* \textbeltl -> \latfric (wsuipa)
16069 % U+026D LATIN SMALL LETTER L WITH RETROFLEX HOOK;
16070 % \lhookretroflex; \textrtail (tipa)
16071 \DeclareTextCommand{\textrtail}{PU}{\82\155}% U+026D
16072 %* \textrtail -> \taill (wsuipa)
16073 % U+026E LATIN SMALL LETTER LEZH; \lezh; \textlyoghlig (tipa)
16074 \DeclareTextCommand{\textlyoghlig}{PU}{\82\156}% U+026E
16075 %* \textlyoghlig -> \lz (wsuipa)
16076 % U+026F LATIN SMALL LETTER TURNED M; \mturned; \textturnm (tipa)
16077 \DeclareTextCommand{\textturnm}{PU}{\82\157}% U+026F
16078 %* \textturnm -> \invm (wsuipa)
16079 %* \textturnm -> \rotm (phonetic)
16080 % U+0270 LATIN SMALL LETTER TURNED M WITH LONG LEG; \mlongleg-
turned;
16081 % \textturnmrl (tipa)
16082 \DeclareTextCommand{\textturnmrl}{PU}{\82\160}% U+0270
16083 %* \textturnmrl -> \legm (wsuipa)
16084 % U+0271 LATIN SMALL LETTER M WITH HOOK; \mhook; \textltailm (tipa)
16085 \DeclareTextCommand{\textltailm}{PU}{\82\161}% U+0271
16086 %* \textltailm -> \labdentalnas (wsuipa)
16087 %* \textltailm -> \emgma (phonetic)
16088 % U+0272 LATIN SMALL LETTER N WITH LEFT HOOK; \nhookleft; \textl-
tailn (tipa)
16089 \DeclareTextCommand{\textltailn}{PU}{\82\162}% U+0272
16090 %* \textltailn -> \nj (wsuipa)
16091 %* \textltailn -> \nya (phonetic)
16092 % U+0273 LATIN SMALL LETTER N WITH RETROFLEX HOOK;
16093 % \nhookretroflex; \textrtailn (tipa)
16094 \DeclareTextCommand{\textrtailn}{PU}{\82\163}% U+0273
16095 %* \textrtailn -> \tailn (wsuipa)
16096 % U+0274 LATIN LETTER SMALL CAPITAL N; \textscn (tipa), \scn (wsuipa)
16097 \DeclareTextCommand{\textscn}{PU}{\82\164}%* U+0274
16098 % U+0275 LATIN CAPITAL LETTER O WITH MIDDLE TILDE/
16099 % LATIN CAPITAL LETTER BARRED O; \obarred;
16100 % \textbaro (tipa), \baro (wsuipa)
16101 % But \baro from stmaryrd is different!
16102 \DeclareTextCommand{\textbaro}{PU}{\82\165}% U+0275
16103 % U+0276 LATIN LETTER SMALL CAPITAL OE; \textscelig (tipa)
16104 \DeclareTextCommand{\textscelig}{PU}{\82\166}% U+0276
16105 % U+0277 LATIN SMALL LETTER CLOSED OMEGA; \omegalatinclosed;
16106 % \textcloseomega (tipa)
16107 \DeclareTextCommand{\textcloseomega}{PU}{\82\167}% U+0277
16108 %* \textcloseomega -> \closedniomega (wsuipa)
16109 %* \textcloseomega -> \varomega (phonetic)

16110 % U+0278 LATIN SMALL LETTER PHI; philatin; \nphi (wsuipa)
16111 \DeclareTextCommand{\textnphi}{PU}{\82\170}%* U+0278
16112 % U+0279 LATIN SMALL LETTER TURNED R; rturned; \textturnr (tipa)
16113 \DeclareTextCommand{\textturnr}{PU}{\82\171}% U+0279
16114 %* \textturnr -> \invr (wsuipa)
16115 %* \textturnr -> \rotr (phonetic)
16116 % U+027A LATIN SMALL LETTER TURNED R WITH LONG LEG;
16117 % rlonglegturned; \textturnlongleg (tipa)
16118 \DeclareTextCommand{\textturnlongleg}{PU}{\82\172}% U+027A
16119 %* \textturnlongleg -> \invleg (wsuipa)
16120 % U+027B LATIN SMALL LETTER TURNED R WITH HOOK; rhocturned;
16121 % \textturnrrtail (tipa)
16122 \DeclareTextCommand{\textturnrrtail}{PU}{\82\173}% U+027B
16123 %* \textturnrrtail -> \tailinvr (wsuipa)
16124 % U+027C LATIN SMALL LETTER R WITH LONG LEG; rlongleg; \textlong-
leg (tipa)
16125 \DeclareTextCommand{\textlongleg}{PU}{\82\174}%* U+027C
16126 %* \textlongleg -> \leg (wsuipa)
16127 % U+027D LATIN SMALL LETTER R WITH TAIL; rhoct; \textrtailr (tipa)
16128 \DeclareTextCommand{\textrtailr}{PU}{\82\175}% U+027D
16129 %* \textrtailr -> \tailr (wsuipa)
16130 % U+027E LATIN SMALL LETTER R WITH FISHHOOK; rfishhook;
16131 % \textfishhookr (tipa)
16132 \DeclareTextCommand{\textfishhookr}{PU}{\82\176}% U+027E
16133 %* \textfishhookr -> \flapr (wsuipa)
16134 %* \textfishhookr -> \flap (phonetic)
16135 % U+027F LATIN SMALL LETTER REVERSED R WITH FISHHOOK; rfish-
hookreversed;
16136 % \textlhtlongi (tipa)
16137 \DeclareTextCommand{\textlhtlongi}{PU}{\82\177}% U+027F
16138 % U+0280 LATIN LETTER SMALL CAPITAL R; \textscr (tipa), \scr (wsuipa)
16139 \DeclareTextCommand{\textscr}{PU}{\82\200}%* U+0280
16140 % U+0281 LATIN LETTER SMALL CAPITAL INVERTED R; Rsmallinverted;
16141 % \textinvscr (tipa), \invscr (wsuipa)
16142 \DeclareTextCommand{\textinvscr}{PU}{\82\201}%* U+0281
16143 % U+0282 LATIN SMALL LETTER S WITH HOOK; shook; \textrtails (tipa)
16144 \DeclareTextCommand{\textrtails}{PU}{\82\202}% U+0282
16145 %* \textrtails -> \tails (wsuipa)
16146 % U+0283 LATIN SMALL LETTER ESH; esh; \textesh (tipa), \esh (wsuipa)
16147 \DeclareTextCommand{\textesh}{PU}{\82\203}%* U+0283
16148 % U+0284 LATIN SMALL LETTER DOTLESS J WITH STROKE AND HOOK;
16149 % dotlessjstrokehook; \texthtbardotlessj (tipa)
16150 \DeclareTextCommand{\texthtbardotlessj}{PU}{\82\204}% U+0284
16151 % U+0285 LATIN SMALL LETTER SQUAT REVERSED ESH; eshsquat-
reversed;
16152 % \textvibyi (tipa)
16153 \DeclareTextCommand{\textvibyi}{PU}{\82\205}% U+0285
16154 % U+0286 LATIN SMALL LETTER ESH WITH CURL; eshcurl; \textctesh (tipa)
16155 \DeclareTextCommand{\textctesh}{PU}{\82\206}% U+0286
16156 %* \textctesh -> \curlyesh (wsuipa)
16157 % U+0287 LATIN SMALL LETTER TURNED T; tturned; \textturnt (tipa)
16158 \DeclareTextCommand{\textturnt}{PU}{\82\207}% U+0287
16159 %* \textturnt -> \clickt (wsuipa)
16160 % U+0288 LATIN SMALL LETTER T WITH RETROFLEX HOOK; retroflex-

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hook;
16161 % \texttrtail (tipa)
16162 \DeclareTextCommand{\texttrtail}{PU}{\82\210}% U+0288
16163 %* \texttrtail -> \tail (wsuipa)
16164 % U+0289 LATIN SMALL LETTER U BAR; ubar;
16165 % \textbaru (tipa), \baru (wsuipa)
16166 \DeclareTextCommand{\textbaru}{PU}{\82\211}%* U+0289
16167 %* \textbaru -> \ubar (phonetic)
16168 % U+028A LATIN SMALL LETTER UPSILON; \niupsilon (wsuipa)
16169 \DeclareTextCommand{\textniupsilon}{PU}{\82\212}%* U+028A
16170 %* \textniupsilon -> \rotOmega (phonetic)
16171 % U+028B LATIN SMALL LETTER V WITH HOOK/LATIN SMALL LET-
TER SCRIPT V;
16172 % vhook; \textscriptv (tipa), \scriptv (wsuipa)
16173 \DeclareTextCommand{\textscriptv}{PU}{\82\213}%* U+028B
16174 % U+028C LATIN SMALL LETTER TURNED V; vturned; \textturnv (tipa)
16175 \DeclareTextCommand{\textturnv}{PU}{\82\214}%* U+028C
16176 %* \textturnv -> \invv (wsuipa)
16177 %* \textturnv -> \pwedge (phonetic)
16178 % U+028D LATIN SMALL LETTER TURNED W; wturned; \textturnw (tipa)
16179 \DeclareTextCommand{\textturnw}{PU}{\82\215}%* U+028D
16180 %* \textturnw -> \invw (wsuipa)
16181 %* \textturnw -> \rotw (phonetic)
16182 % U+028E LATIN SMALL LETTER TURNED Y; yturned; \textturny (tipa)
16183 \DeclareTextCommand{\textturny}{PU}{\82\216}%* U+028E
16184 %* \textturny -> \invy (wsuipa)
16185 %* \textturny -> \roty (phonetic)
16186 % U+028F LATIN LETTER SMALL CAPITAL Y; \textscy (tipa), \scy (wsuipa)
16187 \DeclareTextCommand{\textscy}{PU}{\82\217}%* U+028F
16188 % U+0290 LATIN SMALL LETTER Z WITH RETROFLEX HOOK; zretroflex-
hook;
16189 % \textrtailz (tipa)
16190 \DeclareTextCommand{\textrtailz}{PU}{\82\220}% U+0290
16191 %* \textrtailz -> \tailz (wsuipa)
16192 % U+0291 LATIN SMALL LETTER Z WITH CURL; zcurl; \textctz (tipa)
16193 \DeclareTextCommand{\textctz}{PU}{\82\221}% U+0291
16194 %* \textctz -> \curlyz (wsuipa)
16195 % U+0292 LATIN SMALL LETTER EZH/LATIN SMALL LETTER YOGH; ezh;
16196 % \textyogh (tipa), \yogh (wsuipa)
16197 \DeclareTextCommand{\textyogh}{PU}{\82\222}%* U+0292
16198 % U+0293 LATIN SMALL LETTER EZH WITH CURL/LATIN SMALL LET-
TER YOGH CURL;
16199 % ezhcurl; \textctyogh (tipa)
16200 \DeclareTextCommand{\textctyogh}{PU}{\82\223}% U+0293
16201 %* \textctyogh -> \curlyyogh (wsuipa)
16202 % U+0294 LATIN LETTER GLOTTAL STOP; glottalstop;
16203 % \textglotstop (tipa), \glotstop (wsuipa)
16204 \DeclareTextCommand{\textglotstop}{PU}{\82\224}%* U+0294
16205 %* \textglotstop -> \ejective (wsuipa)
16206 %* \textglotstop -> \glottal (phonetic)
16207 % U+0295 LATIN LETTER PHARYNGEAL VOICED FRICATIVE/
16208 % LATIN LETTER REVERSED GLOTTAL STOP; glottalstopreversed;
16209 % \textrevglotstop (tipa), \revglotstop (wsuipa)
16210 \DeclareTextCommand{\textrevglotstop}{PU}{\82\225}%* U+0295

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16211 %* \textrevglotstop -> \reveject (wsuipa)
16212 % U+0296 LATIN LETTER INVERTED GLOTTAL STOP; glottalstopinverted;
16213 % \textinvglotstop (tipa), \invglotstop (wsuipa)
16214 \DeclareTextCommand{\textinvglotstop}{PU}{\82\226}%* U+0296
16215 % U+0297 LATIN LETTER STRETCHED C; cstretched; \textstretchc (tipa)
16216 \DeclareTextCommand{\textstretchc}{PU}{\82\227}% U+0297
16217 %* \textstretchc -> \clickc (wsuipa)
16218 %* \textstretchc -> \textstretchcvar (tipx)
16219 % U+0298 LATIN LETTER BILABIAL CLICK; bilabialclick;
16220 % \textbullseye (tipa)
16221 \DeclareTextCommand{\textbullseye}{PU}{\82\230}% U+0298
16222 %* \textbullseye -> \clickb (wsuipa)
16223 %* \textbullseye -> \textObullseye (tipx)
16224 % U+0299 LATIN LETTER SMALL CAPITAL B; \textscb (tipa)
16225 \DeclareTextCommand{\textscb}{PU}{\82\231}% U+0299
16226 % U+029A LATIN SMALL LETTER CLOSED OPEN E; eopenclosed;
16227 % \textcloseepsilon (tipa)
16228 \DeclareTextCommand{\textcloseepsilon}{PU}{\82\232}% U+029A
16229 % U+029B LATIN LETTER SMALL CAPITAL G WITH HOOK; Gsmallhook;
16230 % \texthtscg (tipa)
16231 \DeclareTextCommand{\texthtscg}{PU}{\82\233}% U+029B
16232 % U+029C LATIN LETTER SMALL CAPITAL H; \textsch (tipa)
16233 \DeclareTextCommand{\textsch}{PU}{\82\234}% U+029C
16234 % U+029D LATIN SMALL LETTER J WITH CROSSED-TAIL; jcros-
tail; \textcdj (tipa)
16235 \DeclareTextCommand{\textctj}{PU}{\82\235}% U+029D
16236 %* \textctj -> \textctjvar (tipx)
16237 % U+029E LATIN SMALL LETTER TURNED K; kturned; \textturnk (tipa)
16238 \DeclareTextCommand{\textturnk}{PU}{\82\236}% U+029E
16239 %* \textturnk -> \textturnsck (tipx)
16240 % U+029F LATIN LETTER SMALL CAPITAL L; \textscl (tipa)
16241 \DeclareTextCommand{\textscl}{PU}{\82\237}% U+029F
16242 % U+02A0 LATIN SMALL LETTER Q WITH HOOK; qhook; \texthtq (tipa)
16243 \DeclareTextCommand{\texthtq}{PU}{\82\240}% U+02A0
16244 % U+02A1 LATIN LETTER GLOTTAL STOP WITH STROKE; glottalstop-
stroke;
16245 % \textbarglotstop (tipa)
16246 \DeclareTextCommand{\textbarglotstop}{PU}{\82\241}% U+02A1
16247 % U+02A2 LATIN LETTER REVERSED GLOTTAL STOP WITH STROKE/
16248 % LATIN LETTER REVERSED GLOTTAL STOP BAR; glottalstopstrokere-
versed;
16249 % \textbarrevglotstop (tipa)
16250 \DeclareTextCommand{\textbarrevglotstop}{PU}{\82\242}% U+02A2
16251 % U+02A3 LATIN SMALL LETTER DZ DIGRAPH; dzaltone; \textdzlig (tipa)
16252 \DeclareTextCommand{\textdzlig}{PU}{\82\243}% U+02A3
16253 %* \textdzlig -> \dz (wsupipa)
16254 % U+02A4 LATIN SMALL LETTER DEZH DIGRAPH; dezh; \textdyogh-
lig (tipa)
16255 \DeclareTextCommand{\textdyoghlig}{PU}{\82\244}% U+02A4
16256 % U+02A5 LATIN SMALL LETTER DZ DIGRAPH WITH CURL; dzcurl;
16257 % \textdctzlig (tipa)
16258 \DeclareTextCommand{\textdctzlig}{PU}{\82\245}% U+02A5
16259 % U+02A6 LATIN SMALL LETTER TS DIGRAPH; ts; \texttslig (tipa)
16260 \DeclareTextCommand{\texttslig}{PU}{\82\246}% U+02A6

16261 % U+02A7 LATIN SMALL LETTER TESH DIGRAPH; tesh; \texttreshlig (tipa)
 16262 \DeclareTextCommand{\texttreshlig}{PU}{\82\247}% U+02A7
 16263 %* \texttreshlig -> \tesh (wsuipa)
 16264 % U+02A8 LATIN SMALL LETTER TC DIGRAPH WITH CURL; tccurl;
 16265 % \texttctclig (tipa)
 16266 \DeclareTextCommand{\texttctclig}{PU}{\82\250}% U+02A8
 16267 % U+02AE LATIN SMALL LETTER TURNED H WITH FISHHOOK;
 16268 % \textlhtlongy (tipa)
 16269 \DeclareTextCommand{\textlhtlongy}{PU}{\82\256}% U+02AE
 16270 % U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;
 16271 % \textvibyy (tipa)
 16272 \DeclareTextCommand{\textvibyy}{PU}{\82\257}% U+02AF

46.2.7 Spacing Modifier Letters: U+02B0 to U+02FF

16273 % U+02BD MODIFIER LETTER REVERSED COMMA;
 16274 % commareversedmod, afi64937; \textrevapostrophe (tipa)
 16275 \DeclareTextCommand{\textrevapostrophe}{PU}{\82\275}% U+02BD
 16276 % U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;
 16277 % \textraseglotstop (tipa)
 16278 \DeclareTextCommand{\textraseglotstop}{PU}{\82\300}% U+02C0
 16279 % U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;
 16280 % \textlptr (tipa)
 16281 \DeclareTextCommand{\textlptr}{PU}{\82\302}% U+02C2
 16282 % U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;
 16283 % \textrptr (tipa)
 16284 \DeclareTextCommand{\textrptr}{PU}{\82\303}% U+02C3
 16285 % U+02C7 CARON; caron
 16286 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7
 16287 % U+02C8 MODIFIER LETTER VERTICAL LINE; verticallinemod;
 16288 % \textprimstress (tipa)
 16289 \DeclareTextCommand{\textprimstress}{PU}{\82\310}% U+02C8
 16290 % U+02CC MODIFIER LETTER LOW VERTICAL LINE; verticallinelowmod;
 16291 % \textsecstress (tipa)
 16292 \DeclareTextCommand{\textsecstress}{PU}{\82\314}% U+02CC
 16293 % U+02D0 MODIFIER LETTER TRIANGULAR COLON; colontriangularmod;
 16294 % \textlengthmark (tipa)
 16295 \DeclareTextCommand{\textlengthmark}{PU}{\82\320}% U+02D0
 16296 % U+02D1 MODIFIER LETTER HALF TRIANGULAR COLON; colontriangu-
 larhalfmod;
 16297 % \texthalflength (tipa)
 16298 \DeclareTextCommand{\texthalflength}{PU}{\82\321}% U+02D1
 16299 % U+02D8 BREVE; breve
 16300 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
 16301 % U+02D9 DOT ABOVE; dotaccent
 16302 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
 16303 % U+02DA RING ABOVE; ring
 16304 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
 16305 % U+02DB OGONEK; ogonek
 16306 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
 16307 % U+02DC SMALL TILDE; ilde, *tilde
 16308 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
 16309 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
 16310 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
 16311 \DeclareTextCommand{\textacutedbl}{PU}{\82\335}% U+02DD

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16312 % U+02F3 MODIFIER LETTER LOW RING
16313 \DeclareTextCommand{\textringlow}{PU}{\82\363}% U+02F3
16314 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
16315 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
16316 % U+02F7 MODIFIER LETTER LOW TILDE
16317 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7
16318 % U+02F9 MODIFIER LETTER BEGIN HIGH TONE; \textopencorner (tipa)
16319 \DeclareTextCommand{\textopencorner}{PU}{\82\371}% U+02F9
16320 % U+02FA MODIFIER LETTER END HIGH TONE; \textcorner (tipa)
16321 \DeclareTextCommand{\textcorner}{PU}{\82\372}% U+02FA

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46.2.8 Combining Diacritical Marks: U+0300 to U+036F

```

16322 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
16323 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
16324 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
16325 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
16326 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
16327 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
16328 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
16329 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
16330 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-
      blecmb
16331 \DeclareTextCommand{\texttie}{PU}{\83\141}% U+0361

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46.2.9 Greek and Coptic: U+0370 to U+03FF

Greek is only loaded if \textBeta is defined.

```

16332 \ifx\textBeta\@undefined \else
16333 \input{puenc-greek.def}
16334 \fi
16335 </puenc>

```

46.2.10 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.

```

16336 <*puenc>
16337 \ifx\CYRDZE\@undefined \else
16338 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
16339 \DeclareTextCompositeCommand{\`}{PU}{\CYRE}{\84\000}% U+0400
16340 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrrilic, *afi10023
16341 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
16342 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% U+0401
16343 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afi10051
16344 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
16345 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afi10052
16346 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
16347 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrrilic, *afi10053
16348 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
16349 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afi10054
16350 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
16351 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I;
16352 % Icyrrilic, *afi10055
16353 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406

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16354 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
16355 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
16356 \DeclareTextCompositeCommand{\CYRII}{PU}{\84\007}% U+0407
16357 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057
16358 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
16359 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
16360 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
16361 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
16362 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
16363 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
16364 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
16365 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
16366 \DeclareTextCompositeCommand{\CYRK}{PU}{\84\014}% U+040C
16367 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
16368 \DeclareTextCompositeCommand{\CYRI}{PU}{\84\015}% U+040D
16369 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, *afii10062
16370 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
16371 \DeclareTextCompositeCommand{\CYRU}{PU}{\84\016}% U+040E
16372 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
16373 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
16374 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
16375 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
16376 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
16377 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
16378 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
16379 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
16380 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
16381 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
16382 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
16383 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
16384 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
16385 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
16386 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
16387 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
16388 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
16389 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
16390 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
16391 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
16392 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
16393 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
16394 \DeclareTextCompositeCommand{\CYRI}{PU}{\84\031}% U+0419
16395 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
16396 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
16397 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
16398 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
16399 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
16400 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
16401 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
16402 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
16403 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
16404 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
16405 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
16406 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
16407 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034

16408 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
16409 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
16410 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
16411 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036
16412 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
16413 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
16414 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
16415 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
16416 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
16417 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
16418 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
16419 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
16420 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
16421 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
16422 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
16423 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
16424 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
16425 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
16426 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
16427 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN;
16428 % Hardsigncyrillic, *afii10044
16429 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
16430 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
16431 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
16432 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN;
16433 % Softsigncyrillic, *afii10046
16434 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
16435 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047
16436 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
16437 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
16438 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
16439 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049
16440 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
16441 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
16442 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
16443 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
16444 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
16445 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
16446 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
16447 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
16448 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433
16449 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
16450 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
16451 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
16452 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
16453 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhacyrillic
16454 \DeclareTextCommand{\cyrz}{PU}{\84\066}% U+0436
16455 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
16456 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
16457 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic
16458 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
16459 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
16460 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
16461 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439

16462 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
16463 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
16464 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
16465 \DeclareTextCommand{\cyrl}{PU}{\84\073}% U+043B
16466 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
16467 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C
16468 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
16469 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
16470 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
16471 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
16472 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
16473 \DeclareTextCommand{\cyrf}{PU}{\84\077}% U+043F
16474 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
16475 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440
16476 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
16477 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441
16478 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
16479 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442
16480 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
16481 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443
16482 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
16483 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444
16484 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
16485 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445
16486 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
16487 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446
16488 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
16489 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447
16490 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
16491 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448
16492 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic
16493 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449
16494 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyril-
lic
16495 \DeclareTextCommand{\cyrhdsn}{PU}{\84\112}% U+044A
16496 %* \cyrhdsn -> \hardsign (tipa)
16497 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
16498 \DeclareTextCommand{\cyry}{PU}{\84\113}% U+044B
16499 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
16500 \DeclareTextCommand{\cyrsftsn}{PU}{\84\114}% U+044C
16501 %* \cyrsftsn -> \softsign (tipa)
16502 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
16503 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D
16504 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
16505 \DeclareTextCommand{\cyryu}{PU}{\84\116}% U+044E
16506 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
16507 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F
16508 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
16509 \DeclareTextCompositeCommand{\`}{PU}{\cyre}{\84\120}% U+0450
16510 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic
16511 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451
16512 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451
16513 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
16514 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452

16515 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
 16516 \DeclareTextCompositeCommand{\'}{PU}{\cyr}{\84\123}% U+0453
 16517 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
 16518 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454
 16519 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
 16520 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455
 16521 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I;
 16522 % *afii10103, icyrillic
 16523 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456
 16524 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic
 16525 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457
 16526 \DeclareTextCompositeCommand{\"}{PU}{\cyrii}{\84\127}% U+0457
 16527 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
 16528 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458
 16529 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
 16530 \DeclareTextCommand{\cyrlje}{PU}{\84\131}% U+0459
 16531 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
 16532 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A
 16533 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
 16534 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B
 16535 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
 16536 \DeclareTextCompositeCommand{\'}{PU}{\cyrk}{\84\134}% U+045C
 16537 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
 16538 \DeclareTextCompositeCommand{\`}{PU}{\cyri}{\84\135}% U+045D
 16539 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
 16540 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
 16541 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
 16542 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
 16543 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F
 16544 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
 16545 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
 16546 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic
 16547 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
 16548 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
 16549 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
 16550 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
 16551 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463
 16552 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic
 16553 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
 16554 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic
 16555 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
 16556 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic
 16557 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
 16558 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic
 16559 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
 16560 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslittlei-
 otifiedcyrillic
 16561 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
 16562 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslittleioti-
 fiedcyrillic
 16563 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
 16564 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
 16565 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
 16566 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic

16567 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
 16568 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-cyrillic
 16569 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C
 16570 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-cyrillic
 16571 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
 16572 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
 16573 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
 16574 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
 16575 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
 16576 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
 16577 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
 16578 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
 16579 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
 16580 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
 16581 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
 16582 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
 16583 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473
 16584 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
 16585 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
 16586 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
 16587 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
 16588 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE
 16589 % GRAVE ACCENT; Izhitsadblgravecyrillic
 16590 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
 16591 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE
 16592 % GRAVE ACCENT; izhitsadblgravecyrillic
 16593 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
 16594 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
 16595 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
 16596 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
 16597 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
 16598 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic
 16599 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
 16600 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
 16601 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
 16602 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic
 16603 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
 16604 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic
 16605 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
 16606 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
 16607 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
 16608 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
 16609 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
 16610 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
 16611 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
 16612 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
 16613 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
 16614 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic
 16615 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482

\84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrillicmb
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalization-cyrillicmb
 \84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneumatacyrillicmb
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumat-acyrillicmb
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN
 16616 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 16617 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 16618 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 16619 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 16620 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
 16621 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
 16622 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
 16623 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
 16624 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
 16625 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
 16626 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
 16627 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
 16628 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-cyrillic, *afii10050
 16629 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
 16630 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, gheupturncyrillic
 16631 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
 16632 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-cyrillic
 16633 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
 16634 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
 16635 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
 16636 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK;
 16637 % Ghemiddlehookcyrillic
 16638 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
 16639 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK;
 16640 % ghemiddlehookcyrillic
 16641 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
 16642 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER;
 16643 % Zhedescendercyrillic
 16644 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
 16645 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER;
 16646 % zhedescendercyrillic
 16647 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
 16648 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescendercyrillic
 16649 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
 16650 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
 16651 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescendercyrillic
 16652 \DeclareTextCommand{\cyrzdsc}{PU}{\84\231}% U+0499
 16653 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499

16654 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescendercyrillic
 16655 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A
 16656 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadescendercyrillic
 16657 \DeclareTextCommand{\cyrkdesc}{PU}{\84\233}% U+049B
 16658 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE;
 16659 % Kavertikalstrokecyrillic
 16660 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
 16661 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE;
 16662 % kavertikalstrokecyrillic
 16663 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
 16664 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
 16665 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
 16666 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
 16667 \DeclareTextCommand{\cyrkhcrs}{PU}{\84\237}% U+049F
 16668 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
 16669 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
 16670 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
 16671 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
 16672 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescendercyrillic
 16673 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
 16674 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescendercyrillic
 16675 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
 16676 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
 16677 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
 16678 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
 16679 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
 16680 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemiddlehookcyrillic
 16681 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
 16682 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddlehookcyrillic
 16683 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
 16684 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyrillic
 16685 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
 16686 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
 16687 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
 16688 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescendercyrillic
 16689 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
 16690 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA
 16691 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescendercyrillic
 16692 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
 16693 \DeclareTextCompositeCommand{\k}{PU}{\cyrs}{\84\253}% U+04AB
 16694 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescendercyrillic
 16695 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
 16696 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescendercyrillic

16697 \DeclareTextCommand{\cyrttdsc}{PU}{\84\255}% U+04AD
16698 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
16699 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE
16700 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
16701 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF
16702 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Ustraightstrokecyrillic
16703 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
16704 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; ustraightstrokecyrillic
16705 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1
16706 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesccendercyrillic
16707 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
16708 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescendercyrillic
16709 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3
16710 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
16711 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
16712 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
16713 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5
16714 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER;
16715 % Chedescendercyrillic
16716 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
16717 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescendercyrillic
16718 \DeclareTextCommand{\cyrchrdsc}{PU}{\84\267}% U+04B7
16719 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE;
16720 % Cheverticalstrokecyrillic
16721 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
16722 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE;
16723 % cheverticalstrokecyrillic
16724 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
16725 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
16726 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
16727 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
16728 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
16729 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasiancyrillic
16730 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
16731 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyrillic
16732 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
16733 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCENDER; Chedescenderabkhasiancyrillic
16734 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
16735 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
16736 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCENDER; chedescenderabkhasiancyrillic
16737 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF
16738 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
16739 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
16740 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
16741 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic

16742 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
 16743 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
 16744 \DeclareTextCompositeCommand{\U}{PU}{\cyrgyz}{\84\302}% U+04C2
 16745 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
 16746 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
 16747 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
 16748 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
 16749 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
 16750 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
 16751 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
 16752 \DeclareTextCommand{\cyrlldsc}{PU}{\84\306}% U+04C6
 16753 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
 16754 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
 16755 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
 16756 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
 16757 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakas-
 siancyrillic
 16758 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
 16759 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-
 cyrillic
 16760 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
 16761 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
 16762 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
 16763 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
 16764 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
 \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
 16765 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic
 16766 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
 16767 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic
 16768 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
 16769 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyril-
 lic
 16770 \DeclareTextCompositeCommand{"}{PU}{\CYRA}{\84\322}% U+04D2
 16771 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic
 16772 \DeclareTextCompositeCommand{"}{PU}{\cyra}{\84\323}% U+04D3
 16773 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic
 16774 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
 16775 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic
 16776 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
 16777 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevecyrillic
 16778 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
 16779 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevecyrillic
 16780 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
 16781 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic
 16782 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
 16783 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrillic
 16784 \DeclareTextCommand{\cyrswa}{PU}{\84\331}% U+04D9
 16785 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS;
 16786 % Schwadiesiscyrillic
 16787 \DeclareTextCompositeCommand{"}{PU}{\CYRSCHWA}{\84\332}% U+04DA
 16788 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS;
 16789 % schwadiesiscyrillic
 16790 \DeclareTextCompositeCommand{"}{PU}{\cyrswa}{\84\333}% U+04DB
 16791 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-

siscyrillic
 16792 \DeclareTextCompositeCommand{"}{PU}{\CYRZH}{\84\334}% U+04DC
 16793 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-
 cyrillic
 16794 \DeclareTextCompositeCommand{"}{PU}{\cyrzh}{\84\335}% U+04DD
 16795 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-
 cyrillic
 16796 \DeclareTextCompositeCommand{"}{PU}{\CYRZ}{\84\336}% U+04DE
 16797 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresiscyril-
 lic
 16798 \DeclareTextCompositeCommand{"}{PU}{\cyrz}{\84\337}% U+04DF
 16799 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-
 cyrillic
 16800 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0
 16801 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasiancyril-
 lic
 16802 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1
 16803 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Imacroncyrillic
 16804 \DeclareTextCompositeCommand{=} {PU}{\CYRI}{\84\342}% U+04E2
 16805 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic
 16806 \DeclareTextCompositeCommand{=} {PU}{\cyri}{\84\343}% U+04E3
 16807 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresiscyrillic
 16808 \DeclareTextCompositeCommand{"}{PU}{\CYRI}{\84\344}% U+04E4
 16809 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresiscyrillic
 16810 \DeclareTextCompositeCommand{"}{PU}{\cyri}{\84\345}% U+04E5
 16811 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresiscyril-
 lic
 16812 \DeclareTextCompositeCommand{"}{PU}{\CYRO}{\84\346}% U+04E6
 16813 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresiscyrillic
 16814 \DeclareTextCompositeCommand{"}{PU}{\cyro}{\84\347}% U+04E7
 16815 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic
 16816 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8
 16817 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic
 16818 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9
 16819 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS;
 16820 % Obarreddieresiscyrillic
 16821 \DeclareTextCompositeCommand{"}{PU}{\CYROTLD}{\84\352}% U+04EA
 16822 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS;
 16823 % obarreddieresiscyrillic
 16824 \DeclareTextCompositeCommand{"}{PU}{\cyrotld}{\84\353}% U+04EB
 16825 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS
 16826 \DeclareTextCompositeCommand{"}{PU}{\CYREREV}{\84\354}% U+04EC
 16827 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS
 16828 \DeclareTextCompositeCommand{"}{PU}{\cyreref}{\84\355}% U+04ED
 16829 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic
 16830 \DeclareTextCompositeCommand{=} {PU}{\CYRU}{\84\356}% U+04EE
 16831 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic
 16832 \DeclareTextCompositeCommand{=} {PU}{\cyru}{\84\357}% U+04EF
 16833 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresiscyril-
 lic
 16834 \DeclareTextCompositeCommand{"}{PU}{\CYRU}{\84\360}% U+04F0
 16835 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresiscyrillic
 16836 \DeclareTextCompositeCommand{"}{PU}{\cyru}{\84\361}% U+04F1
 16837 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhun-

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garumlautcyrillic
16838 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2
16839 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhun-
garumlautcyrillic
16840 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3
16841 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chediere-
siscyrillic
16842 \DeclareTextCompositeCommand{"}{PU}{\CYRCH}{\84\364}% U+04F4
16843 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieres-
cyrillic
16844 \DeclareTextCompositeCommand{"}{PU}{\cyrch}{\84\365}% U+04F5
16845 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
16846 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
16847 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
16848 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
16849 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-
siscyrillic
16850 \DeclareTextCompositeCommand{"}{PU}{\CYRERY}{\84\370}% U+04F8
16851 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-
siscyrillic
16852 \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
16853 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
16854 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
16855 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
16856 \DeclareTextCommand{\cyrrhk}{PU}{\84\375}% U+04FD
16857 \fi
\84\376: U+04FE CYRILLIC CAPITAL LETTER HA WITH STROKE
\84\377: U+04FF CYRILLIC SMALL LETTER HA WITH STROKE

```

46.2.11 Hebrew: U+0590 to U+05FF

Macro names are taken from `he8enc.def`. `hebrew` is only loaded if `\hebdalet` is defined

```

16858 \ifx\hebdalet\@undefined\else
16859 % U+05C3 HEBREW PUNCTUATION SOF PASUQ
16860 \DeclareTextCommand{\sofpasuq}{PU}{\85\303}% U+05C3
16861 % U+05D0 HEBREW LETTER ALEF
16862 \DeclareTextCommand{\hebalef}{PU}{\85\320}% U+05D0
16863 % U+05D1 HEBREW LETTER BET
16864 \DeclareTextCommand{\hebbet}{PU}{\85\321}% U+05D1
16865 % U+05D2 HEBREW LETTER GIMEL
16866 \DeclareTextCommand{\hebgimel}{PU}{\85\322}% U+05D2
16867 % U+05D3 HEBREW LETTER DALET
16868 \DeclareTextCommand{\hebdalet}{PU}{\85\323}% U+05D3
16869 % U+05D4 HEBREW LETTER HE
16870 \DeclareTextCommand{\hebhe}{PU}{\85\324}% U+05D4
16871 % U+05D5 HEBREW LETTER VAV
16872 \DeclareTextCommand{\hebvav}{PU}{\85\325}% U+05D5

```

16873 % U+05D6 HEBREW LETTER ZAYIN
 16874 \DeclareTextCommand{\hebzayin}{PU}{\85\326}% U+05D6
 16875 % U+05D7 HEBREW LETTER HET
 16876 \DeclareTextCommand{\hebheth}{PU}{\85\327}% U+05D7
 16877 % U+05D8 HEBREW LETTER TET
 16878 \DeclareTextCommand{\hebtet}{PU}{\85\330}% U+05D8
 16879 % U+05D9 HEBREW LETTER YOD
 16880 \DeclareTextCommand{\hebyod}{PU}{\85\331}% U+05D9
 16881 % U+05DA HEBREW LETTER FINAL KAF
 16882 \DeclareTextCommand{\hebfinalkaf}{PU}{\85\332}% U+05DA
 16883 % U+05DB HEBREW LETTER KAF
 16884 \DeclareTextCommand{\hebkaf}{PU}{\85\333}% U+05DB
 16885 % U+05DC HEBREW LETTER LAMED
 16886 \DeclareTextCommand{\heblamed}{PU}{\85\334}% U+05DC
 16887 % U+05DD HEBREW LETTER FINAL MEM
 16888 \DeclareTextCommand{\hebfinalmem}{PU}{\85\335}% U+05DD
 16889 % U+05DE HEBREW LETTER MEM
 16890 \DeclareTextCommand{\hebmeme}{PU}{\85\336}% U+05DE
 16891 % U+05DF HEBREW LETTER FINAL NUN
 16892 \DeclareTextCommand{\hebfinalnun}{PU}{\85\337}% U+05DF
 16893 % U+05E0 HEBREW LETTER NUN
 16894 \DeclareTextCommand{\hebnnun}{PU}{\85\340}% U+05E0
 16895 % U+05E1 HEBREW LETTER SAMEKH
 16896 \DeclareTextCommand{\hebsamekh}{PU}{\85\341}% U+05E1
 16897 % U+05E2 HEBREW LETTER AYIN
 16898 \DeclareTextCommand{\hebayin}{PU}{\85\342}% U+05E2
 16899 % U+05E3 HEBREW LETTER FINAL PE
 16900 \DeclareTextCommand{\hebfinalpe}{PU}{\85\343}% U+05E3
 16901 % U+05E4 HEBREW LETTER PE
 16902 \DeclareTextCommand{\hebpe}{PU}{\85\344}% U+05E4
 16903 % U+05E5 HEBREW LETTER FINAL TSADI
 16904 \DeclareTextCommand{\hebfinaltsadi}{PU}{\85\345}% U+05E5
 16905 % U+05E6 HEBREW LETTER TSADI
 16906 \DeclareTextCommand{\hebtsadi}{PU}{\85\346}% U+05E6
 16907 % U+05E7 HEBREW LETTER QOF
 16908 \DeclareTextCommand{\hebqof}{PU}{\85\347}% U+05E7
 16909 % U+05E8 HEBREW LETTER RESH
 16910 \DeclareTextCommand{\hebresh}{PU}{\85\350}% U+05E8
 16911 % U+05E9 HEBREW LETTER SHIN
 16912 \DeclareTextCommand{\hebshin}{PU}{\85\351}% U+05E9
 16913 %* \hebshin -> \hebsin (he8)
 16914 % U+05EA HEBREW LETTER TAV
 16915 \DeclareTextCommand{\hebtav}{PU}{\85\352}% U+05EA
 16916 % U+05F0 HEBREW LIGATURE YIDDISH DOUBLE VAV
 16917 \DeclareTextCommand{\doublevav}{PU}{\85\360}% U+05F0
 16918 % U+05F1 HEBREW LIGATURE YIDDISH VAV YOD
 16919 \DeclareTextCommand{\vavyod}{PU}{\85\361}% U+05F1
 16920 % U+05F2 HEBREW LIGATURE YIDDISH DOUBLE YOD
 16921 \DeclareTextCommand{\doubleyod}{PU}{\85\362}% U+05F2
 16922 \fi

46.2.12 Thai: U+0E00 to U+0E7F

16923 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai

16924 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

46.2.13 Phonetic Extensions: U+1D00 to U+1D7F

16925 % U+1D00 LATIN LETTER SMALL CAPITAL A; \textscA (tipa)
16926 \DeclareTextCommand{\textscA}{PU}{\9035\000}% U+1D00
16927 % U+1D05 LATIN LETTER SMALL CAPITAL D; \scd (wsuipa)
16928 \DeclareTextCommand{\textscd}{PU}{\9035\005}% U+1D05
16929 % U+1D07 LATIN LETTER SMALL CAPITAL E; \textscE (tipa)
16930 \DeclareTextCommand{\textscE}{PU}{\9035\007}% U+1D07
16931 % U+1D0A LATIN LETTER SMALL CAPITAL J; \textscJ (tipa)
16932 \DeclareTextCommand{\textscJ}{PU}{\9035\012}% U+1D0A
16933 % U+1D0B LATIN LETTER SMALL CAPITAL K; \textscK (tipx)
16934 \DeclareTextCommand{\textPUscK}{PU}{\9035\013}% U+1D0B
16935 %* \textPUscK -> \textscK (tipx)
16936 % U+1D0D LATIN LETTER SMALL CAPITAL M; \textscM (tipx)
16937 \DeclareTextCommand{\textPUscM}{PU}{\9035\015}% U+1D0D
16938 %* \textPUscM -> \textscM (tipx)
16939 % U+1D18 LATIN LETTER SMALL CAPITAL P; \textscP (tipx)
16940 \DeclareTextCommand{\textPUscP}{PU}{\9035\030}% U+1D18
16941 %* \textPUscP -> \textscP (tipx)
16942 % U+1D19 LATIN LETTER SMALL CAPITAL REVERSED R; \textrevscr (tipx)
16943 \DeclareTextCommand{\textPUrevscr}{PU}{\9035\031}% U+1D19
16944 %* \textPUrevscr -> \textrevscr (tipx)
16945 % U+1D1C LATIN LETTER SMALL CAPITAL U; \textscU (tipa), \scu (wsuipa)
16946 \DeclareTextCommand{\textscU}{PU}{\9035\034}% U+1D1C
16947 % U+1D62 LATIN SUBSCRIPT SMALL LETTER I
16948 \DeclareTextCommand{\textiinferior}{PU}{\9035\142}% U+1D62
16949 % U+1D63 LATIN SUBSCRIPT SMALL LETTER R
16950 \DeclareTextCommand{\textrinferior}{PU}{\9035\143}% U+1D63
16951 % U+1D64 LATIN SUBSCRIPT SMALL LETTER U
16952 \DeclareTextCommand{\textuinferior}{PU}{\9035\144}% U+1D64
16953 % U+1D65 LATIN SUBSCRIPT SMALL LETTER V
16954 \DeclareTextCommand{\textvinferior}{PU}{\9035\145}% U+1D65
16955 % U+1D66 GREEK SUBSCRIPT SMALL LETTER BETA
16956 \DeclareTextCommand{\textbetainferior}{PU}{\9035\146}% U+1D66
16957 % U+1D67 GREEK SUBSCRIPT SMALL LETTER GAMMA
16958 \DeclareTextCommand{\textgammainferior}{PU}{\9035\147}% U+1D67
16959 % U+1D68 GREEK SUBSCRIPT SMALL LETTER RHO
16960 \DeclareTextCommand{\textrhoinferior}{PU}{\9035\150}% U+1D68
16961 % U+1D69 GREEK SUBSCRIPT SMALL LETTER PHI
16962 \DeclareTextCommand{\textphiinferior}{PU}{\9035\151}% U+1D69
16963 % U+1D6A GREEK SUBSCRIPT SMALL LETTER CHI
16964 \DeclareTextCommand{\textchiinferior}{PU}{\9035\152}% U+1D6A
16965 % U+1D7B LATIN SMALL CAPITAL LETTER I WITH STROKE;
16966 % \barsci (wsuipa)
16967 \DeclareTextCommand{\textbarsci}{PU}{\9035\173}% U+1D7B
16968 % U+1D7D LATIN SMALL LETTER P WITH STROKE; \barp (wsuipa)
16969 \DeclareTextCommand{\textbarp}{PU}{\9035\175}% U+1D7D
16970 % U+1D7E LATIN SMALL CAPITAL LETTER U WITH STROKE;
16971 % \barscu (wsuipa)
16972 \DeclareTextCommand{\textbarscu}{PU}{\9035\176}% U+1D7E

46.2.14 Phonetic Extensions Supplement: U+1D80 to U+1DBF

16973 % U+1D8F LATIN SMALL LETTER A WITH RETROFLEX HOOK; \tex-
 trhooka (tipx)
 16974 \DeclareTextCommand{\textPurhooka}{PU}{\9035\217}% U+1D8F
 16975 %* \textPurhooka -> \textrhooka (tipx)
 16976 % U+1D91 LATIN SMALL LETTER D WITH HOOK AND TAIL; \texthtr-
 taild (tipa)
 16977 \DeclareTextCommand{\texthtrtaild}{PU}{\9035\221}%* U+1D91
 16978 % U+1D92 LATIN SMALL LETTER E WITH RETROFLEX HOOK; \tex-
 trhooke (tipx)
 16979 \DeclareTextCommand{\textPurhooke}{PU}{\9035\222}% U+1D92
 16980 %* \textPurhooke -> \textrhooke (tipx)
 16981 % U+1D93 LATIN SMALL LETTER OPEN E WITH RETROFLEX HOOK;
 16982 % \textrhookepsilon (tipx)
 16983 \DeclareTextCommand{\textPurhookepsilon}{PU}{\9035\223}% U+1D93
 16984 %* \textPurhookepsilon -> \textrhookepsilon (tipx)
 16985 % U+1D97 LATIN SMALL LETTER OPEN O WITH RETROFLEX HOOK;
 16986 % \textrhookopeno (tipx)
 16987 \DeclareTextCommand{\textPurhookopeno}{PU}{\9035\227}% U+1D97
 16988 %* \textPurhookopeno -> \textrhookopeno (tipx)

46.2.15 Latin Extended Additional: U+1E00 to U+1EFF

16989 % U+1E00 LATIN CAPITAL LETTER A WITH RING BELOW; Aringbelow
 16990 \DeclareTextCompositeCommand{\textsubring}{PU}{A}{\9036\000}% U+1E00
 16991 % U+1E01 LATIN SMALL LETTER A WITH RING BELOW; aringbelow
 16992 \DeclareTextCompositeCommand{\textsubring}{PU}{a}{\9036\001}% U+1E01
 16993 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
 16994 \DeclareTextCompositeCommand{\.}{PU}{B}{\9036\002}% U+1E02
 16995 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
 16996 \DeclareTextCompositeCommand{\.}{PU}{b}{\9036\003}% U+1E03
 16997 % U+1E04 LATIN CAPITAL LETTER B WITH DOT BELOW; Bdotbelow
 16998 \DeclareTextCompositeCommand{\d}{PU}{B}{\9036\004}% U+1E04
 16999 % U+1E05 LATIN SMALL LETTER B WITH DOT BELOW; bdotbelow
 17000 \DeclareTextCompositeCommand{\d}{PU}{b}{\9036\005}% U+1E05
 17001 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
 17002 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
 17003 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
 17004 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
 17005 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
 17006 \DeclareTextCompositeCommand{\.}{PU}{D}{\9036\012}% U+1E0A
 17007 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
 17008 \DeclareTextCompositeCommand{\.}{PU}{d}{\9036\013}% U+1E0B
 17009 % U+1E0C LATIN CAPITAL LETTER D WITH DOT BELOW; Ddotbelow
 17010 \DeclareTextCompositeCommand{\d}{PU}{D}{\9036\014}% U+1E0C
 17011 % U+1E0D LATIN SMALL LETTER D WITH DOT BELOW; ddotbelow
 17012 \DeclareTextCompositeCommand{\d}{PU}{d}{\9036\015}% U+1E0D
 17013 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
 17014 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
 17015 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
 17016 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
 17017 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
 17018 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
 17019 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
 17020 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
 17021 % U+1E12 LATIN CAPITAL LETTER D WITH CIRCUMFLEX BELOW; Dcir-

cumflexbelow
 17022 \DeclareTextCompositeCommand{\textsubcircum}{PU}{D}{\9036\022}% U+1E12
 17023 % U+1E13 LATIN SMALL LETTER D WITH CIRCUMFLEX BELOW; dcir-
 cumflexbelow
 17024 \DeclareTextCompositeCommand{\textsubcircum}{PU}{d}{\9036\023}% U+1E13
 17025 % U+1E14 LATIN CAPITAL LETTER E WITH MACRON AND GRAVE;
 17026 % E macrongrave
 17027 \DeclareTextCompositeCommand{\textgravemacron}{PU}{E}{\9036\024}% U+1E14
 17028 % U+1E15 LATIN SMALL LETTER E WITH MACRON AND GRAVE;
 17029 % e macrongrave
 17030 \DeclareTextCompositeCommand{\textgravemacron}{PU}{e}{\9036\025}% U+1E15
 17031 % U+1E16 LATIN CAPITAL LETTER E WITH MACRON AND ACUTE;
 17032 % E macronacute
 17033 \DeclareTextCompositeCommand{\textacutemacron}{PU}{E}{\9036\026}% U+1E16
 17034 % U+1E17 LATIN SMALL LETTER E WITH MACRON AND ACUTE;
 17035 % e macronacute
 17036 \DeclareTextCompositeCommand{\textacutemacron}{PU}{e}{\9036\027}% U+1E17
 17037 % U+1E18 LATIN CAPITAL LETTER E WITH CIRCUMFLEX BELOW; Ecir-
 cumflexbelow
 17038 \DeclareTextCompositeCommand{\textsubcircum}{PU}{E}{\9036\030}% U+1E18
 17039 % U+1E19 LATIN SMALL LETTER E WITH CIRCUMFLEX BELOW; ecir-
 cumflexbelow
 17040 \DeclareTextCompositeCommand{\textsubcircum}{PU}{e}{\9036\031}% U+1E19
 17041 % U+1E1A LATIN CAPITAL LETTER E WITH TILDE BELOW; Etildebelow
 17042 \DeclareTextCompositeCommand{\textsubtilde}{PU}{E}{\9036\032}% U+1E1A
 17043 % U+1E1B LATIN SMALL LETTER E WITH TILDE BELOW; etildebelow
 17044 \DeclareTextCompositeCommand{\textsubtilde}{PU}{e}{\9036\033}% U+1E1B
 17045 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
 17046 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E
 17047 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
 17048 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F
 17049 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
 17050 \DeclareTextCompositeCommand{\=}{PU}{G}{\9036\040}% U+1E20
 17051 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
 17052 \DeclareTextCompositeCommand{\=}{PU}{g}{\9036\041}% U+1E21
 17053 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
 17054 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22
 17055 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
 17056 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23
 17057 % U+1E24 LATIN CAPITAL LETTER H WITH DOT BELOW; Hdotbelow
 17058 \DeclareTextCompositeCommand{\d}{PU}{H}{\9036\044}% U+1E24
 17059 % U+1E25 LATIN SMALL LETTER H WITH DOT BELOW; hdotbelow
 17060 \DeclareTextCompositeCommand{\d}{PU}{h}{\9036\045}% U+1E25
 17061 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
 17062 \DeclareTextCompositeCommand{\"}{PU}{H}{\9036\046}% U+1E26
 17063 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
 17064 \DeclareTextCompositeCommand{\"}{PU}{h}{\9036\047}% U+1E27
 17065 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
 17066 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28
 17067 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
 17068 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29
 17069 % U+1E2A LATIN CAPITAL LETTER H WITH BREVE BELOW; Hbrevebelow
 17070 \DeclareTextCompositeCommand{\textsubbreve}{PU}{H}{\9036\052}% U+1E2A
 17071 % U+1E2B LATIN SMALL LETTER H WITH BREVE BELOW; hbrevebelow

17072 \DeclareTextCompositeCommand{\textsubbreve}{PU}{h}{\9036\053}% U+1E2B
17073 % U+1E2C LATIN CAPITAL LETTER I WITH TILDE BELOW; Itildebelow
17074 \DeclareTextCompositeCommand{\textsubtilde}{PU}{i}{\9036\054}% U+1E2C
17075 % U+1E2D LATIN SMALL LETTER I WITH TILDE BELOW; itildebelow
17076 \DeclareTextCompositeCommand{\textsubtilde}{PU}{i}{\9036\055}% U+1E2D
17077 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
17078 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30
17079 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
17080 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31
17081 % U+1E32 LATIN CAPITAL LETTER K WITH DOT BELOW; Kdotbelow
17082 \DeclareTextCompositeCommand{\d}{PU}{K}{\9036\062}% U+1E32
17083 % U+1E33 LATIN SMALL LETTER K WITH DOT BELOW; kdotbelow
17084 \DeclareTextCompositeCommand{\d}{PU}{k}{\9036\063}% U+1E33
17085 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
17086 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34
17087 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
17088 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35
17089 % U+1E36 LATIN CAPITAL LETTER L WITH DOT BELOW; Ldotbelow
17090 \DeclareTextCompositeCommand{\d}{PU}{L}{\9036\066}% U+1E36
17091 % U+1E37 LATIN SMALL LETTER L WITH DOT BELOW; ldotbelow
17092 \DeclareTextCompositeCommand{\d}{PU}{l}{\9036\067}% U+1E37
17093 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
17094 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A
17095 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
17096 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B
17097 % U+1E3C LATIN CAPITAL LETTER L WITH CIRCUMFLEX BELOW; Lcir-
cumflexbelow
17098 \DeclareTextCompositeCommand{\textsubcircum}{PU}{L}{\9036\074}% U+1E3C
17099 % U+1E3D LATIN SMALL LETTER L WITH CIRCUMFLEX BELOW; lcir-
cumflexbelow
17100 \DeclareTextCompositeCommand{\textsubcircum}{PU}{l}{\9036\075}% U+1E3D
17101 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
17102 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E
17103 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
17104 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F
17105 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
17106 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40
17107 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
17108 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41
17109 % U+1E42 LATIN CAPITAL LETTER M WITH DOT BELOW; Mdotbelow
17110 \DeclareTextCompositeCommand{\d}{PU}{M}{\9036\102}% U+1E42
17111 % U+1E43 LATIN SMALL LETTER M WITH DOT BELOW; mdotbelow
17112 \DeclareTextCompositeCommand{\d}{PU}{m}{\9036\103}% U+1E43
17113 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
17114 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44
17115 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
17116 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45
17117 % U+1E46 LATIN CAPITAL LETTER N WITH DOT BELOW; Ndotbelow
17118 \DeclareTextCompositeCommand{\d}{PU}{N}{\9036\106}% U+1E46
17119 % U+1E47 LATIN SMALL LETTER N WITH DOT BELOW; ndotbelow
17120 \DeclareTextCompositeCommand{\d}{PU}{n}{\9036\107}% U+1E47
17121 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
17122 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48
17123 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow

17124 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49
17125 % U+1E4A LATIN CAPITAL LETTER N WITH CIRCUMFLEX BELOW; Ncir-
cumflexbelow
17126 \DeclareTextCompositeCommand{\textsubcircum}{PU}{N}{\9036\112}% U+1E4A
17127 % U+1E4B LATIN SMALL LETTER N WITH CIRCUMFLEX BELOW; ncir-
cumflexbelow
17128 \DeclareTextCompositeCommand{\textsubcircum}{PU}{n}{\9036\113}% U+1E4B
17129 % U+1E50 LATIN CAPITAL LETTER O WITH MACRON AND GRAVE;
17130 % Omacrongrave
17131 \DeclareTextCompositeCommand{\textgravemacron}{PU}{O}{\9036\120}% U+1E50
17132 % U+1E51 LATIN SMALL LETTER O WITH MACRON AND GRAVE;
17133 % omacrongrave
17134 \DeclareTextCompositeCommand{\textgravemacron}{PU}{o}{\9036\121}% U+1E51
17135 % U+1E52 LATIN CAPITAL LETTER O WITH MACRON AND ACUTE;
17136 % Omacronacute
17137 \DeclareTextCompositeCommand{\textacutemacron}{PU}{O}{\9036\122}% U+1E52
17138 % U+1E53 LATIN SMALL LETTER O WITH MACRON AND ACUTE;
17139 % omacronacute
17140 \DeclareTextCompositeCommand{\textacutemacron}{PU}{o}{\9036\123}% U+1E53
17141 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
17142 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54
17143 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
17144 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55
17145 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
17146 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56
17147 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
17148 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57
17149 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
17150 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58
17151 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent
17152 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59
17153 % U+1E5A LATIN CAPITAL LETTER R WITH DOT BELOW; Rdotbelow
17154 \DeclareTextCompositeCommand{\d}{PU}{R}{\9036\132}% U+1E5A
17155 % U+1E5B LATIN SMALL LETTER R WITH DOT BELOW; rdotbelow
17156 \DeclareTextCompositeCommand{\d}{PU}{r}{\9036\133}% U+1E5B
17157 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
17158 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E
17159 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
17160 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F
17161 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
17162 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60
17163 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
17164 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61
17165 % U+1E62 LATIN CAPITAL LETTER S WITH DOT BELOW; Sdotbelow
17166 \DeclareTextCompositeCommand{\d}{PU}{S}{\9036\142}% U+1E62
17167 % U+1E63 LATIN SMALL LETTER S WITH DOT BELOW; sdotbelow
17168 \DeclareTextCompositeCommand{\d}{PU}{s}{\9036\143}% U+1E63
17169 % U+1E6A LATIN CAPITAL LETTER T WITH DOT ABOVE; Tdotaccent
17170 \DeclareTextCompositeCommand{\.}{PU}{T}{\9036\152}% U+1E6A
17171 % U+1E6B LATIN SMALL LETTER T WITH DOT ABOVE; tdotaccent
17172 \DeclareTextCompositeCommand{\.}{PU}{t}{\9036\153}% U+1E6B
17173 % U+1E6C LATIN CAPITAL LETTER T WITH DOT BELOW; Tdotbelow
17174 \DeclareTextCompositeCommand{\d}{PU}{T}{\9036\154}% U+1E6C
17175 % U+1E6D LATIN SMALL LETTER T WITH DOT BELOW; tdotbelow

17176 \DeclareTextCompositeCommand{\d}{PU}{t}{\9036\155}% U+1E6D
17177 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
17178 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
17179 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow
17180 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
17181 % U+1E70 LATIN CAPITAL LETTER T WITH CIRCUMFLEX BELOW; Tcir-
cumflexbelow
17182 \DeclareTextCompositeCommand{\textsubcircum}{PU}{T}{\9036\160}% U+1E70
17183 % U+1E71 LATIN SMALL LETTER T WITH CIRCUMFLEX BELOW; tcir-
cumflexbelow
17184 \DeclareTextCompositeCommand{\textsubcircum}{PU}{t}{\9036\161}% U+1E71
17185 % U+1E72 LATIN CAPITAL LETTER U WITH DIAERESIS BELOW; Udiere-
sisbelow
17186 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{U}{\9036\162}% U+1E72
17187 % U+1E73 LATIN SMALL LETTER U WITH DIAERESIS BELOW; udieresis-
below
17188 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{u}{\9036\163}% U+1E73
17189 % U+1E74 LATIN CAPITAL LETTER U WITH TILDE BELOW; Utildebelow
17190 \DeclareTextCompositeCommand{\textsubtilde}{PU}{U}{\9036\164}% U+1E74
17191 % U+1E75 LATIN SMALL LETTER U WITH TILDE BELOW; utildebelow
17192 \DeclareTextCompositeCommand{\textsubtilde}{PU}{u}{\9036\165}% U+1E75
17193 % U+1E76 LATIN CAPITAL LETTER U WITH CIRCUMFLEX BELOW; Ucir-
cumflexbelow
17194 \DeclareTextCompositeCommand{\textsubcircum}{PU}{U}{\9036\166}% U+1E76
17195 % U+1E77 LATIN SMALL LETTER U WITH CIRCUMFLEX BELOW; ucir-
cumflexbelow
17196 \DeclareTextCompositeCommand{\textsubcircum}{PU}{u}{\9036\167}% U+1E77
17197 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
17198 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
17199 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
17200 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
17201 % U+1E7E LATIN CAPITAL LETTER V WITH DOT BELOW; Vdotbelow
17202 \DeclareTextCompositeCommand{\d}{PU}{V}{\9036\176}% U+1E7E
17203 % U+1E7F LATIN SMALL LETTER V WITH DOT BELOW; vdotbelow
17204 \DeclareTextCompositeCommand{\d}{PU}{v}{\9036\177}% U+1E7F
17205 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
17206 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80
17207 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
17208 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81
17209 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
17210 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82
17211 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
17212 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83
17213 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
17214 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84
17215 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
17216 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85
17217 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
17218 \DeclareTextCompositeCommand{\.}{PU}{W}{\9036\206}% U+1E86
17219 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
17220 \DeclareTextCompositeCommand{\.}{PU}{w}{\9036\207}% U+1E87
17221 % U+1E88 LATIN CAPITAL LETTER W WITH DOT BELOW; wdotbelow
17222 \DeclareTextCompositeCommand{\d}{PU}{W}{\9036\210}% U+1E88
17223 % U+1E89 LATIN SMALL LETTER W WITH DOT BELOW; wdotbelow

17224 \DeclareTextCompositeCommand{\d}{PU}{w}{\9036\211}% U+1E89
17225 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
17226 \DeclareTextCompositeCommand{\.}{PU}{X}{\9036\212}% U+1E8A
17227 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent
17228 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B
17229 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
17230 \DeclareTextCompositeCommand{"}{PU}{X}{\9036\214}% U+1E8C
17231 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
17232 \DeclareTextCompositeCommand{"}{PU}{x}{\9036\215}% U+1E8D
17233 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
17234 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E
17235 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
17236 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F
17237 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
17238 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90
17239 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
17240 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91
17241 % U+1E92 LATIN CAPITAL LETTER Z WITH DOT BELOW; Zdotbelow
17242 \DeclareTextCompositeCommand{\d}{PU}{Z}{\9036\222}% U+1E92
17243 % U+1E93 LATIN SMALL LETTER Z WITH DOT BELOW; zdotbelow
17244 \DeclareTextCompositeCommand{\d}{PU}{z}{\9036\223}% U+1E93
17245 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
17246 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
17247 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
17248 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
17249 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
17250 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
17251 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
17252 \DeclareTextCompositeCommand{"}{PU}{t}{\9036\227}% U+1E97
17253 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
17254 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
17255 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
17256 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
17257 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotaccent
17258 \DeclareTextCompositeCommand{\.}{PU}{\textlongs}{\9036\233}% U+1E9B
17259 % U+1EA0 LATIN CAPITAL LETTER A WITH DOT BELOW; Adotbelow
17260 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0
17261 % U+1EA1 LATIN SMALL LETTER A WITH DOT BELOW; adotbelow
17262 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1
17263 % U+1EB8 LATIN CAPITAL LETTER E WITH DOT BELOW; Edotbelow
17264 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8
17265 % U+1EB9 LATIN SMALL LETTER E WITH DOT BELOW; edotbelow
17266 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9
17267 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
17268 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
17269 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
17270 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
17271 % U+1ECA LATIN CAPITAL LETTER I WITH DOT BELOW; Idotbelow
17272 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA
17273 % U+1ECB LATIN SMALL LETTER I WITH DOT BELOW; idotbelow
17274 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB
17275 % U+1ECC LATIN CAPITAL LETTER O WITH DOT BELOW; Odotbelow
17276 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC

17277 % U+1ECD LATIN SMALL LETTER O WITH DOT BELOW; odotbelow
 17278 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD
 17279 % U+1EE4 LATIN CAPITAL LETTER U WITH DOT BELOW; Udotbelow
 17280 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4
 17281 % U+1EE5 LATIN SMALL LETTER U WITH DOT BELOW; udotbelow
 17282 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5
 17283 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
 17284 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
 17285 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
 17286 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3
 17287 % U+1EF4 LATIN CAPITAL LETTER Y WITH DOT BELOW; Ydotbelow
 17288 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4
 17289 % U+1EF5 LATIN SMALL LETTER Y WITH DOT BELOW; ydotbelow
 17290 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5
 17291 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
 17292 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
 17293 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
 17294 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

46.2.16 General Punctuation: U+2000 to U+206F

17295 % U+200C ZERO WIDTH NON-JOINER; *afi61664, zerowidthnonjoiner
 17296 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
 17297 % U+2013 EN DASH; endash
 17298 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
 17299 % U+2014 EM DASH; emdash
 17300 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
 17301 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
 17302 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
 17303 %* \textbardbl -> \textdoublevertline (tipa)
 17304 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 17305 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
 17306 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 17307 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
 17308 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 17309 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
 17310 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 17311 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
 17312 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 17313 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
 17314 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 17315 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
 17316 % U+2020 DAGGER; dagger
 17317 \DeclareTextCommand{\textdagger}{PU}{\9040\040}%* U+2020
 17318 %* \textdagger -> \dag (LaTeX)
 17319 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)
 17320 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
 17321 %* \textdaggerdbl -> \ddagger (LaTeX)
 17322 %* \textdaggerdbl -> \ddag (LaTeX)
 17323 % U+2022 BULLET; bullet
 17324 \DeclareTextCommand{\textbullet}{PU}{\9040\042}%* U+2022
 17325 % U+2025 TWO DOT LEADER; \hdotfor (MnSymbol)
 17326 \DeclareTextCommand{\texthdotfor}{PU}{\9040\045}%* U+2025
 17327 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 17328 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026

17329 %* \textellipsis -> \mathellipsis
 17330 % U+2030 PER MILLE SIGN; perthousand
 17331 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
 17332 % U+2031 PER TEN THOUSAND SIGN
 17333 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
 17334 % U+2032 PRIME; minute; \prime (MnSymbol)
 17335 \DeclareTextCommand{\textprime}{PU}{\9040\062}%* U+2032
 17336 % U+2033 DOUBLE PRIME; \second (mathabx)
 17337 \DeclareTextCommand{\textsecond}{PU}{\9040\063}%* U+2033
 17338 % U+2034 TRIPLE PRIME; \third (mathabx)
 17339 \DeclareTextCommand{\texttthird}{PU}{\9040\064}%* U+2034
 17340 % U+2035 REVERSED PRIME; \backprime (AmsS)
 17341 \DeclareTextCommand{\textbackprime}{PU}{\9040\065}%* U+2035
 17342 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 lingleft
 17343 \DeclareTextCommand{\guilsinglleft}{PU}{\9040\071}% U+2039
 17344 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
 singlright
 17345 \DeclareTextCommand{\guilsinglright}{PU}{\9040\072}% U+203A
 17346 % U+203B REFERENCE MARK; referencemark
 17347 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
 17348 % U+203D INTERROBANG
 17349 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
 17350 % U+2044 FRACTION SLASH; fraction
 17351 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
 17352 % U+2045 LEFT SQUARE BRACKET WITH QUILL
 17353 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
 17354 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
 17355 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
 17356 % U+2052 COMMERCIAL MINUS SIGN
 17357 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052
 17358 % U+2056 THREE DOT PUNCTUATION; \lefttherefore (MnSymbol)
 17359 \DeclareTextCommand{\textlefttherefore}{PU}{\9040\126}%* U+2056
 17360 % U+2057 QUADRUPLE PRIME; \fourth (mathabx)
 17361 \DeclareTextCommand{\textfourth}{PU}{\9040\127}%* U+2057
 17362 % U+2058 FOUR DOT PUNCTUATION; \diamonddots (MnSymbol)
 17363 \DeclareTextCommand{\textdiamonddots}{PU}{\9040\130}%* U+2058

46.2.17 Superscripts and Subscripts: U+2070 to U+209F

17364 % U+2070 SUPERSCRIPT ZERO; zerosuperior
 17365 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}%* U+2070
 17366 % U+2071 SUPERSCRIPT LATIN SMALL LETTER I
 17367 \DeclareTextCommand{\textisuperior}{PU}{\9040\161}%* U+2071
 17368 % U+2074 SUPERSCRIPT FOUR; foursuperior
 17369 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}%* U+2074
 17370 % U+2075 SUPERSCRIPT FIVE; fivesuperior
 17371 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}%* U+2075
 17372 % U+2076 SUPERSCRIPT SIX; sixsuperior
 17373 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}%* U+2076
 17374 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
 17375 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}%* U+2077
 17376 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
 17377 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}%* U+2078
 17378 % U+2079 SUPERSCRIPT NINE; ninesuperior

17379 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}%* U+2079
17380 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
17381 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}%* U+207A
17382 % U+207B SUPERSCRIPT MINUS
17383 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}%* U+207B
17384 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
17385 \DeclareTextCommand{\textequalssuperior}{PU}{\9040\174}%* U+207C
17386 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
17387 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}%* U+207D
17388 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
17389 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}%* U+207E
17390 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
17391 \DeclareTextCommand{\textnssuperior}{PU}{\9040\177}%* U+207F
17392 % U+2080 SUBSCRIPT ZERO; zeroinferior
17393 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}%* U+2080
17394 % U+2081 SUBSCRIPT ONE; oneinferior
17395 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}%* U+2081
17396 % U+2082 SUBSCRIPT TWO; twoinferior
17397 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}%* U+2082
17398 % U+2083 SUBSCRIPT THREE; threeminferior
17399 \DeclareTextCommand{\textthreeminferior}{PU}{\9040\203}%* U+2083
17400 % U+2084 SUBSCRIPT FOUR; fourinferior
17401 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}%* U+2084
17402 % U+2085 SUBSCRIPT FIVE; fiveinferior
17403 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}%* U+2085
17404 % U+2086 SUBSCRIPT SIX; sixinferior
17405 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}%* U+2086
17406 % U+2087 SUBSCRIPT SEVEN; seveninferior
17407 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}%* U+2087
17408 % U+2088 SUBSCRIPT EIGHT; eightinferior
17409 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}%* U+2088
17410 % U+2089 SUBSCRIPT NINE; nineinferior
17411 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}%* U+2089
17412 % U+208A SUBSCRIPT PLUS SIGN
17413 \DeclareTextCommand{\textplusinferior}{PU}{\9040\212}%* U+208A
17414 % U+208B SUBSCRIPT MINUS
17415 \DeclareTextCommand{\textminusinferior}{PU}{\9040\213}%* U+208B
17416 % U+208C SUBSCRIPT EQUALS SIGN
17417 \DeclareTextCommand{\textequalsinferior}{PU}{\9040\214}%* U+208C
17418 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
17419 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}%* U+208D
17420 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
17421 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}%* U+208E
17422 % U+2090 LATIN SUBSCRIPT SMALL LETTER A
17423 \DeclareTextCommand{\textainferior}{PU}{\9040\220}%* U+2090
17424 % U+2091 LATIN SUBSCRIPT SMALL LETTER E
17425 \DeclareTextCommand{\texteinferior}{PU}{\9040\221}%* U+2091
17426 % U+2092 LATIN SUBSCRIPT SMALL LETTER O
17427 \DeclareTextCommand{\textoinferior}{PU}{\9040\222}%* U+2092
17428 % U+2093 LATIN SUBSCRIPT SMALL LETTER X
17429 \DeclareTextCommand{\textxinferior}{PU}{\9040\223}%* U+2093
17430 % U+2094 LATIN SUBSCRIPT SMALL LETTER SCHWA
17431 \DeclareTextCommand{\textschwainferior}{PU}{\9040\224}%* U+2094
17432 % U+2095 LATIN SUBSCRIPT SMALL LETTER H

17433 \DeclareTextCommand{\textthininferior}{PU}{\9040\225}%* U+2095
 17434 % U+2096 LATIN SUBSCRIPT SMALL LETTER K
 17435 \DeclareTextCommand{\textkinferior}{PU}{\9040\226}%* U+2096
 17436 % U+2097 LATIN SUBSCRIPT SMALL LETTER L
 17437 \DeclareTextCommand{\textlinferior}{PU}{\9040\227}%* U+2097
 17438 % U+2098 LATIN SUBSCRIPT SMALL LETTER M
 17439 \DeclareTextCommand{\textminferior}{PU}{\9040\230}%* U+2098
 17440 % U+2099 LATIN SUBSCRIPT SMALL LETTER N
 17441 \DeclareTextCommand{\textninferior}{PU}{\9040\231}%* U+2099
 17442 % U+209A LATIN SUBSCRIPT SMALL LETTER P
 17443 \DeclareTextCommand{\textpinferior}{PU}{\9040\232}%* U+209A
 17444 % U+209B LATIN SUBSCRIPT SMALL LETTER S
 17445 \DeclareTextCommand{\textsinferior}{PU}{\9040\233}%* U+209B
 17446 % U+209C LATIN SUBSCRIPT SMALL LETTER T
 17447 \DeclareTextCommand{\texttinferior}{PU}{\9040\234}%* U+209C

46.2.18 Currency Symbols: U+20A0 to U+20CF

17448 % U+20A1 COLON SIGN; *colonmonetary, colonsign
 17449 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
 17450 % U+20A4 LIRA SIGN; afii08941, *lira
 17451 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
 17452 % U+20A6 NAIRA SIGN
 17453 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
 17454 % U+20A7 PESETA SIGN; peseta
 17455 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
 17456 % U+20A9 WON SIGN; won
 17457 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
 17458 % U+20AB DONG SIGN; dong
 17459 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
 17460 % U+20AC EURO SIGN; *Euro, euro
 17461 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
 17462 %* \texteuro -> \EurDig (marvosym)
 17463 %* \texteuro -> \EURdig (marvosym)
 17464 %* \texteuro -> \EurHv (marvosym)
 17465 %* \texteuro -> \EURhv (marvosym)
 17466 %* \texteuro -> \EurCr (marvosym)
 17467 %* \texteuro -> \EURcr (marvosym)
 17468 %* \texteuro -> \EurTm (marvosym)
 17469 %* \texteuro -> \EURtm (marvosym)
 17470 %* \texteuro -> \Eur (marvosym)
 17471 % U+20B0 GERMAN PENNY SIGN; \Deleatur (marvosym)
 17472 \DeclareTextCommand{\textDeleatur}{PU}{\9040\260}%* U+20B0
 17473 %* \textDeleatur -> \Denarius (marvosym)
 17474 % U+20B1 PESO SIGN
 17475 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
 17476 % U+20B2 GUARANI SIGN
 17477 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

46.2.19 Letterlike Symbols: U+2100 to U+214F

17478 % U+2103 DEGREE CELSIUS; centigrade
 17479 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
 17480 % U+210F PLANCK CONSTANT OVER TWO PI; \hslash (AmS)
 17481 \DeclareTextCommand{\texthslash}{PU}{\9041\017}%* U+210F
 17482 % U+2111 BLACK-LETTER CAPITAL I (=imaginary part); Ifraktur; \Im (La-

TeX)

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17483 \DeclareTextCommand{\textIm}{PU}{\9041\021}%* U+2111
17484 % U+2113 SCRIPT SMALL L (=ell, liter); afii61289, lsquare; \ell (LaTeX)
17485 \DeclareTextCommand{\textell}{PU}{\9041\023}%* U+2113
17486 % U+2116 NUMERO SIGN; *afii61352, numero
17487 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
17488 % U+2117 SOUND RECORDING COPYRIGHT
17489 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
17490 % U+2118 SCRIPT CAPITAL P (=Weierstrass elliptic function);
17491 % weierstrass; \wp (LaTeX)
17492 \DeclareTextCommand{\textwp}{PU}{\9041\030}%* U+2118
17493 % U+211C BLACK-LETTER CAPITAL R (=real part); Rfraktur; \Re (LaTeX)
17494 \DeclareTextCommand{\textRe}{PU}{\9041\034}%* U+211C
17495 % U+211E PRESCRIPTION TAKE; prescription
17496 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
17497 % U+2120 SERVICE MARK
17498 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
17499 % U+2122 TRADE MARK SIGN; trademark
17500 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
17501 % U+2126 OHM SIGN; Ohm, Omega
17502 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
17503 % U+2127 INVERTED OHM SIGN
17504 \DeclareTextCommand{\textmho}{PU}{\9041\047}%* U+2127
17505 %* \textmho -> \agemO (wasysym)
17506 % U+2129 TURNED GREEK SMALL LETTER IOTA; \riota (phonetic)
17507 \DeclareTextCommand{\textriota}{PU}{\9041\051}%* U+2129
17508 % U+212B ANGSTROM SIGN; angstrom
17509 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
17510 % U+212E ESTIMATED SYMBOL; estimated
17511 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
17512 %* \textestimated -> \EstimatedSign (marvosym)
17513 %* \textestimated -> \Ecommerce (marvosym)
17514 % U+2132 TURNED CAPITAL F; \Finv (AmS)
17515 \DeclareTextCommand{\textFinv}{PU}{\9041\062}%* U+2132
17516 % U+2135 ALEF SYMBOL; aleph; \aleph (LaTeX)
17517 \DeclareTextCommand{\textaleph}{PU}{\9041\065}%* U+2135
17518 % U+2136 BET SYMBOL; \beth (AmS, MnSymbol)
17519 \DeclareTextCommand{\textbeth}{PU}{\9041\066}%* U+2136
17520 % U+2137 GIMEL SYMBOL; \gimel (AmS, MnSymbol)
17521 \DeclareTextCommand{\textgimel}{PU}{\9041\067}%* U+2137
17522 % U+2138 DALET SYMBOL; \daleth (AmS, MnSymbol)
17523 \DeclareTextCommand{\textdaleth}{PU}{\9041\070}%* U+2138
17524 % U+213B FACSIMILE SIGN; \fax (marvosym)
17525 \DeclareTextCommand{\textfax}{PU}{\9041\073}%* U+213B
17526 % U+2141 TURNED SANS-SERIF CAPITAL G (=game); \Game
17527 \DeclareTextCommand{\textGame}{PU}{\9041\101}%* U+2141
17528 % U+214B TURNED AMPERSAND; \invamp (txfonts/pxfonts)
17529 \DeclareTextCommand{\textinvamp}{PU}{\9041\113}% U+214B
17530 %* \textinvamp -> \bindnasrepma (stmaryrd)
17531 %* \textinvamp -> \parr (cml)

```

46.2.20 Number Forms: U+2150 to U+218F

```

17532 % U+2150 VULGAR FRACTION ONE SEVENTH
17533 \DeclareTextCommand{\textoneseventh}{PU}{\9041\120}% U+2150

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```

17534 % U+2151 VULGAR FRACTION ONE NINTH
17535 \DeclareTextCommand{\textoneninth}{PU}{\9041\121}% U+2151
17536 % U+2152 VULGAR FRACTION ONE TENTH
17537 \DeclareTextCommand{\textonetenth}{PU}{\9041\122}% U+2152
17538 % U+2153 VULGAR FRACTION ONE THIRD; onethird
17539 \DeclareTextCommand{\textonethird}{PU}{\9041\123}% U+2153
17540 % U+2154 VULGAR FRACTION TWO THIRDS; twothirds
17541 \DeclareTextCommand{\texttwothirds}{PU}{\9041\124}% U+2154
17542 % U+2155 VULGAR FRACTION ONE FIFTH
17543 \DeclareTextCommand{\textonefifth}{PU}{\9041\125}% U+2155
17544 % U+2156 VULGAR FRACTION TWO FIFTHS
17545 \DeclareTextCommand{\texttwofifths}{PU}{\9041\126}% U+2156
17546 % U+2157 VULGAR FRACTION THREE FIFTHS
17547 \DeclareTextCommand{\textthreefifths}{PU}{\9041\127}% U+2157
17548 % U+2158 VULGAR FRACTION FOUR FIFTHS
17549 \DeclareTextCommand{\textfourfifths}{PU}{\9041\130}% U+2158
17550 % U+2159 VULGAR FRACTION ONE SIXTH
17551 \DeclareTextCommand{\textonesixth}{PU}{\9041\131}% U+2159
17552 % U+215A VULGAR FRACTION FIVE SIXTHS
17553 \DeclareTextCommand{\textfivesixths}{PU}{\9041\132}% U+215A
17554 % U+215B VULGAR FRACTION ONE EIGHTH; oneeighth
17555 \DeclareTextCommand{\textoneeighth}{PU}{\9041\133}% U+215B
17556 % U+215C VULGAR FRACTION THREE EIGHTHS; threeeighths
17557 \DeclareTextCommand{\textthreeeighths}{PU}{\9041\134}% U+215C
17558 % U+215D VULGAR FRACTION FIVE EIGHTHS; fiveeighths
17559 \DeclareTextCommand{\textfiveeighths}{PU}{\9041\135}% U+215D
17560 % U+215E VULGAR FRACTION SEVEN EIGHTHS; seveneighths
17561 \DeclareTextCommand{\textseveneighths}{PU}{\9041\136}% U+215E
17562 % U+2184 LATIN SMALL LETTER REVERSED C
17563 \DeclareTextCommand{\textrevc}{PU}{\9041\204}% U+2184
17564 % U+2189 VULGAR FRACTION ZERO THIRDS
17565 \DeclareTextCommand{\textzerthirds}{PU}{\9041\211}% U+2189

```

46.2.21 Arrows: U+2190 to U+21FF

```

17566 % U+2190 LEFTWARDS ARROW; arrowleft
17567 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}%* U+2190
17568 % U+2191 UPWARDS ARROW; arrowup
17569 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}%* U+2191
17570 % U+2192 RIGHTWARDS ARROW; arrowright
17571 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}%* U+2192
17572 %* \textrightarrow -> \MVRightArrow (marvosym)
17573 %* \textrightarrow -> \MVRightarrow (marvosym)
17574 % U+2193 DOWNWARDS ARROW; arrowdown
17575 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}%* U+2193
17576 %* \textdownarrow -> \MVArrowDown (marvosym)
17577 %* \textdownarrow -> \Force (marvosym)
17578 % U+2194 LEFT RIGHT ARROW; arrowboth; \leftrightarrow (LaTeX)
17579 \DeclareTextCommand{\textleftrightarrow}{PU}{\9041\224}%* U+2194
17580 % U+2195 UP DOWN ARROW; arrowupdn; \updownarrow (LaTeX)
17581 \DeclareTextCommand{\textupdownarrow}{PU}{\9041\225}%* U+2195
17582 % U+2196 NORTH WEST ARROW; arrowupleft; \nwarrow (LaTeX)
17583 \DeclareTextCommand{\textnwarrow}{PU}{\9041\226}%* U+2196
17584 % U+2197 NORTH EAST ARROW; arrowupright; \nearrow (LaTeX)
17585 \DeclareTextCommand{\textnearrow}{PU}{\9041\227}%* U+2197

```


17586 %* \textnearrow -> \textglobrise (tipa)
17587 % U+2198 SOUTH EAST ARROW; arrowdownright; \searrow (LaTeX)
17588 \DeclareTextCommand{\textsearrow}{PU}{\9041\230}%* U+2198
17589 %* \textsearrow -> \textglobfall (tipa)
17590 % U+2199 SOUTH WEST ARROW; arrowdownleft; \swarrow (LaTeX)
17591 \DeclareTextCommand{\textswarrow}{PU}{\9041\231}%* U+2199
17592 % U+219A LEFTWARDS ARROW WITH STROKE; \leftarrow (AmS)
17593 \DeclareTextCommand{\textnleftarrow}{PU}{\9041\232}%* U+219A
17594 % U+219B RIGHTWARDS ARROW WITH STROKE; \rightarrow (AmS)
17595 \DeclareTextCommand{\textnrightarrow}{PU}{\9041\233}%* U+219B
17596 % U+219E LEFTWARDS TWO HEADED ARROW; \twoheadleftarrow (AmS)
17597 \DeclareTextCommand{\texttwoheadleftarrow}{PU}{\9041\236}%* U+219E
17598 % \twoheadleftarrow (txfonts/pxfonts)
17599 \DeclareTextCommand{\textntwoheadleftarrow}{PU}{\9041\236\83\070}%* U+219E U+0338
17600 % U+219F UPWARDS TWO HEADED ARROW; \twoheaduparrow (MnSymbol)
17601 \DeclareTextCommand{\texttwoheaduparrow}{PU}{\9041\237}%* U+219F
17602 % U+21A0 RIGHTWARDS TWO HEADED ARROW;
17603 % \twoheadrightarrow (AmS)
17604 \DeclareTextCommand{\texttwoheadrightarrow}{PU}{\9041\240}%* U+21A0
17605 % \twoheadrightarrow (txfonts/pxfonts)
17606 \DeclareTextCommand{\textntwoheadrightarrow}{PU}{\9041\240\83\070}%* U+21A0 U+0338
17607 % U+21A1 DOWNWARDS TWO HEADED ARROW; \twoheaddownarrow (Mn-
Symbol)
17608 \DeclareTextCommand{\texttwoheaddownarrow}{PU}{\9041\241}%* U+21A1
17609 % U+21A2 LEFTWARDS ARROW WITH TAIL; \leftarrowtail (AmS)
17610 \DeclareTextCommand{\textleftarrowtail}{PU}{\9041\242}%* U+21A2
17611 % U+21A3 RIGHTWARDS ARROW WITH TAIL; \rightarrowtail (AmS)
17612 \DeclareTextCommand{\textrightarrowtail}{PU}{\9041\243}%* U+21A3
17613 % U+21A6 RIGHTWARDS ARROW FROM BAR; \mapsto (LaTeX)
17614 \DeclareTextCommand{\textmapsto}{PU}{\9041\246}%* U+21A6
17615 % U+21A9 LEFTWARDS ARROW WITH HOOK; \hookleftarrow (LaTeX)
17616 \DeclareTextCommand{\texthookleftarrow}{PU}{\9041\251}%* U+21A9
17617 % U+21AA RIGHTWARDS ARROW WITH HOOK; \hookrightarrow (LaTeX)
17618 \DeclareTextCommand{\texthookrightarrow}{PU}{\9041\252}%* U+21AA
17619 % U+21AB LEFTWARDS ARROW WITH LOOP; \looparrowleft (AmS)
17620 \DeclareTextCommand{\textlooparrowleft}{PU}{\9041\253}%* U+21AB
17621 % U+21AC RIGHTWARDS ARROW WITH LOOP; \looparrowright (AmS)
17622 \DeclareTextCommand{\textlooparrowright}{PU}{\9041\254}%* U+21AC
17623 % U+21AE LEFT RIGHT ARROW WITH STROKE; \leftrightharrow (AmS)
17624 \DeclareTextCommand{\textnleftrightharrow}{PU}{\9041\256}%* U+21AE
17625 % U+21AF DOWNWARDS ZIGZAG ARROW; \lightning (stmaryrd)
17626 \DeclareTextCommand{\textlightning}{PU}{\9041\257}%* U+21AF
17627 %* \textlightning -> \Lightning (marvosym)
17628 % U+21B5 DOWNWARDS ARROW WITH CORNER LEFTWARDS;
17629 % \dls (mathabx)
17630 \DeclareTextCommand{\textdls}{PU}{\9041\265}%* U+21B5
17631 % U+21B6 ANTICLOCKWISE TOP SEMICIRCLE ARROW;
17632 % \curvearrowleft (AmS)
17633 \DeclareTextCommand{\textcurvearrowleft}{PU}{\9041\266}%* U+21B6
17634 % U+21B7 CLOCKWISE TOP SEMICIRCLE ARROW; \curvearrowright (AmS)
17635 \DeclareTextCommand{\textcurvearrowright}{PU}{\9041\267}%* U+21B7
17636 % U+21BC LEFTWARDS HARPOON WITH BARB UPWARDS; harpoonleft-
barbup;
17637 % \leftharpoonup (LaTeX)

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17638 \DeclareTextCommand{\textleftharpoonup}{PU}{\9041\274}%* U+21BC
17639 % U+21BD LEFTWARDS HARPOON WITH BARB DOWNWARDS;
17640 % \leftharpoondown (LaTeX)
17641 \DeclareTextCommand{\textleftharpoondown}{PU}{\9041\275}%* U+21BD
17642 % U+21BE UPWARDS HARPOON WITH BARB RIGHTWARDS;
17643 % \upharpoonright (AmS)
17644 \DeclareTextCommand{\textupharpoonright}{PU}{\9041\276}%* U+21BE
17645 % U+21BF UPWARDS HARPOON WITH BARB LEFTWARDS;
17646 % \upharpoonleft (AmS)
17647 \DeclareTextCommand{\textupharpoonleft}{PU}{\9041\277}%* U+21BF
17648 % U+21C0 RIGHTWARDS HARPOON WITH BARB UPWARDS; harpoonright-
    barbup
17649 % \rightharpoonup (LaTeX)
17650 \DeclareTextCommand{\textrightharpoonup}{PU}{\9041\300}%* U+21C0
17651 % U+21C1 RIGHTWARDS HARPOON WITH BARB DOWNWARDS;
17652 % \rightharpoondown (LaTeX)
17653 \DeclareTextCommand{\textrightharpoondown}{PU}{\9041\301}%* U+21C1
17654 % U+21C2 DOWNWARDS HARPOON WITH BARB RIGHTWARDS;
17655 % \downharpoonright (AmS)
17656 \DeclareTextCommand{\textdownharpoonright}{PU}{\9041\302}%* U+21C2
17657 % U+21C3 DOWNWARDS HARPOON WITH BARB LEFTWARDS;
17658 % \downharpoonleft (AmS)
17659 \DeclareTextCommand{\textdownharpoonleft}{PU}{\9041\303}%* U+21C3
17660 % U+21C4 RIGHTWARDS ARROW OVER LEFTWARDS ARROW;
17661 % \arrowrightoverleft; \rightleftarrows (MnSymbol)
17662 \DeclareTextCommand{\textrightleftarrows}{PU}{\9041\304}%* U+21C4
17663 % U+21C5 UPWARDS ARROW LEFTWARDS OF DOWNWARDS ARROW; ar-
    rowupleftofdown;
17664 % \updownarrows (MnSymbol)
17665 \DeclareTextCommand{\textupdownarrows}{PU}{\9041\305}%* U+21C5
17666 % U+21C6 LEFTWARDS ARROW OVER RIGHTWARDS ARROW; arrowleft-
    overright;
17667 % \leftrightharrows (AmS)
17668 \DeclareTextCommand{\textleftrightharrows}{PU}{\9041\306}%* U+21C6
17669 % U+21C7 LEFTWARDS PAIRED ARROWS; \leftleftarrows (AmS)
17670 \DeclareTextCommand{\textleftleftarrows}{PU}{\9041\307}%* U+21C7
17671 % U+21C8 UPWARDS PAIRED ARROWS; \upuparrows (AmS)
17672 \DeclareTextCommand{\textupuparrows}{PU}{\9041\310}%* U+21C8
17673 % U+21C9 RIGHTWARDS PAIRED ARROWS; \rightrightarrows (AmS)
17674 \DeclareTextCommand{\textrightarrows}{PU}{\9041\311}%* U+21C9
17675 % U+21CA DOWNWARDS PAIRED ARROWS; \downdownarrows (AmS)
17676 \DeclareTextCommand{\textdowndownarrows}{PU}{\9041\312}%* U+21CA
17677 % U+21CB LEFTWARDS HARPOON OVER RIGHTWARDS HARPOON;
17678 % \leftrightharpoons (AmS);
17679 \DeclareTextCommand{\textleftrightharpoons}{PU}{\9041\313}%* U+21CB
17680 % U+21CC RIGHTWARDS HARPOON OVER LEFTWARDS HARPOON;
17681 % \rightleftharpoons (LaTeX, AmS)
17682 \DeclareTextCommand{\textrightleftharpoons}{PU}{\9041\314}%* U+21CC
17683 % U+21CD LEFTWARDS DOUBLE ARROW WITH STROKE; arrowleftd-
    blstroke;
17684 % \nLeftarrow (AmS)
17685 \DeclareTextCommand{\textnLeftarrow}{PU}{\9041\315}%* U+21CD
17686 % U+21CE LEFT RIGHT DOUBLE ARROW WITH STROKE; \nLeftrightar-
    row (AmS)

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17687 \DeclareTextCommand{\textnLeftrightarrow}{PU}{\9041\316}%* U+21CE
17688 % U+21CF RIGHTWARDS DOUBLE ARROW WITH STROKE; arrowrightd-
      blstroke;
17689 % \nRrightarrow (AmS)
17690 \DeclareTextCommand{\textnRrightarrow}{PU}{\9041\317}%* U+21CF
17691 % U+21D0 LEFTWARDS DOUBLE ARROW; arrowdblleft, arrowleftdbl;
17692 % \Leftarrow (LaTeX)
17693 \DeclareTextCommand{\textLeftarrow}{PU}{\9041\320}%* U+21D0
17694 % U+21D1 UPWARDS DOUBLE ARROW; arrowdblup; \Uparrow (LaTeX)
17695 \DeclareTextCommand{\textUparrow}{PU}{\9041\321}%* U+21D1
17696 % U+21D2 RIGHTWARDS DOUBLE ARROW; arrowdblright, dblarrowright;
17697 % \Rrightarrow (LaTeX)
17698 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\322}%* U+21D2
17699 %* \textRrightarrow -> \Conclusion (marvosym)
17700 % U+21D3 DOWNWARDS DOUBLE ARROW; arrowdbldown; \Downarrow (La-
      TeX)
17701 \DeclareTextCommand{\textDownarrow}{PU}{\9041\323}%* U+21D3
17702 % U+21D4 LEFT RIGHT DOUBLE ARROW; arrowdblboth;
17703 % \Leftrightarrow (LaTeX)
17704 \DeclareTextCommand{\textLeftrightarrow}{PU}{\9041\324}%* U+21D4
17705 %* \textLeftrightarrow -> \Equivalence (marvosym)
17706 % U+21D5 UP DOWN DOUBLE ARROW; \Updownarrow (LaTeX)
17707 \DeclareTextCommand{\textUpdownarrow}{PU}{\9041\325}%* U+21D5
17708 % U+21D6 NORTH WEST DOUBLE ARROW; \Nwarrow (MnSymbol)
17709 \DeclareTextCommand{\textNwarrow}{PU}{\9041\326}%* U+21D6
17710 % U+21D7 NORTH EAST DOUBLE ARROW; \Nearrow (MnSymbol)
17711 \DeclareTextCommand{\textNearrow}{PU}{\9041\327}%* U+21D7
17712 % U+21D8 SOUTH EAST DOUBLE ARROW; \Searrow (MnSymbol)
17713 \DeclareTextCommand{\textSearrow}{PU}{\9041\330}%* U+21D8
17714 % U+21D9 SOUTH WEST DOUBLE ARROW; \Swarrow (MnSymbol)
17715 \DeclareTextCommand{\textSwarrow}{PU}{\9041\331}%* U+21D9
17716 % U+21DA LEFTWARDS TRIPLE ARROW; \Lleftarrow (AmS)
17717 \DeclareTextCommand{\textLleftarrow}{PU}{\9041\332}%* U+21DA
17718 % U+21DB RIGHTWARDS TRIPLE ARROW; \Rrightarrow (MnSymbol)
17719 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\333}%* U+21DB
17720 % U+21DC LEFTWARDS SQUIGGLE ARROW; \leftsquigarrow (mathabx)
17721 \DeclareTextCommand{\textleftsquigarrow}{PU}{\9041\334}%* U+21DC
17722 % U+21DD RIGHTWARDS SQUIGGLE ARROW; \rightsquigarrow (mathabx)
17723 \DeclareTextCommand{\textright squigarrow}{PU}{\9041\335}%* U+21DD
17724 % U+21E0 LEFTWARDS DASHED ARROW; arrowdashleft;
17725 % \dashleftarrow (AmS)
17726 \DeclareTextCommand{\textdashleftarrow}{PU}{\9041\340}%* U+21E0
17727 %* \textdashleftarrow -> \dashedleftarrow (MnSymbol)
17728 % U+21E1 UPWARDS DASHED ARROW; arrowdashup; \dasheduparrow (Mn-
      Symbol)
17729 \DeclareTextCommand{\textdasheduparrow}{PU}{\9041\341}%* U+21E1
17730 % U+21E2 RIGHTWARDS DASHED ARROW; arrowdashright; \dashrightar-
      row (AmS)
17731 \DeclareTextCommand{\textdashrightarrow}{PU}{\9041\342}%* U+21E2
17732 %* \textdashrightarrow -> \dashedrightarrow (MnSymbol)
17733 % U+21E3 DOWNWARDS DASHED ARROW; arrowdashdown; \dasheddownar-
      row (MnSymbol)
17734 \DeclareTextCommand{\textdasheddownarrow}{PU}{\9041\343}%* U+21E3
17735 % U+21E8 RIGHTWARDS WHITE ARROW; \pointer (wasysym)

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17736 \DeclareTextCommand{\textpointer}{PU}{\9041\350}%* U+21E8
17737 % U+21F5 DOWNWARDS ARROW LEFTWARDS OF UPWARDS ARROW;
17738 % \downuparrows (MnSymbol)
17739 \DeclareTextCommand{\textdownuparrows}{PU}{\9041\365}%* U+21F5
17740 % U+21FD LEFTWARDS OPEN-HEADED ARROW; \leftarrowtriangle (stmaryrd)
17741 \DeclareTextCommand{\textleftarrowtriangle}{PU}{\9041\375}%* U+21FD
17742 % U+21FE RIGHTWARDS OPEN-HEADED ARROW; \rightarrowtriangle (stmaryrd)
17743 \DeclareTextCommand{\textrightarrowtriangle}{PU}{\9041\376}%* U+21FE
17744 % U+21FF LEFT RIGHT OPEN-HEADED ARROW; \leftrightarrowtriangle
      gle (stmaryrd)
17745 \DeclareTextCommand{\textleftrightarrowtriangle}{PU}{\9041\377}%* U+21FF

```

46.2.22 Mathematical Operators: U+2200 to U+22FF

```

17746 % U+2200 FOR ALL; forall; \forall (LaTeX)
17747 \DeclareTextCommand{\textforall}{PU}{\9042\000}%* U+2200
17748 % U+2201 COMPLEMENT; \complement (AmS)
17749 \DeclareTextCommand{\textcomplement}{PU}{\9042\001}%* U+2201
17750 % U+2202 PARTIAL DIFFERENTIAL; partialdiff; \partial (LaTeX)
17751 \DeclareTextCommand{\textpartial}{PU}{\9042\002}%* U+2202
17752 % U+2203 THERE EXISTS; existential; \exists (LaTeX)
17753 \DeclareTextCommand{\textexists}{PU}{\9042\003}%* U+2203
17754 % U+2204 THERE DOES NOT EXIST; \nexists (AmS)
17755 \DeclareTextCommand{\textnexists}{PU}{\9042\004}%* U+2204
17756 % U+2205 EMPTY SET; emptyset; \emptyset (LaTeX), \varnothing (AmS)
17757 \DeclareTextCommand{\textemptyset}{PU}{\9042\005}%* U+2205
17758 %* \textemptyset -> \varnothing (AmS)
17759 % U+2206 INCREMENT; increment, Delta; \triangle (LaTeX)
17760 \DeclareTextCommand{\texttriangle}{PU}{\9042\006}%* U+2206
17761 % U+2207 NABLA; nabla, gradient; \nabla (LaTeX)
17762 \DeclareTextCommand{\textnabla}{PU}{\9042\007}%* U+2207
17763 % U+2208 ELEMENT OF; element; \in (LaTeX)
17764 \DeclareTextCommand{\textin}{PU}{\9042\010}%* U+2208
17765 % U+2209 NOT AN ELEMENT OF; notelement, notelementof; \notin (LaTeX)
17766 \DeclareTextCommand{\textnotin}{PU}{\9042\011}%* U+2209
17767 % U+220A SMALL ELEMENT OF; \smallin (mathdesign)
17768 \DeclareTextCommand{\textsmallin}{PU}{\9042\012}%* U+220A
17769 % U+220B CONTAINS AS MEMBER; suchthat; \ni (LaTeX)
17770 \DeclareTextCommand{\textni}{PU}{\9042\013}%* U+220B
17771 %* \textni -> \owns (mathabx)
17772 % U+220C DOES NOT CONTAIN AS MEMBER; \notowner (mathabx)
17773 \DeclareTextCommand{\textnotowner}{PU}{\9042\014}%* U+220C
17774 %* \textnotowner -> \notni (txfonts/pxfonts)
17775 % U+220D SMALL CONTAINS AS MEMBER; \smallowns (mathdesign)
17776 \DeclareTextCommand{\textsmallowns}{PU}{\9042\015}%* U+220D
17777 % U+220F N-ARY PRODUCT; \prod (LaTeX)
17778 \DeclareTextCommand{\textprod}{PU}{\9042\017}%* U+220F
17779 % U+2210 N-ARY COPRODUCT; \amalg (LaTeX)
17780 \DeclareTextCommand{\textamalg}{PU}{\9042\020}%* U+2210
17781 % U+2211 N-ARY SUMMATION; summation; \sum (LaTeX)
17782 \DeclareTextCommand{\textsum}{PU}{\9042\021}%* U+2211
17783 % U+2212 MINUS SIGN; minus
17784 \DeclareTextCommand{\textminus}{PU}{\9042\022}% U+2212
17785 % U+2213 MINUS-OR-PLUS SIGN; minusplus; \mp (LaTeX)
17786 \DeclareTextCommand{\textmp}{PU}{\9042\023}%* U+2213

```

```

17787 % U+2214 DOT PLUS; \dotplus (AmS)
17788 \DeclareTextCommand{\textdotplus}{PU}{\9042\024}%* U+2214
17789 % U+2215 DIVISION SLASH; divisionslash; \Divides (marvosym)
17790 \DeclareTextCommand{\textDivides}{PU}{\9042\025}%* U+2215
17791 % \DividesNot (marvosym)
17792 \DeclareTextCommand{\textDividesNot}{PU}{\9042\025\9040\322}%* U+2215 U+20D2
17793 % U+2216 SET MINUS; \setminus (LaTeX)
17794 \DeclareTextCommand{\textsetminus}{PU}{\9042\026}%* U+2216
17795 % U+2217 ASTERISK OPERATOR; asteriskmath; \ast (LaTeX)
17796 \DeclareTextCommand{\textast}{PU}{\9042\027}%* U+2217
17797 % U+2218 RING OPERATOR; \circ (LaTeX)
17798 \DeclareTextCommand{\textcirc}{PU}{\9042\030}%* U+2218
17799 % U+2219 BULLET OPERATOR; bulletoperator; \bullet (LaTeX)
17800 \DeclareTextCommand{\textbulletoperator}{PU}{\9042\031}%* U+2219
17801 % U+221A SQUARE ROOT; radical
17802 \DeclareTextCommand{\textsqrt}{PU}{\9042\032}%* U+221A
17803 % U+221D PROPORTIONAL TO; proportional; \propto (LaTeX)
17804 \DeclareTextCommand{\textpropto}{PU}{\9042\035}%* U+221D
17805 %* \textpropto -> \varprop (wasysym)
17806 % U+221E INFINITY; infinity; \infty (LaTeX)
17807 \DeclareTextCommand{\textinfty}{PU}{\9042\036}%* U+221E
17808 % U+2220 ANGLE; angle; \angle (LaTeX)
17809 \DeclareTextCommand{\textangle}{PU}{\9042\040}%* U+2220
17810 % U+2221 MEASURED ANGLE; \measuredangle (mathabx, MnSymbol)
17811 \DeclareTextCommand{\textmeasuredangle}{PU}{\9042\041}%* U+2221
17812 % U+2222 SPHERICAL ANGLE; \sphericalangle (AmS)
17813 \DeclareTextCommand{\textsphericalangle}{PU}{\9042\042}%* U+2222
17814 %* \textsphericalangle -> \varangle (wasysym)
17815 %* \textsphericalangle -> \Anglesign (marvosym)
17816 %* \textsphericalangle -> \AngleSign (marvosym)
17817 % U+2223 DIVIDES; divides; \mid (LaTeX)
17818 \DeclareTextCommand{\textmid}{PU}{\9042\043}%* U+2223
17819 % U+2224 DOES NOT DIVIDE; \nmid (AmS)
17820 \DeclareTextCommand{\textnmid}{PU}{\9042\044}%* U+2224
17821 %* \textnmid -> \notdivides (mathabx)
17822 % U+2225 PARALLEL TO; parallel; \parallel (LaTeX)
17823 \DeclareTextCommand{\textparallel}{PU}{\9042\045}%* U+2225
17824 % U+2226 NOT PARALLEL TO; notparallel; \nparallel (AmS)
17825 \DeclareTextCommand{\textnparallel}{PU}{\9042\046}%* U+2226
17826 %* \textnparallel -> nUpdownline (MnSymbol)
17827 % U+2227 LOGICAL AND; logicaland; \wedge (LaTeX)
17828 \DeclareTextCommand{\textwedge}{PU}{\9042\047}%* U+2227
17829 % \owedge (stmaryrd)
17830 \DeclareTextCommand{\textowedge}{PU}{\9042\047\9040\335}%* U+2227 U+20DD
17831 %* \textowedge -> \varowedge (stmaryrd)
17832 % U+2228 LOGICAL OR; logicalor; \vee (LaTeX)
17833 \DeclareTextCommand{\textvee}{PU}{\9042\050}%* U+2228
17834 % \ovee (stmaryrd)
17835 \DeclareTextCommand{\textovee}{PU}{\9042\050\9040\335}%* U+2228 U+20DD
17836 %* \textovee -> \varovee (stmaryrd)
17837 % U+2229 INTERSECTION; intersection; \cap (LaTeX)
17838 \DeclareTextCommand{\textcap}{PU}{\9042\051}%* U+2229
17839 % U+222A UNION; union; \cup (LaTeX)
17840 \DeclareTextCommand{\textcup}{PU}{\9042\052}%* U+222A

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17841 % U+222B INTEGRAL; integral; \int (LaTeX)
17842 \DeclareTextCommand{\textint}{PU}{\9042\053}%* U+222B
17843 %* \textint -> \varint (wasysym)
17844 % U+222C DOUBLE INTEGRAL; dblintegral; \iint (AmS)
17845 \DeclareTextCommand{\textiint}{PU}{\9042\054}%* U+222C
17846 % U+222D TRIPLE INTEGRAL; \iiint (AmS)
17847 \DeclareTextCommand{\textiiiint}{PU}{\9042\055}%* U+222D
17848 % U+222E CONTOUR INTEGRAL; contourintegral; \oint (LaTeX)
17849 \DeclareTextCommand{\textoint}{PU}{\9042\056}%* U+222E
17850 %* \textoint -> \varoint (wasysym)
17851 % U+222F SURFACE INTEGRAL; \oiint (wasysym)
17852 \DeclareTextCommand{\textoint}{PU}{\9042\057}%* U+222F
17853 % U+2232 CLOCKWISE CONTOUR INTEGRAL;
17854 % \ointclockwise (txfonts/pxfonts)
17855 \DeclareTextCommand{\textointclockwise}{PU}{\9042\062}%* U+2232
17856 % U+2233 ANTICLOCKWISE CONTOUR INTEGRAL; \ointctrclockwise (tx-
    fonts/pxfonts)
17857 \DeclareTextCommand{\textointctrclockwise}{PU}{\9042\063}%* U+2233
17858 % U+2234 THEREFORE; therefore; \therefore (AmS)
17859 \DeclareTextCommand{\texttherefore}{PU}{\9042\064}%* U+2234
17860 %* \texttherefore -> uptherefore (MnSymbol)
17861 % U+2235 BECAUSE; because; \because (AmS)
17862 \DeclareTextCommand{\textbecause}{PU}{\9042\065}%* U+2235
17863 %* \textbecause -> \downtherefore (MnSymbol)
17864 % U+2236 RATIO; \vdots (MnSymbol)
17865 \DeclareTextCommand{\textvdotdot}{PU}{\9042\066}%* U+2236
17866 % U+2237 PROPORTION; \squaredots (MnSymbol)
17867 \DeclareTextCommand{\textsquaredots}{PU}{\9042\067}%* U+2237
17868 % U+2238 DOT MINUS; \dotminus (MnSymbol)
17869 \DeclareTextCommand{\textdotminus}{PU}{\9042\070}%* U+2238
17870 %* \textdotminus -> \textdotdiv (mathabx)
17871 % U+2239 EXCESS; \eqcolon (txfonts/pxfonts)
17872 \DeclareTextCommand{\texteqcolon}{PU}{\9042\071}%* U+2239
17873 % U+223C TILDE OPERATOR; similar; \sim (LaTeX)
17874 \DeclareTextCommand{\textsim}{PU}{\9042\074}%* U+223C
17875 %* \textsim -> \AC (wasysym)
17876 % U+223D REVERSED TILDE; reversedtilde; \backsim (AmS)
17877 \DeclareTextCommand{\textbacksim}{PU}{\9042\075}%* U+223D
17878 % \nbacksim (txfonts/pxfonts)
17879 \DeclareTextCommand{\textnbacksim}{PU}{\9042\075\83\070}%* U+223D U+0338
17880 % U+2240 WREATH PRODUCT; \wr (LaTeX)
17881 \DeclareTextCommand{\textwr}{PU}{\9042\100}%* U+2240
17882 %* \textwr -> \wreath (MnSymbol)
17883 % U+2241 NOT TILDE; \nsim (AmS)
17884 \DeclareTextCommand{\textnsim}{PU}{\9042\101}%* U+2241
17885 % U+2242 MINUS TILDE; \eqsim (MnSymbol)
17886 \DeclareTextCommand{\texteqsim}{PU}{\9042\102}%* U+2242
17887 % \neqsim (MnSymbol)
17888 \DeclareTextCommand{\textneqsim}{PU}{\9042\102\83\070}%* U+2242 U+0338
17889 % U+2243 ASYMPTOTICALLY EQUAL TO; asymptoticallyequal; \simeq (La-
    TeX)
17890 \DeclareTextCommand{\textsimeq}{PU}{\9042\103}%* U+2243
17891 % U+2244 NOT ASYMPTOTICALLY EQUAL TO; \nsimeq (txfonts/pxfonts)
17892 \DeclareTextCommand{\textnsimeq}{PU}{\9042\104}%* U+2244

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17893 % U+2245 APPROXIMATELY EQUAL TO; approximatelyequal; \cong (LaTeX)
17894 \DeclareTextCommand{\textcong}{PU}{\9042\105}%* U+2245
17895 % U+2247 NEITHER APPROXIMATELY NOR ACTUALLY EQUAL TO;
17896 % \ncong (AmS)
17897 \DeclareTextCommand{\textncong}{PU}{\9042\107}%* U+2247
17898 % U+2248 ALMOST EQUAL TO; approxequal; \approx (LaTeX)
17899 \DeclareTextCommand{\textapprox}{PU}{\9042\110}%* U+2248
17900 % U+2249 NOT ALMOST EQUAL TO; \napprox (txfonts/pxfonts0
17901 \DeclareTextCommand{\textnapprox}{PU}{\9042\111}%* U+2249
17902 %* \textnapprox -> \nthickapprox (txfonts/pxfonts)
17903 % U+224A ALMOST EQUAL OR EQUAL TO; \approxeq (AmS)
17904 \DeclareTextCommand{\textapproxeq}{PU}{\9042\112}%* U+224A
17905 % \napproxeq (txfonts/pxfonts)
17906 \DeclareTextCommand{\textnapproxeq}{PU}{\9042\112\83\070}%* U+224A U+0338
17907 % U+224B TRIPLE TILDE; \triplesim (MnSymbol)
17908 \DeclareTextCommand{\texttriplesim}{PU}{\9042\113}%* U+224B
17909 %* \texttriplesim -> \VHF (wasysym)
17910 % \ntriplesim (MnSymbol)
17911 \DeclareTextCommand{\textntriplesim}{PU}{\9042\113\83\070}%* U+224B U+0338
17912 % U+224C ALL EQUAL TO; allequal; \backcong (MnSymbol)
17913 \DeclareTextCommand{\textbackcong}{PU}{\9042\114}%* U+224C
17914 % \nbackcong (MnSymbol)
17915 \DeclareTextCommand{\textnbackcong}{PU}{\9042\114\83\070}%* U+224C U+0338
17916 % U+224D EQUIVALENT TO; \asymp (LaTeX)
17917 \DeclareTextCommand{\textasympt}{PU}{\9042\115}%* U+224D
17918 % \nasympt (txfonts/pxfonts)
17919 \DeclareTextCommand{\textnasympt}{PU}{\9042\115\83\070}%* U+224D U+0338
17920 %* \textnasympt -> \notasympt (mathabx)
17921 % U+224E GEOMETRICALLY EQUIVALENT TO; \Bumpeq (AmS)
17922 \DeclareTextCommand{\textBumpeq}{PU}{\9042\116}%* U+224E
17923 % \nBumpeq (txfonts/pxfonts)
17924 \DeclareTextCommand{\textnBumpeq}{PU}{\9042\116\83\070}%* U+224E U+0338
17925 % U+224F DIFFERENCE BETWEEN; \bumpeq (AmS)
17926 \DeclareTextCommand{\textbumpeq}{PU}{\9042\117}%* U+224F
17927 % \nbumpeq (txfonts/pxfonts)
17928 \DeclareTextCommand{\textnbumpeq}{PU}{\9042\117\83\070}%* U+224F U+0338
17929 % U+2250 APPROACHES THE LIMIT; approaches; \doteq (LaTeX)
17930 \DeclareTextCommand{\textdoteq}{PU}{\9042\120}%* U+2250
17931 % \ndoteq (MnSymbol)
17932 \DeclareTextCommand{\textndoteq}{PU}{\9042\120\83\070}%* U+2250 U+0338
17933 % U+2251 GEOMETRICALLY EQUAL TO; geometricallyequal;
17934 % \doteqdot (AmS)
17935 \DeclareTextCommand{\textdoteqdot}{PU}{\9042\121}%* U+2251
17936 %* \textdoteqdot -> \Doteq (MnSymbol)
17937 % \nDoteq (MnSymbol)
17938 \DeclareTextCommand{\textnDoteq}{PU}{\9042\121\83\070}%* U+2251 U+0338
17939 % U+2252 APPROXIMATELY EQUAL TO OR THE IMAGE OF; approx-
qualorimage;
17940 % \fallingdotseq (AmS)
17941 \DeclareTextCommand{\textfallingdoteq}{PU}{\9042\122}%* U+2252
17942 % \nfallingdotseq (MnSymbol)
17943 \DeclareTextCommand{\textnfallingdoteq}{PU}{\9042\122\83\070}%* U+2252 U+0338
17944 % U+2253 IMAGE OF OR APPROXIMATELY EQUAL TO; imageorapproxi-
matelyequal;

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17945 % \risingdotseq (AmS)
17946 \DeclareTextCommand{\textrisingdoteq}{PU}{\9042\123}%* U+2253
17947 % \nrisingdoteq (MnSymbol)
17948 \DeclareTextCommand{\textnrisingdoteq}{PU}{\9042\123\83\070}%* U+2253 U+0338
17949 % U+2254 COLON EQUALS; \colonequals (colonequals)
17950 \DeclareTextCommand{\textcolonequals}{PU}{\9042\124}%* U+2254
17951 % U+2255 EQUALS COLON; \equalscolon (colonequals)
17952 \DeclareTextCommand{\textequalscolon}{PU}{\9042\125}%* U+2255
17953 % U+2256 RING IN EQUAL TO; \eqcirc (AmS)
17954 \DeclareTextCommand{\texteqcirc}{PU}{\9042\126}%* U+2256
17955 % \neqcirc (MnSymbol)
17956 \DeclareTextCommand{\textneqcirc}{PU}{\9042\126\83\070}%* U+2256 U+0338
17957 % U+2257 RING EQUAL TO; \circeq (AmS)
17958 \DeclareTextCommand{\textcirceq}{PU}{\9042\127}%* U+2257
17959 % \ncirceq (MnSymbol)
17960 \DeclareTextCommand{\textncirceq}{PU}{\9042\127\83\070}%* U+2257 U+0338
17961 % U+2259 ESTIMATES; \hateq (MnSymbol)
17962 \DeclareTextCommand{\texthateq}{PU}{\9042\131}%* U+2259
17963 %* \texthateq -> \corresponds (mathabx)
17964 %* \texthateq -> \Corresponds (marvosym)
17965 % \nhateq (MnSymbol)
17966 \DeclareTextCommand{\textnhateq}{PU}{\9042\131\83\070}%* U+2259 U+0338
17967 % U+225C DELTA EQUAL TO; \triangleeq (AmS)
17968 \DeclareTextCommand{\texttriangleeq}{PU}{\9042\134}%* U+225C
17969 % U+2260 NOT EQUAL TO; notequal; \ne (LaTeX), \neq (LaTeX)
17970 \DeclareTextCommand{\textneq}{PU}{\9042\140}%* U+2260
17971 \DeclareTextCommand{\textne}{PU}{\9042\140}%* U+2260
17972 %* \textneq -> \nequal (MnSymbol)
17973 % U+2261 IDENTICAL TO; equivalence; \equiv (LaTeX)
17974 \DeclareTextCommand{\textequiv}{PU}{\9042\141}%* U+2261
17975 %* \textequiv -> \Congruent (marvosym)
17976 % U+2262 NOT IDENTICAL TO; notidentical; \nequiv (txfonts/pxfonts)
17977 \DeclareTextCommand{\textnequiv}{PU}{\9042\142}%* U+2262
17978 %* \textnequiv -> \NotCongruent (marvosym)
17979 %* \textnequiv -> \notequiv (mathabx)
17980 % U+2264 LESS-THAN OR EQUAL TO; lessequal; \le (LaTeX), \leq (LaTeX)
17981 \DeclareTextCommand{\textleq}{PU}{\9042\144}%* U+2264
17982 \DeclareTextCommand{\textile}{PU}{\9042\144}%* U+2264
17983 %* \textleq -> \LessOrEqual (marvosym)
17984 % U+2265 GREATER-THAN OR EQUAL TO; greaterequal;
17985 % \ge (LaTeX), \geq (LaTeX)
17986 \DeclareTextCommand{\textgeq}{PU}{\9042\145}%* U+2265
17987 \DeclareTextCommand{\textge}{PU}{\9042\145}%* U+2265
17988 %* \textgeq -> \LargerOrEqual (marvosym)
17989 % U+2266 LESS-THAN OVER EQUAL TO; lessoverequal; \leqq (AmS)
17990 \DeclareTextCommand{\textleqq}{PU}{\9042\146}%* U+2266
17991 % \nleqq (txfonts/pxfonts)
17992 \DeclareTextCommand{\textnleqq}{PU}{\9042\146\83\070}%* U+2266 U+0338
17993 % U+2267 GREATER-THAN OVER EQUAL TO; greateroverequal; \geqq (AmS)
17994 \DeclareTextCommand{\textgeqq}{PU}{\9042\147}%* U+2267
17995 % \ngeqq (txfonts/pxfonts)
17996 \DeclareTextCommand{\textngeqq}{PU}{\9042\147\83\070}%* U+2267 U+0338
17997 % U+2268 LESS-THAN BUT NOT EQUAL TO; \lneqq (AmS)
17998 \DeclareTextCommand{\textlneqq}{PU}{\9042\150}%* U+2268

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17999 % U+2269 GREATER-THAN BUT NOT EQUAL TO; \gneqq (AmS)
18000 \DeclareTextCommand{\textgneqq}{PU}{\9042\151}%* U+2269
18001 % U+226A MUCH LESS-THAN; muchless; \ll (LaTeX)
18002 \DeclareTextCommand{\textll}{PU}{\9042\152}%* U+226A
18003 % \nll (txfonts/pxfonts)
18004 \DeclareTextCommand{\textnll}{PU}{\9042\152\83\070}%* U+226A U+0338
18005 % U+226B MUCH GREATER-THAN; muchgreater; \gg (LaTeX)
18006 \DeclareTextCommand{\textgg}{PU}{\9042\153}%* U+226B
18007 % \ngg (txfonts/pxfonts)
18008 \DeclareTextCommand{\textngg}{PU}{\9042\153\83\070}%* U+226B U+0338
18009 % U+226C BETWEEN; \between (AmS)
18010 \DeclareTextCommand{\textbetween}{PU}{\9042\154}%* U+226C
18011 % U+226E NOT LESS-THAN; notless; \nless (AmS)
18012 \DeclareTextCommand{\textnless}{PU}{\9042\156}%* U+226E
18013 % U+226F NOT GREATER-THAN; notgreater; \ngtr (AmS)
18014 \DeclareTextCommand{\textngtr}{PU}{\9042\157}%* U+226F
18015 % U+2270 NEITHER LESS-THAN NOR EQUAL TO; notlessnorequal;
18016 % \nleq (AmS)
18017 \DeclareTextCommand{\textnleq}{PU}{\9042\160}%* U+2270
18018 % U+2271 NEITHER GREATER-THAN NOR EQUAL TO; notgreaternorequal;
18019 \DeclareTextCommand{\textngeq}{PU}{\9042\161}%* U+2271
18020 % U+2272 LESS-THAN OR EQUIVALENT TO; lessorequivalent; \lessim (AmS)
18021 \DeclareTextCommand{\textlessim}{PU}{\9042\162}%* U+2272
18022 %* \textlessim -> \apprle (wasysym)
18023 % U+2273 GREATER-THAN OR EQUIVALENT TO; greaterorequivalent; \gtrsim (AmS)
18024 \DeclareTextCommand{\textgtrsim}{PU}{\9042\163}%* U+2273
18025 %* \textgtrsim -> \apprge (wasysym)
18026 % U+2274 NEITHER LESS-THAN NOR EQUIVALENT TO; \nlessim (tx-
18027 \DeclareTextCommand{\textnlessim}{PU}{\9042\164}%* U+2274
18028 % U+2275 NEITHER GREATER-THAN NOR EQUIVALENT TO; \ngtrsim (tx-
18029 \DeclareTextCommand{\textngtrsim}{PU}{\9042\165}%* U+2275
18030 % U+2276 LESS-THAN OR GREATER-THAN; lessorgreater; \lessgtr (AmS)
18031 \DeclareTextCommand{\textlessgtr}{PU}{\9042\166}%* U+2276
18032 % U+2277 GREATER-THAN OR LESS-THAN; greaterorless; \gtrless (AmS)
18033 \DeclareTextCommand{\textgtrless}{PU}{\9042\167}%* U+2277
18034 % U+2278 NEITHER LESS-THAN NOR GREATER-THAN; \ngtrless (tx-
18035 \DeclareTextCommand{\textngtrless}{PU}{\9042\170}%* U+2278
18036 % U+2279 NEITHER GREATER-THAN NOR LESS-THAN; \nlessgtr (tx-
18037 \DeclareTextCommand{\textnlessgtr}{PU}{\9042\171}%* U+2279
18038 % U+227A PRECEDES; precedes; \prec (LaTeX)
18039 \DeclareTextCommand{\textprec}{PU}{\9042\172}%* U+227A
18040 % U+227B SUCCEEDS; succeeds; \succ (LaTeX)
18041 \DeclareTextCommand{\textsucc}{PU}{\9042\173}%* U+227B
18042 % U+227C PRECEDES OR EQUAL TO; \preccurlyeq (AmS)
18043 \DeclareTextCommand{\textpreccurlyeq}{PU}{\9042\174}%* U+227C
18044 % U+227D SUCCEEDS OR EQUAL TO; \succcurlyeq (AmS)
18045 \DeclareTextCommand{\textsucccurlyeq}{PU}{\9042\175}%* U+227D
18046 % U+227E PRECEDES OR EQUIVALENT TO; \precsim (AmS)

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18047 \DeclareTextCommand{\textprecsim}{PU}{\9042\176}%* U+227E
18048 % \nprecsim (txfonts/pxfonts)
18049 \DeclareTextCommand{\textnprecsim}{PU}{\9042\176\83\070}%* U+227E U+0338
18050 % U+227F SUCCEEDS OR EQUIVALENT TO; \succsim (AmS)
18051 \DeclareTextCommand{\textsuccsim}{PU}{\9042\177}%* U+227F
18052 % \nsuccsim (txfonts/pxfonts)
18053 \DeclareTextCommand{\textnsuccsim}{PU}{\9042\177\83\070}%* U+227F U+0338
18054 % U+2280 DOES NOT PRECEDE; notprecedes; \nprec (AmS)
18055 \DeclareTextCommand{\textnprec}{PU}{\9042\200}%* U+2280
18056 % U+2281 DOES NOT SUCCEED; notsucceeds; \nsucc (AmS)
18057 \DeclareTextCommand{\textnsucc}{PU}{\9042\201}%* U+2281
18058 % U+2282 SUBSET OF; propersubset; \subset (LaTeX)
18059 \DeclareTextCommand{\textsubset}{PU}{\9042\202}%* U+2282
18060 % U+2283 SUPERSET OF; propersuperset; \supset (LaTeX)
18061 \DeclareTextCommand{\textsupset}{PU}{\9042\203}%* U+2283
18062 % U+2284 NOT A SUBSET OF; notsubset; \nsubset (mathabx)
18063 \DeclareTextCommand{\textnsubset}{PU}{\9042\204}%* U+2284
18064 % U+2285 NOT A SUPERSET OF; notsuperset; \nsupset (mathabx)
18065 \DeclareTextCommand{\textnsupset}{PU}{\9042\205}%* U+2285
18066 % U+2286 SUBSET OF OR EQUAL TO; reflexsubset; \subseteq (LaTeX)
18067 \DeclareTextCommand{\textsubseteq}{PU}{\9042\206}%* U+2286
18068 % U+2287 SUPERSET OF OR EQUAL TO; reflexsuperset; \supseteq (LaTeX)
18069 \DeclareTextCommand{\textsupseteq}{PU}{\9042\207}%* U+2287
18070 % U+2288 NEITHER A SUBSET OF NOR EQUAL TO; \nsubseteq (AmS)
18071 \DeclareTextCommand{\textnsubseteq}{PU}{\9042\210}%* U+2288
18072 % U+2289 NEITHER A SUPERSET OF NOR EQUAL TO; \nsupseteq (AmS)
18073 \DeclareTextCommand{\textnsupseteq}{PU}{\9042\211}%* U+2289
18074 % U+228A SUBSET OF WITH NOT EQUAL TO; subsetnotequal; \subsetneq
      neq (AmS)
18075 \DeclareTextCommand{\textsubsetneq}{PU}{\9042\212}%* U+228A
18076 % U+228B SUPERSET OF WITH NOT EQUAL TO; supersetnotequal; \supsetneq
      neq (AmS)
18077 \DeclareTextCommand{\textsupsetneq}{PU}{\9042\213}%* U+228B
18078 % U+228D MULTISSET MULTIPLICATION; \cupdot (MnSymbol)
18079 \DeclareTextCommand{\textcupdot}{PU}{\9042\215}%* U+228D
18080 % U+228E MULTISSET UNION; \cupplus (MnSymbol)
18081 \DeclareTextCommand{\textcupplus}{PU}{\9042\216}%* U+228E
18082 % U+228F SQUARE IMAGE OF; \sqsubset (latexsym, ...)
18083 \DeclareTextCommand{\textsqsubset}{PU}{\9042\217}%* U+228F
18084 % \nsqsubset (txfonts/pxfonts)
18085 \DeclareTextCommand{\textnsqsubset}{PU}{\9042\217\83\070}%* U+228F U+0338
18086 % U+2290 SQUARE ORIGINAL OF; \sqsupset (latexsym, ...)
18087 \DeclareTextCommand{\textsqsupset}{PU}{\9042\220}%* U+2290
18088 % \nsqsupset (txfonts/pxfonts)
18089 \DeclareTextCommand{\textnsqsupset}{PU}{\9042\220\83\070}%* U+2290 U+0338
18090 % U+2291 SQUARE IMAGE OF OR EQUAL TO; \sqsubseteq (LaTeX)
18091 \DeclareTextCommand{\textsqsubseteq}{PU}{\9042\221}%* U+2291
18092 % \nsqsubseteq (txfonts/pxfonts)
18093 \DeclareTextCommand{\textnsqsubseteq}{PU}{\9042\221\83\070}%* U+2291 U+0338
18094 % U+2292 SQUARE ORIGINAL OF OR EQUAL TO; \sqsupseteq (LaTeX)
18095 \DeclareTextCommand{\textsqsupseteq}{PU}{\9042\222}%* U+2292
18096 % \nsqsupseteq (txfonts/pxfonts)
18097 \DeclareTextCommand{\textnsqsupseteq}{PU}{\9042\222\83\070}%* U+2292 U+0338
18098 % U+2293 SQUARE CAP; \sqcap (LaTeX)

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18099 \DeclareTextCommand{\textsqcap}{PU}{\9042\223}%* U+2293
18100 % U+2294 SQUARE CUP; \sqcup (LaTeX)
18101 \DeclareTextCommand{\textsqcup}{PU}{\9042\224}%* U+2294
18102 % U+2295 CIRCLED PLUS; circleplus; \oplus (LaTeX)
18103 \DeclareTextCommand{\textoplus}{PU}{\9042\225}%* U+2295
18104 %* \textoplus -> \varoplus (stmaryrd)
18105 % U+2296 CIRCLED MINUS; minuscircle; \ominus (LaTeX)
18106 \DeclareTextCommand{\textominus}{PU}{\9042\226}%* U+2296
18107 %* \textominus -> \varominus (stmaryrd)
18108 % U+2297 CIRCLED TIMES; circlemultiply; \otimes (LaTeX)
18109 \DeclareTextCommand{\textotimes}{PU}{\9042\227}%* U+2297
18110 %* \textotimes -> \varotimes (stmaryrd)
18111 % U+2298 CIRCLED DIVISION SLASH; \oslash (LaTeX)
18112 \DeclareTextCommand{\textoslash}{PU}{\9042\230}%* U+2298
18113 %* \textoslash -> \varoslash (stmaryrd)
18114 % U+2299 CIRCLED DOT OPERATOR; circle(d?)ot; \odot (LaTeX)
18115 \DeclareTextCommand{\textodot}{PU}{\9042\231}%* U+2299
18116 %* \textodot -> \varodot (stmaryrd)
18117 % U+229A CIRCLED RING OPERATOR; \circledcirc (AmS)
18118 \DeclareTextCommand{\textcircledcirc}{PU}{\9042\232}%* U+229A
18119 %* \textcircledcirc -> \ocirc (mathabx)
18120 %* \textcircledcirc -> \varocircle (stmaryrd)
18121 % U+229B CIRCLED ASTERISK OPERATOR; \circledast (AmS)
18122 \DeclareTextCommand{\textcircledast}{PU}{\9042\233}%* U+229B
18123 %* \textcircledast -> \varoast (stmaryrd)
18124 %* \textcircledast -> \oasterisk (mathabx)
18125 % U+229D CIRCLED DASH; \circleddash (AmS)
18126 \DeclareTextCommand{\textcircleddash}{PU}{\9042\235}%* U+229D
18127 % U+229E SQUARED PLUS; \boxplus (AmS)
18128 \DeclareTextCommand{\textboxplus}{PU}{\9042\236}%* U+229E
18129 % U+229F SQUARED MINUS; \boxminus (AmS)
18130 \DeclareTextCommand{\textboxminus}{PU}{\9042\237}%* U+229F
18131 % U+22A0 SQUARED TIMES; \boxtimes (AmS)
18132 \DeclareTextCommand{\textboxtimes}{PU}{\9042\240}%* U+22A0
18133 % U+22A1 SQUARED DOT OPERATOR; \boxdot (AmS)
18134 \DeclareTextCommand{\textboxdot}{PU}{\9042\241}%* U+22A1
18135 % U+22A2 RIGHT TACK; \vdash (LaTeX)
18136 \DeclareTextCommand{\textvdash}{PU}{\9042\242}%* U+22A2
18137 %* \textvdash -> \rightvdash (MnSymbol)
18138 % U+22A3 LEFT TACK; \dashleftarrow; \dashv (LaTeX)
18139 \DeclareTextCommand{\textdashv}{PU}{\9042\243}%* U+22A3
18140 %* \textdashv -> \leftvdash (MnSymbol)
18141 % \ndashv (mathabx)
18142 \DeclareTextCommand{\textndashv}{PU}{\9042\243\83\070}%* U+22A3 U+0338
18143 %* \textndashv -> \nleftvdash (MnSymbol)
18144 % U+22A4 DOWN TACK (=top); \tackdown; \top (LaTeX)
18145 \DeclareTextCommand{\textttop}{PU}{\9042\244}%* U+22A4
18146 %* \textttop -> \downvdash (MnSymbol)
18147 % \ndownvdash (MnSymbol)
18148 \DeclareTextCommand{\textndownvdash}{PU}{\9042\244\83\070}%* U+22A4 U+0338
18149 % U+22A5 UP TACK (=base, bottom); \bot (LaTeX)
18150 \DeclareTextCommand{\textbot}{PU}{\9042\245}%* U+22A5
18151 %* \textbot -> \upvdash (MnSymbol)
18152 % \nupvdash (MnSymbol)

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18153 \DeclareTextCommand{\textnupvdash}{PU}{\9042\245\83\070}%* U+22A5 U+0338
18154 %* \textnupvdash -> \nperp (MnSymbol)
18155 % U+22A8 TRUE; \vdash (AmS)
18156 \DeclareTextCommand{\textvDash}{PU}{\9042\250}%* U+22A8
18157 %* \textvDash -> \models (LaTeX)
18158 %* \textvDash -> \rightmodels (MnSymbol)
18159 % U+22A9 FORCES; \Vdash (AmS)
18160 \DeclareTextCommand{\textVdash}{PU}{\9042\251}%* U+22A9
18161 %* \textVdash -> \rightVdash (MnSymbol)
18162 % U+22AA TRIPLE VERTICAL BAR RIGHT TURNSTILE; \Vvdash (AmS)
18163 \DeclareTextCommand{\textVvdash}{PU}{\9042\252}%* U+22AA
18164 % \nVdash (mathabx)
18165 \DeclareTextCommand{\textnVdash}{PU}{\9042\252\83\070}%* U+22AA U+0338
18166 % U+22AB DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE;
18167 % \VDash (mathabx)
18168 \DeclareTextCommand{\textVDash}{PU}{\9042\253}%* U+22AB
18169 %* \textVDash -> \rightModels (MnSymbol)
18170 % U+22AC DOES NOT PROVE; \nvdash (AmS)
18171 \DeclareTextCommand{\textnvdash}{PU}{\9042\254}%* U+22AC
18172 %* \textnvdash -> \nrightrvdash (MnSymbol)
18173 % U+22AD NOT TRUE; \nvDash (AmS)
18174 \DeclareTextCommand{\textnvDash}{PU}{\9042\255}%* U+22AD
18175 %* \textnvDash -> \nrightrmodels (MnSymbol)
18176 %* \textnvDash -> \nmodels (MnSymbol)
18177 % U+22AE DOES NOT FORCE; \nVdash (txfonts/pxfonts)
18178 \DeclareTextCommand{\textnVdash}{PU}{\9042\256}%* U+22AE
18179 %* \textnVdash -> \nrightrVdash (MnSymbol)
18180 % U+22AF NEGATED DOUBLE VERTICAL BAR DOUBLE RIGHT TURN-
      STILE; \nVDash (AmS)
18181 \DeclareTextCommand{\textnVDash}{PU}{\9042\257}%* U+22AF
18182 %* \textnVDash -> \nrightrModels (MnSymbol)
18183 % U+22B2 NORMAL SUBGROUP OF; \lhd (latexsym, ...)
18184 \DeclareTextCommand{\textlhd}{PU}{\9042\262}%* U+22B2
18185 %* \textlhd -> \lessclosed (MnSymbol)
18186 % U+22B3 CONTAINS AS NORMAL SUBGROUP; \rhd (latexsym, ...)
18187 \DeclareTextCommand{\textrhd}{PU}{\9042\263}%* U+22B3
18188 %* \textrhd -> \gtrclosed (MnSymbol)
18189 % U+22B4 NORMAL SUBGROUP OF OR EQUAL TO; \unlhd (latexsym, ...)
18190 \DeclareTextCommand{\textunlhd}{PU}{\9042\264}%* U+22B4
18191 %* \textunlhd -> \leqclosed (MnSymbol)
18192 %* \textunlhd -> \trianglelefteq (MnSymbol)
18193 % U+22B5 CONTAINS AS NORMAL SUBGROUP OR EQUAL TO; \unrhd (la-
      texsym, ...)
18194 \DeclareTextCommand{\textunrhd}{PU}{\9042\265}%* U+22B5
18195 %* \textunrhd -> \geqclosed (MnSymbol)
18196 %* \textunrhd -> \trianglerighteq (MnSymbol)
18197 % U+22B6 ORIGINAL OF; \multimapdotbothA (txfonts/pxfonts)
18198 \DeclareTextCommand{\textmultimapdotbothA}{PU}{\9042\266}%* U+22B6
18199 % U+22B7 IMAGE OF; \multimapdotbothB (txfonts/pxfonts)
18200 \DeclareTextCommand{\textmultimapdotbothB}{PU}{\9042\267}%* U+22B7
18201 % U+22B8 MULTIMAP; \multimap (AmS, txfonts/pxfonts)
18202 \DeclareTextCommand{\textmultimap}{PU}{\9042\270}%* U+22B8
18203 % U+22BB XOR; \veebar (AmS)
18204 \DeclareTextCommand{\textveebar}{PU}{\9042\273}%* U+22BB

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18205 % U+22BC NAND; \barwedge (mathabx)
18206 \DeclareTextCommand{\textbarwedge}{PU}{\9042\274}%* U+22BC
18207 % U+22C6 STAR OPERATOR; \star (LaTeX)
18208 \DeclareTextCommand{\textstar}{PU}{\9042\306}%* U+22C6
18209 % U+22C7 DIVISION TIMES; \divideontimes (AmS)
18210 \DeclareTextCommand{\textdivideontimes}{PU}{\9042\307}%* U+22C7
18211 % U+22C8 BOWTIE; \bowtie (LaTeX)
18212 \DeclareTextCommand{\textbowtie}{PU}{\9042\310}%* U+22C8
18213 %* \textbowtie -> \Bowtie (wasysym)
18214 % U+22C9 LEFT NORMAL FACTOR SEMIDIRECT PRODUCT; \ltimes (AmS)
18215 \DeclareTextCommand{\textltimes}{PU}{\9042\311}%* U+22C9
18216 % U+22CA RIGHT NORMAL FACTOR SEMIDIRECT PRODUCT;
18217 % \rtimes (AmS)
18218 \DeclareTextCommand{\textrtimes}{PU}{\9042\312}%* U+22CA
18219 % U+22CB LEFT SEMIDIRECT PRODUCT; \leftthreetimes (AmS)
18220 \DeclareTextCommand{\textleftthreetimes}{PU}{\9042\313}%* U+22CB
18221 % U+22CC RIGHT SEMIDIRECT PRODUCT; \rightthreetimes (AmS)
18222 \DeclareTextCommand{\textrightthreetimes}{PU}{\9042\314}%* U+22CC
18223 % U+22CD REVERSED TILDE EQUALS; \backsimeq (AmS)
18224 \DeclareTextCommand{\textbacksimeq}{PU}{\9042\315}%* U+22CD
18225 % \nbacksimeq (txfonts/pxfonts)
18226 \DeclareTextCommand{\textnbacksimeq}{PU}{\9042\315\83\070}%* U+22CD U+0338
18227 % U+22CE CURLY LOGICAL OR; curlyor; \curlyvee (AmS)
18228 \DeclareTextCommand{\textcurlyvee}{PU}{\9042\316}%* U+22CE
18229 %* \textcurlyvee -> \varcurlyvee (stmaryrd)
18230 % U+22CF CURLY LOGICAL AND; curlyand; \curlywedge (AmS)
18231 \DeclareTextCommand{\textcurlywedge}{PU}{\9042\317}%* U+22CF
18232 %* \textcurlywedge -> \varcurlywedge (stmaryrd)
18233 % U+22D0 DOUBLE SUBSET; \Subset (AmS)
18234 \DeclareTextCommand{\textSubset}{PU}{\9042\320}%* U+22D0
18235 % \nSubset (txfonts/pxfonts)
18236 \DeclareTextCommand{\textnSubset}{PU}{\9042\320\83\070}%* U+22D0 U+0338
18237 % U+22D1 DOUBLE SUPERSET; \Supset (AmS)
18238 \DeclareTextCommand{\textSupset}{PU}{\9042\321}%* U+22D1
18239 % \nSupset (txfonts/pxfonts)
18240 \DeclareTextCommand{\textnSupset}{PU}{\9042\321\83\070}%* U+22D1 U+0338
18241 % U+22D2 DOUBLE INTERSECTION; \Cap (AmS)
18242 \DeclareTextCommand{\textCap}{PU}{\9042\322}%* U+22D2
18243 %* \textCap -> \doublecap (mathabx)
18244 % U+22D3 DOUBLE UNION; \Cup (AmS)
18245 \DeclareTextCommand{\textCup}{PU}{\9042\323}%* U+22D3
18246 %* \textCup -> \doublecup (mathabx)
18247 % U+22D4 PITCHFORK; \pitchfork (mathabx)
18248 \DeclareTextCommand{\textpitchfork}{PU}{\9042\324}%* U+22D4
18249 % U+22D6 LESS-THAN WITH DOT; \lessdot (AmS)
18250 \DeclareTextCommand{\textlessdot}{PU}{\9042\326}%* U+22D6
18251 % U+22D7 GREATER-THAN WITH DOT; \gtrdot (AmS)
18252 \DeclareTextCommand{\textgtrdot}{PU}{\9042\327}%* U+22D7
18253 % U+22D8 VERY MUCH LESS-THAN; \lll (AmS)
18254 \DeclareTextCommand{\textlll}{PU}{\9042\330}%* U+22D8
18255 % U+22D9 VERY MUCH GREATER-THAN; \ggg (AmS)
18256 \DeclareTextCommand{\textggg}{PU}{\9042\331}%* U+22D9
18257 % U+22DA LESS-THAN EQUAL TO OR GREATER-THAN; lessequalorgreater;
18258 % \lesseqgtr (AmS)

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18259 \DeclareTextCommand{\textlesseqgtr}{PU}{\9042\332}%* U+22DA
18260 % U+22DB GREATER-THAN EQUAL TO OR LESS-THAN; greaterqualorless;
18261 % \gtreqless (AmS)
18262 \DeclareTextCommand{\textgtreqless}{PU}{\9042\333}%* U+22DB
18263 % U+22DE EQUAL TO OR PRECEDES; \curlyeqprec (MnSymbol)
18264 \DeclareTextCommand{\textcurlyeqprec}{PU}{\9042\336}%* U+22DE
18265 % \ncurlyeqprec (mathabx)
18266 \DeclareTextCommand{\textncurlyeqprec}{PU}{\9042\336\83\070}%* U+22DE U+0338
18267 % U+22DF EQUAL TO OR SUCCEEDS; \curlyeqsucc (MnSymbol)
18268 \DeclareTextCommand{\textcurlyeqsucc}{PU}{\9042\337}%* U+22DF
18269 % \ncurlyeqsucc (mathabx)
18270 \DeclareTextCommand{\textncurlyeqsucc}{PU}{\9042\337\83\070}%* U+22DF U+0338
18271 % U+22E0 DOES NOT PRECEDE OR EQUAL; \npreccurlyeq (txfonts/pxfonts)
18272 \DeclareTextCommand{\textnpreccurlyeq}{PU}{\9042\340}%* U+22E0
18273 % U+22E1 DOES NOT SUCCEED OR EQUAL; \nsucccurlyeq (txfonts/pxfonts)
18274 \DeclareTextCommand{\textnsucccurlyeq}{PU}{\9042\341}%* U+22E1
18275 % U+22E2 NOT SQUARE IMAGE OF OR EQUAL TO; \nsqsubseteq (tx-
    fonts/pxfonts)
18276 \DeclareTextCommand{\textnqsubseteq}{PU}{\9042\342}%* U+22E2
18277 % U+22E3 NOT SQUARE ORIGINAL OF OR EQUAL TO; \nsqsupseteq (tx-
    fonts/pxfonts)
18278 \DeclareTextCommand{\textnqsupseteq}{PU}{\9042\343}%* U+22E3
18279 % U+22E4 SQUARE IMAGE OF OR NOT EQUAL TO; \sqsubsetneq (mathabx)
18280 \DeclareTextCommand{\textsqsubsetneq}{PU}{\9042\344}%* U+22E4
18281 %* \textsqsubsetneq -> \varsqsubsetneq (mathabx)
18282 % U+22E5 SQUARE ORIGINAL OF OR NOT EQUAL TO; \sqsupsetneq (math-
    abx)
18283 \DeclareTextCommand{\textsqsupsetneq}{PU}{\9042\345}%* U+22E5
18284 %* \textsqsupsetneq -> \varsqsupsetneq (mathabx)
18285 % U+22E6 LESS-THAN BUT NOT EQUIVALENT TO; \lnsim (AmS)
18286 \DeclareTextCommand{\textlnsim}{PU}{\9042\346}%* U+22E6
18287 % U+22E7 GREATER-THAN BUT NOT EQUIVALENT TO; \gnsim (AmS)
18288 \DeclareTextCommand{\textgnsim}{PU}{\9042\347}%* U+22E7
18289 % U+22E8 PRECEDES BUT NOT EQUIVALENT TO; \precsim (AmS)
18290 \DeclareTextCommand{\textprecsim}{PU}{\9042\350}%* U+22E8
18291 % U+22E9 SUCCEEDS BUT NOT EQUIVALENT TO; \succsim (AmS)
18292 \DeclareTextCommand{\textsuccsim}{PU}{\9042\351}%* U+22E9
18293 % U+22EA NOT NORMAL SUBGROUP OF; \ntriangleleft (AmS)
18294 \DeclareTextCommand{\textntriangleleft}{PU}{\9042\352}%* U+22EA
18295 %* \textntriangleleft -> \nlessclosed (MnSymbol)
18296 % U+22EB DOES NOT CONTAIN AS NORMAL SUBGROUP; \ntriangleright-
    leright (AmS)
18297 \DeclareTextCommand{\textntriangleright}{PU}{\9042\353}%* U+22EB
18298 %* \textntriangleright -> \ngtrclosed (MnSymbol)
18299 % U+22EC NOT NORMAL SUBGROUP OF OR EQUAL TO;
18300 % \ntrianglelefteq (AmS)
18301 \DeclareTextCommand{\textntrianglelefteq}{PU}{\9042\354}%* U+22EC
18302 % U+22ED DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL;
18303 % \ntrianglerighteq (AmS)
18304 \DeclareTextCommand{\textntrianglerighteq}{PU}{\9042\355}%* U+22ED
18305 %* \textntrianglerighteq -> \textngeqclosed
18306 % U+22EE VERTICAL ELLIPSIS; ellipsisvertical; \vdots (LaTeX)
18307 \DeclareTextCommand{\textvdots}{PU}{\9042\356}%* U+22EE
18308 % U+22EF MIDLINE HORIZONTAL ELLIPSIS; \cdots (LaTeX)

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18309 \DeclareTextCommand{\textcdots}{PU}{\9042\357}%* U+22EF
18310 % U+22F0 UP RIGHT DIAGONAL ELLIPSIS; \udots (MnSymbol)
18311 \DeclareTextCommand{\textudots}{PU}{\9042\360}%* U+22F0
18312 % U+22F1 DOWN RIGHT DIAGONAL ELLIPSIS; \ddots (LaTeX)
18313 \DeclareTextCommand{\textddots}{PU}{\9042\361}%* U+22F1
18314 % U+22F6 ELEMENT OF WITH OVERBAR; \barin (mathabx)
18315 \DeclareTextCommand{\textbarin}{PU}{\9042\366}%* U+22F6

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46.2.23 Miscellaneous Technical: U+2300 to U+23FF

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18316 % U+2300 DIAMETER SIGN; \diameter (mathabx,wasysym)
18317 \DeclareTextCommand{\textdiameter}{PU}{\9043\000}%* U+2300
18318 % U+2310 REVERSED NOT SIGN; \backneg (MnSymbol)
18319 \DeclareTextCommand{\textbackneg}{PU}{\9043\020}%* U+2310
18320 % U+2311 SQUARE LOZENGE; \wasylozenge (wasysym)
18321 \DeclareTextCommand{\textwasylozenge}{PU}{\9043\021}%* U+2311
18322 % U+2319 TURNED NOT SIGN; \invbackneg (MnSymbol)
18323 \DeclareTextCommand{\textinvbackneg}{PU}{\9043\031}%* U+2319
18324 % U+231A WATCH; \clock (wasysym)
18325 \DeclareTextCommand{\textclock}{PU}{\9043\032}%* U+231A
18326 %* \textclock -> \Clocklogo (marvosym)
18327 %* \textclock -> \ClockLogo (marvosym)
18328 % U+231C TOP LEFT CORNER; \ulcorner (AmS)
18329 \DeclareTextCommand{\textulcorner}{PU}{\9043\034}%* U+231C
18330 % U+231D TOP RIGHT CORNER; \urcorner (AmS)
18331 \DeclareTextCommand{\texturcorner}{PU}{\9043\035}%* U+231D
18332 % U+231E BOTTOM LEFT CORNER; \llcorner (AmS)
18333 \DeclareTextCommand{\textllcorner}{PU}{\9043\036}%* U+231E
18334 % U+231F BOTTOM RIGHT CORNER; \lrcorner (AmS)
18335 \DeclareTextCommand{\textlrcorner}{PU}{\9043\037}%* U+231F
18336 % U+2322 FROWN; \frown (LaTeX)
18337 \DeclareTextCommand{\textfrown}{PU}{\9043\042}%* U+2322
18338 % U+2323 SMILE; \smile (LaTeX)
18339 \DeclareTextCommand{\textsmile}{PU}{\9043\043}%* U+2323
18340 % U+2328 KEYBOARD; \Keyboard (marvosym)
18341 \DeclareTextCommand{\textKeyboard}{PU}{\9043\050}%* U+2328
18342 % U+2329 LEFT-POINTING ANGLE BRACKET; \angleleft; \angle (LaTeX)
18343 \DeclareTextCommand{\textlangle}{PU}{\9043\051}%* U+2329
18344 % U+232A RIGHT-POINTING ANGLE BRACKET; \angleright; \rangle (LaTeX)
18345 \DeclareTextCommand{\textrangle}{PU}{\9043\052}%* U+232A
18346 % U+2339 APL FUNCTIONAL SYMBOL QUAD DIVIDE; \APLinv (wasysym)
18347 \DeclareTextCommand{\textAPLinv}{PU}{\9043\071}%* U+2339
18348 % U+233C APL FUNCTIONAL SYMBOL QUAD CIRCLE; \Tumbler (marvosym)
18349 \DeclareTextCommand{\textTumbler}{PU}{\9043\074}%* U+233C
18350 % U+233D APL FUNCTIONAL SYMBOL CIRCLE STILE; \baro (stmaryrd)
18351 \DeclareTextCommand{\textstmaryrdbaro}{PU}{\9043\075}%* U+233D
18352 %* \textstmaryrdbaro -> \baro (stmaryrd)
18353 % U+233F APL FUNCTIONAL SYMBOL SLASH BAR; \notslash (wasysym)
18354 \DeclareTextCommand{\textnotslash}{PU}{\9043\077}%* U+233F
18355 % U+2340 APL FUNCTIONAL SYMBOL BACKSLASH BAR;
18356 % \notbackslash (wasysym)
18357 \DeclareTextCommand{\textnotbackslash}{PU}{\9043\100}%* U+2340
18358 % U+2342 APL FUNCTIONAL SYMBOL QUAD BACKSLASH; \boxbackslash (mathabx)

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18359 \DeclareTextCommand{\textboxbackslash}{PU}{\9043\102}%* U+2342
 18360 % U+2347 APL FUNCTIONAL SYMBOL QUAD LEFTWARDS ARROW;
 18361 % \APLleftarrowbox (wasysym)
 18362 \DeclareTextCommand{\textAPLleftarrowbox}{PU}{\9043\107}%* U+2347
 18363 % U+2348 APL FUNCTIONAL SYMBOL QUAD RIGHTWARDS ARROW;
 18364 % \APLrightarrowbox (wasysym)
 18365 \DeclareTextCommand{\textAPLrightarrowbox}{PU}{\9043\110}%* U+2348
 18366 % U+2350 APL FUNCTIONAL SYMBOL QUAD UPWARDS ARROW; \APLuparrowbox (wasysym)
 18367 \DeclareTextCommand{\textAPLuparrowbox}{PU}{\9043\120}%* U+2350
 18368 % U+2357 APL FUNCTIONAL SYMBOL QUAD DOWNWARDS ARROW;
 18369 % \APLdownarrowbox (wasysym)
 18370 \DeclareTextCommand{\textAPLdownarrowbox}{PU}{\9043\127}%* U+2357
 18371 % U+235E APL FUNCTIONAL SYMBOL QUOTE QUAD;
 18372 % \APLinput (wasysym)
 18373 \DeclareTextCommand{\textAPLinput}{PU}{\9043\136}%* U+235E
 18374 % U+2370 APL FUNCTIONAL SYMBOL QUAD QUESTION; \Request (china2e)
 18375 \DeclareTextCommand{\textRequest}{PU}{\9043\160}%* U+2370
 18376 % U+2393 DIRECT CURRENT SYMBOL FORM TWO; \Beam (marvosym)
 18377 \DeclareTextCommand{\textBeam}{PU}{\9043\223}%* U+2393
 18378 % U+2394 SOFTWARE-FUNCTION SYMBOL; \hexagon (wasysym)
 18379 \DeclareTextCommand{\texthexagon}{PU}{\9043\224}%* U+2394
 18380 % U+2395 APL FUNCTIONAL SYMBOL QUAD; \APLbox (wasysym)
 18381 \DeclareTextCommand{\textAPLbox}{PU}{\9043\225}%* U+2395
 18382 % U+23ED BLACK RIGHT-POINTING DOUBLE TRIANGLE WITH VERTICAL BAR;
 18383 % \ForwardToIndex (marvosym)
 18384 \DeclareTextCommand{\textForwardToIndex}{PU}{\9043\355}%* U+23ED
 18385 % U+23EE BLACK LEFT-POINTING DOUBLE TRIANGLE WITH VERTICAL BAR;
 18386 % \RewindToIndex (marvosym)
 18387 \DeclareTextCommand{\textRewindToIndex}{PU}{\9043\356}%* U+23EE

46.2.24 Control Pictures: U+2400 to U+243F

18388 % U+2422 BLANK SYMBOL
 18389 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
 18390 % U+2423 OPEN BOX; blank
 18391 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

46.2.25 Optical Character Recognition: U+2440 to U+245F

18392 % U+244A OCR DOUBLE BACKSLASH; \bbslash (stmaryrd)
 18393 \DeclareTextCommand{\textbbslash}{PU}{\9044\112}%* U+244A
 18394 %* \textbbslash -> \varparalelinv (txfonts/pxfonts)

46.2.26 Enclosed Alphanumerics: U+2460 to U+24FF

18395 % U+2460 CIRCLED DIGIT ONE; onecircle
 18396 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
 18397 % U+2461 CIRCLED DIGIT TWO; twocircle
 18398 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
 18399 % U+2462 CIRCLED DIGIT THREE; threecircle
 18400 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
 18401 % U+2463 CIRCLED DIGIT FOUR; fourcircle
 18402 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
 18403 % U+2464 CIRCLED DIGIT FIVE; fivecircle

18404 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
18405 % U+2465 CIRCLED DIGIT SIX; sixcircle
18406 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
18407 % U+2466 CIRCLED DIGIT SEVEN; sevenscircle
18408 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
18409 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
18410 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
18411 % U+2468 CIRCLED DIGIT NINE; ninecircle
18412 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
18413 % U+2469 CIRCLED NUMBER TEN; tencircle
18414 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
18415 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
18416 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
18417 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
18418 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
18419 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
18420 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
18421 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
18422 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
18423 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
18424 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
18425 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
18426 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
18427 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
18428 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
18429 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
18430 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
18431 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
18432 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
18433 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
18434 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
18435 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
18436 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
18437 % \CircledA (marvosym)
18438 \DeclareTextCommand{\textCircledA}{PU}{\9044\266}%* U+24B6
18439 %* \textCircledA -> \CleaningA
18440 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
18441 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
18442 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
18443 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
18444 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
18445 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
18446 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
18447 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
18448 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
18449 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
18450 % \CleaningF (marvosym)
18451 \DeclareTextCommand{\textCleaningF}{PU}{\9044\273}%* U+24BB
18452 % \CleaningFF (marvosym)
18453 \DeclareTextCommand{\textCleaningFF}{PU}{\9044\273\83\062}%* U+24BB U+0332
18454 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
18455 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
18456 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
18457 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD

18458 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
18459 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
18460 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
18461 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF
18462 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
18463 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
18464 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
18465 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
18466 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
18467 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
18468 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
18469 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
18470 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
18471 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
18472 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
18473 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
18474 % \CleaningP (marvosym)
18475 \DeclareTextCommand{\textCleaningP}{PU}{\9044\305}%* U+24C5
18476 % \CleaningPP (marvosym)
18477 \DeclareTextCommand{\textCleaningPP}{PU}{\9044\305\83\062}%* U+24C5 U+0332
18478 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
18479 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
18480 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
18481 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
18482 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
18483 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
18484 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
18485 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
18486 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
18487 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
18488 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
18489 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
18490 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
18491 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
18492 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle
18493 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
18494 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
18495 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
18496 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
18497 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
18498 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
18499 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
18500 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
18501 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
18502 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
18503 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
18504 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
18505 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
18506 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle
18507 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
18508 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
18509 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
18510 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
18511 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6

18512 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
 18513 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
 18514 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
 18515 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8
 18516 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
 18517 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
 18518 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
 18519 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
 18520 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
 18521 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
 18522 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
 18523 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
 18524 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
 18525 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
 18526 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
 18527 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
 18528 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
 18529 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
 18530 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
 18531 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
 18532 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
 18533 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
 18534 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
 18535 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
 18536 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
 18537 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
 18538 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
 18539 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
 18540 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
 18541 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
 18542 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
 18543 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
 18544 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
 18545 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
 18546 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
 18547 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
 18548 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
 18549 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
 18550 % U+24EA CIRCLED DIGIT ZERO
 18551 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

46.2.27 Box Drawing: U+2500 to 257F

18552 % U+2504 BOX DRAWINGS LIGHT TRIPLE DASH HORIZONTAL; \Cutting-
 Line (marvosym)
 18553 \DeclareTextCommand{\textCuttingLine}{PU}{\9045\004}%* U+2504
 18554 %* \textCuttingLine -> \Kutline (marvosym)
 18555 %* \textCuttingLine -> \CutLine (marvosym)
 18556 %* \textCuttingLine -> \Cutline (marvosym)

46.2.28 Geometric Shapes: U+25A0 to U+25FF

18557 % U+25B2 BLACK UP-POINTING TRIANGLE; \UParrow (wasysym)
 18558 \DeclareTextCommand{\textUParrow}{PU}{\9045\262}%* U+25B2
 18559 %* \textUParrow -> \MoveUp (marvosym)
 18560 % U+25B3 WHITE UP-POINTING TRIANGLE; whiteuppointingtriangle;

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18561 % \bigtriangleup (LaTeX)
18562 \DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}%* U+25B3
18563 %* \textbigtriangleup -> \APLup (wasysym)
18564 %* \textbigtriangleup -> \Bleech (marvosym)
18565 % U+25B6 BLACK RIGHT-POINTING TRIANGLE; \Forward (marvosym)
18566 \DeclareTextCommand{\textForward}{PU}{\9045\266}%* U+25B6
18567 % U+25B7 WHITE RIGHT-POINTING TRIANGLE (= z notation range restric-
tion);
18568 % whiterightpointingtriangle; \triangleright (LaTeX)
18569 \DeclareTextCommand{\texttriangleright}{PU}{\9045\267}%* U+25B7
18570 % U+25BA BLACK RIGHT-POINTING POINTER; \RHD (wasysym)
18571 \DeclareTextCommand{\textRHD}{PU}{\9045\272}%* U+25BA
18572 % U+25BC BLACK DOWN-POINTING TRIANGLE; \DOWNarrow (wasysym)
18573 \DeclareTextCommand{\textDOWNarrow}{PU}{\9045\274}%* U+25BC
18574 %* \textDOWNarrow -> \MoveDown (marvosym)
18575 % U+25BD WHITE DOWN-POINTING TRIANGLE; whitedownpointingtrian-
gle;
18576 % \bigtriangledown (LaTeX)
18577 \DeclareTextCommand{\textbigtriangledown}{PU}{\9045\275}%* U+25BD
18578 %* \textbigtriangledown -> \APLdown (wasysym)
18579 % U+25C0 BLACK LEFT-POINTING TRIANGLE; \Rewind (marvosym)
18580 \DeclareTextCommand{\textRewind}{PU}{\9045\300}%* U+25C0
18581 % U+25C1 WHITE RIGHT-POINTING TRIANGLE (= z notation domain re-
striction);
18582 % whiteleftpointingtriangle; \triangleleft (LaTeX)
18583 \DeclareTextCommand{\texttriangleleft}{PU}{\9045\301}%* U+25C1
18584 % U+25C4 BLACK LEFT-POINTING POINTER; \LHD (wasysym)
18585 \DeclareTextCommand{\textLHD}{PU}{\9045\304}%* U+25C4
18586 % U+25C7 WHITE DIAMOND; whitediamond; \diamond (LaTeX)
18587 \DeclareTextCommand{\textdiamond}{PU}{\9045\307}%* U+25C7
18588 %* \textdiamond -> \Diamond (wasysym)
18589 % U+25CA LOZENGE; lozenge; \lozenge (AmS)
18590 \DeclareTextCommand{\textlozenge}{PU}{\9045\312}%* U+25CA
18591 % U+25D6 LEFT HALF BLACK CIRCLE; \LEFTCIRCLE (wasysym)
18592 \DeclareTextCommand{\textLEFTCIRCLE}{PU}{\9045\326}%* U+25D6
18593 % U+25D7 RIGHT HALF BLACK CIRCLE; \RIGHTCIRCLE (wasysym)
18594 \DeclareTextCommand{\textRIGHTCIRCLE}{PU}{\9045\327}%* U+25D7
18595 % U+25E6 WHITE BULLET; *openbullet, whitebullet
18596 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}%* U+25E6
18597 % U+25EB WHITE SQUARE WITH VERTICAL BISECTING LINE;
18598 % \boxbar (stmaryrd)
18599 \DeclareTextCommand{\textboxbar}{PU}{\9045\353}%* U+25EB
18600 % U+25EF LARGE CIRCLE; largecircle
18601 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}%* U+25EF
18602 %* \textbigcircle -> \varbigcirc (stmaryrd)
18603 %

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46.2.29 Miscellaneous Symbols: U+2600 to U+26FF

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18604 % U+2601 CLOUD; \Cloud (ifsym)
18605 \DeclareTextCommand{\textCloud}{PU}{\9046\001}%* U+2601
18606 % U+2605 BLACK STAR; \FiveStar (bbding)
18607 \DeclareTextCommand{\textFiveStar}{PU}{\9046\005}%* U+2605
18608 % U+2606 WHITE STAR; \FiveStarOpen (bbding)
18609 \DeclareTextCommand{\textFiveStarOpen}{PU}{\9046\006}%* U+2606

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18610 % U+260E BLACK TELEPHONE; telephoneblack; \Phone (bbding)
18611 \DeclareTextCommand{\textPhone}{PU}{\9046\016}%* U+260E
18612 %* \textPhone -> \Telefon (marvosym)
18613 % U+2610 BALLOT BOX; \boxempty (stmaryrd)
18614 \DeclareTextCommand{\textboxempty}{PU}{\9046\020}%* U+2610
18615 %* \textboxempty -> \Box (wasysym)
18616 % U+2611 BALLOT BOX WITH CHECK; \Checkedbox (marvosym)
18617 \DeclareTextCommand{\textCheckedbox}{PU}{\9046\021}%* U+2611
18618 %* \textCheckedbox -> \CheckedBox (marvosym)
18619 % U+2612 BALLOT BOX WITH X; \Crossedbox (marvosym)
18620 \DeclareTextCommand{\textCrossedbox}{PU}{\9046\022}%* U+2612
18621 %* \textCrossedbox -> \XBox (wasysym)
18622 %* \textCrossedbox -> \CrossedBox (marvosym)
18623 % U+2615 HOT BEVERAGE; \Coffeecup (marvosym)
18624 \DeclareTextCommand{\textCoffeecup}{PU}{\9046\025}%* U+2615
18625 % U+261A BLACK LEFT POINTING INDEX; \HandCuffLeft (bbding)
18626 \DeclareTextCommand{\textHandCuffLeft}{PU}{\9046\032}%* U+261A
18627 % U+261B BLACK RIGHT POINTING INDEX; \HandCuffRight (bbding)
18628 \DeclareTextCommand{\textHandCuffRight}{PU}{\9046\033}%* U+261B
18629 % U+261C WHITE LEFT POINTING INDEX; \HandLeft (bbding)
18630 \DeclareTextCommand{\textHandLeft}{PU}{\9046\034}%* U+261C
18631 %* \textHandLeft -> \rightpointleft (fourier)
18632 % U+261E WHITE RIGHT POINTING INDEX; \HandRight (bbding)
18633 \DeclareTextCommand{\textHandRight}{PU}{\9046\036}%* U+261E
18634 %* \textHandRight -> \leftpointright (fourier)
18635 %* \textHandRight -> \PointingHand (marvosym)
18636 %* \textHandRight -> \Pointinghand (marvosym)
18637 % U+2622 RADIOACTIVE SIGN; \Radioactivity (marvosym)
18638 \DeclareTextCommand{\textRadioactivity}{PU}{\9046\042}%* U+2622
18639 %* \textRadioactivity -> \Radiation (ifsym)
18640 % U+2623 BIOHAZARD SIGN; \Biohazard (marvosym)
18641 \DeclareTextCommand{\textBiohazard}{PU}{\9046\043}%* U+2623
18642 % U+2625 ANKH; \Ankh (marvosym)
18643 \DeclareTextCommand{\textAnkh}{PU}{\9046\045}%* U+2625
18644 % U+262F YIN YANG; \YinYang (marvosym)
18645 \DeclareTextCommand{\textYinYang}{PU}{\9046\057}%* U+262F
18646 %* \textYinYang -> \Yinyang (marvosym)
18647 %* \textYinYang -> \YingYang (marvosym)
18648 %* \textYinYang -> \Yingyang (marvosym)
18649 % U+2639 WHITE FROWNING FACE; \frownie (wasysym)
18650 \DeclareTextCommand{\textfrownie}{PU}{\9046\071}%* U+2639
18651 %* \textfrownie -> \Frowny (marvosym)
18652 % U+263A WHITE SMILING FACE; \smiley (wasysym)
18653 \DeclareTextCommand{\textsmiley}{PU}{\9046\072}%* U+263A
18654 %* \textsmiley -> \Smiley (marvosym)
18655 % U+263B BLACK SMILING FACE; \blacksmiley (wasysym)
18656 \DeclareTextCommand{\textblacksmiley}{PU}{\9046\073}%* U+263B
18657 % U+263C WHITE SUN WITH RAYS; \sun (wasysym)
18658 \DeclareTextCommand{\textsun}{PU}{\9046\074}%* U+263C
18659 %* \textsun -> \Sun (marvosym)
18660 % U+263D FIRST QUARTER MOON; \leftmoon (wasysym, mathabx)
18661 \DeclareTextCommand{\textleftmoon}{PU}{\9046\075}%* U+263D
18662 % U+263E LAST QUARTER MOON; \rightmoon (wasysym, mathabx)
18663 \DeclareTextCommand{\textrightmoon}{PU}{\9046\076}%* U+263E

18664 % U+263F MERCURY; \mercury (wasysym)
18665 \DeclareTextCommand{\textmercury}{PU}{\9046\077}%* U+263F
18666 %* \textmercury -> \Mercury (marvosym)
18667 % U+2640 FEMALE SIGN; female; \female (wasysym)
18668 \DeclareTextCommand{\textPUfemale}{PU}{\9046\100}% U+2640
18669 %* \textPUfemale -> \textfemale (tipx)
18670 %* \textPUfemale -> \female (wasysym)
18671 %* \textPUfemale -> \venus (wasysym)
18672 %* \textPUfemale -> \Venus (marvosym)
18673 %* \textPUfemale -> \Female (marvosym)
18674 % U+2641 EARTH; \earth (wasysym)
18675 \DeclareTextCommand{\textearth}{PU}{\9046\101}%* U+2641
18676 %* \textearth -> \Earth (marvosym)
18677 % U+2642 MALE SIGN; male, mars; \male (wasysym)
18678 \DeclareTextCommand{\textmale}{PU}{\9046\102}%* U+2642
18679 %* \textmale -> \mars (wasysym)
18680 %* \textmale -> \Mars (marvosym)
18681 %* \textmale -> \Male (marvosym)
18682 % U+2643 JUPITER; \jupiter (wasysym)
18683 \DeclareTextCommand{\textjupiter}{PU}{\9046\103}%* U+2643
18684 %* \textjupiter -> \Jupiter (marvosym)
18685 % U+2644 SATURN; \saturn (wasysym)
18686 \DeclareTextCommand{\textsaturn}{PU}{\9046\104}%* U+2644
18687 %* \textsaturn -> \Saturn (marvosym)
18688 % U+2645 URANUS; \uranus (wasysym)
18689 \DeclareTextCommand{\texturanus}{PU}{\9046\105}%* U+2645
18690 %* \texturanus -> \Uranus (marvosym)
18691 % U+2646 NEPTUNE; \neptune (wasysym)
18692 \DeclareTextCommand{\textneptune}{PU}{\9046\106}%* U+2646
18693 %* \textneptune -> \Neptune (marvosym)
18694 % U+2647 PLUTO; \pluto (wasysym)
18695 \DeclareTextCommand{\textpluto}{PU}{\9046\107}%* U+2647
18696 %* \textpluto -> \Pluto (marvosym)
18697 % U+2648 ARIES; \aries (wasysym)
18698 \DeclareTextCommand{\textaries}{PU}{\9046\110}%* U+2648
18699 %* \textaries -> \Aries (marvosym)
18700 % U+2649 TAURUS; \taurus (wasysym)
18701 \DeclareTextCommand{\texttaurus}{PU}{\9046\111}%* U+2649
18702 %* \texttaurus -> \Taurus (marvosym)
18703 % U+264A GEMINI; \gemini (wasysym)
18704 \DeclareTextCommand{\textgemini}{PU}{\9046\112}%* U+264A
18705 %* \textgemini -> \Gemini (marvosym)
18706 % U+264B CANCER; \cancer (wasysym)
18707 \DeclareTextCommand{\textcancer}{PU}{\9046\113}%* U+264B
18708 %* \textcancer -> \Cancer (marvosym)
18709 % U+264C LEO; \leo (wasysym)
18710 \DeclareTextCommand{\textleo}{PU}{\9046\114}%* U+264C
18711 %* \textleo -> \Leo (marvosym)
18712 % U+264D VIRGO; \virgo (wasysym)
18713 \DeclareTextCommand{\textvirgo}{PU}{\9046\115}%* U+264D
18714 %* \textvirgo -> \Virgo (marvosym)
18715 % U+264E LIBRA; \libra (wasysym)
18716 \DeclareTextCommand{\textlibra}{PU}{\9046\116}%* U+264E
18717 %* \textlibra -> \Libra (marvosym)

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18718 % U+264F SCORPIO; \scorpio (wasysym)
18719 \DeclareTextCommand{\textscorpio}{PU}{\9046\117}%* U+264F
18720 %* \textscorpio -> \Scorpio (marvosym)
18721 % U+2650 SAGITTARIUS; \sagittarius (wasysym)
18722 \DeclareTextCommand{\textsagittarius}{PU}{\9046\120}%* U+2650
18723 %* \textsagittarius -> \Sagittarius (marvosym)
18724 % U+2651 CAPRICORN; \capricornus (wasysym)
18725 \DeclareTextCommand{\textcapricornus}{PU}{\9046\121}%* U+2651
18726 %* \textcapricornus -> \Capricorn (marvosym)
18727 % U+2652 AQUARIUS; \aquarius (wasysym)
18728 \DeclareTextCommand{\textaquarius}{PU}{\9046\122}%* U+2652
18729 %* \textaquarius -> \Aquarius (marvosym)
18730 % U+2653 PISCES; \pisces (wasysym)
18731 \DeclareTextCommand{\textpisces}{PU}{\9046\123}%* U+2653
18732 %* \textpisces -> \Pisces (marvosym)
18733 % U+2660 BLACK SPADE SUIT; spade, spadesuitblack; \spadesuit (LaTeX)
18734 \DeclareTextCommand{\textspadesuitblack}{PU}{\9046\140}% U+2660
18735 %* \textspadesuitblack -> \spadesuit (MnSymbol)
18736 % U+2661 WHITE HEART SUIT; heartsuitwhite; \heartsuit (LaTeX)
18737 \DeclareTextCommand{\textheartsuitwhite}{PU}{\9046\141}% U+2661
18738 %* \textheartsuitwhite -> \Heart (marvosym)
18739 %* \textheartsuitwhite -> \heartsuit (MnSymbol)
18740 % U+2662 WHITE DIAMOND SUIT; diamondsuitwhite; \diamondsuit (LaTeX)
18741 \DeclareTextCommand{\textdiamondsuitwhite}{PU}{\9046\142}% U+2662
18742 %* \textdiamondsuitwhite -> \diamondsuit (MnSymbol)
18743 % U+2663 BLACK CLUB SUIT; club, clubsuitblack; \clubsuit (LaTeX)
18744 \DeclareTextCommand{\textclubsuitblack}{PU}{\9046\143}% U+2663
18745 %* \textclubsuitblack -> \clubsuit (MnSymbol)
18746 % U+2664 WHITE SPADE SUIT; spadesuitwhite
18747 \DeclareTextCommand{\textspadesuitwhite}{PU}{\9046\144}% U+2664
18748 % U+2665 BLACK HEART SUIT; heartsuitblack, heart
18749 \DeclareTextCommand{\textheartsuitblack}{PU}{\9046\145}% U+2665
18750 % U+2666 BLACK DIAMOND SUIT; diamond
18751 \DeclareTextCommand{\textdiamondsuitblack}{PU}{\9046\146}% U+2666
18752 % U+2667 WHITE CLUB SUIT; clubsuitwhite
18753 \DeclareTextCommand{\textclubsuitwhite}{PU}{\9046\147}% U+2667
18754 % U+2669 QUARTER NOTE; quarternote; \quarternote (wasysym, arev)
18755 \DeclareTextCommand{\textquarternote}{PU}{\9046\151}%* U+2669
18756 % U+266A EIGHTH NOTE; musicalnote; \textmusicalnote (textcomp)
18757 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
18758 %* \textmusicalnote -> \eighthnote (wasysym, arev)
18759 % U+266B BEAMED EIGHTH NOTES; eighthnotebeamed; \twonotes (wasysym)
18760 \DeclareTextCommand{\texttwonotes}{PU}{\9046\153}%* U+266B
18761 % U+266C BEAMED SIXTEENTH NOTES; beamedsixteenthnotes; \sixteenth-
      note (arev)
18762 \DeclareTextCommand{\textsixteenthnote}{PU}{\9046\154}%* U+266C
18763 % U+266D MUSIC FLAT SIGN; musicflatsign; \flat (LaTeX)
18764 \DeclareTextCommand{\textflat}{PU}{\9046\155}%* U+266D
18765 % U+266E MUSIC NATURAL SIGN; \natural (LaTeX)
18766 \DeclareTextCommand{\textnatural}{PU}{\9046\156}%* U+266E
18767 % U+266F MUSIC SHARP SIGN; musicsharpsign; \sharp (LaTeX)
18768 \DeclareTextCommand{\textsharp}{PU}{\9046\157}%* U+266F
18769 % U+2672 UNIVERSAL RECYCLING SYMBOL; \recycle (recycle)
18770 \DeclareTextCommand{\textrecycle}{PU}{\9046\162}%* U+2672

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18771 %* \textrecycle -> \Recycling (marvosym)
18772 % U+267F WHEELCHAIR SYMBOL; \Wheelchair (marvosym)
18773 \DeclareTextCommand{\textWheelchair}{PU}{\9046\177}%* U+267F
18774 % U+2691 BLACK FLAG; \Flag (ifsym)
18775 \DeclareTextCommand{\textFlag}{PU}{\9046\221}%* U+2691
18776 %* \textFlag -> \VarFlag (ifsym)
18777 % U+2692 HAMMER AND PICK; \MineSign (marvosym)
18778 \DeclareTextCommand{\textMineSign}{PU}{\9046\222}%* U+2692
18779 % U+2694 CROSSED SWORDS; \dsmilitary (dictsym)
18780 \DeclareTextCommand{\textdsmilitary}{PU}{\9046\224}%* U+2694
18781 %* \textdsmilitary -> \textxswup (fourier)
18782 % U+2695 STAFF OF AESCULAPIUS; \dsmedical (dictsym)
18783 \DeclareTextCommand{\textdsmedical}{PU}{\9046\225}%* U+2695
18784 % U+2696 SCALES; \dsjuridical (dictsym)
18785 \DeclareTextCommand{\textdsjuridical}{PU}{\9046\226}%* U+2696
18786 % U+2697 ALEMBIC; \dschemical (dictsym)
18787 \DeclareTextCommand{\textdschemical}{PU}{\9046\227}%* U+2697
18788 % U+2698 FLOWER; \dsbiological (dictsym)
18789 \DeclareTextCommand{\textdsbiological}{PU}{\9046\230}%* U+2698
18790 % U+269A STAFF OF HERMES; \dscommercial (dictsym)
18791 \DeclareTextCommand{\textdscommercial}{PU}{\9046\232}%* U+269A
18792 % U+269D OUTLINED WHITE STAR; \manstar (manfnt)
18793 \DeclareTextCommand{\textmanstar}{PU}{\9046\235}%* U+269D
18794 % U+26A0 WARNING SIGN; \danger (fourier)
18795 \DeclareTextCommand{\textdanger}{PU}{\9046\240}%* U+26A0
18796 % U+26A2 DOUBLED FEMALE SIGN; \FemaleFemale (marvosym)
18797 \DeclareTextCommand{\textFemaleFemale}{PU}{\9046\242}%* U+26A2
18798 % U+26A3 DOUBLED MALE SIGN; \MaleMale (marvosym)
18799 \DeclareTextCommand{\textMaleMale}{PU}{\9046\243}%* U+26A3
18800 % U+26A4 INTERLOCKED FEMALE AND MALE SIGN; \FemaleMale (marvosym)
18801 \DeclareTextCommand{\textFemaleMale}{PU}{\9046\244}%* U+26A4
18802 % U+26A5 MALE AND FEMALE SIGN; \Hermaphrodite (marvosym)
18803 \DeclareTextCommand{\textHermaphrodite}{PU}{\9046\245}%* U+26A5
18804 % U+26AA MEDIUM WHITE CIRCLE; \Neural (marvosym)
18805 \DeclareTextCommand{\textNeutral}{PU}{\9046\252}%* U+26AA
18806 % U+26AD MARRIAGE SYMBOL
18807 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
18808 % U+26AE DIVORCE SYMBOL
18809 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE
18810 % U+26B2 NEUTER; \textunconfemale (tipx)
18811 \DeclareTextCommand{\textPUunconfemale}{PU}{\9046\262}% U+26B2
18812 %* \textPUunconfemale -> \textunconfemale (tipx)
18813 % U+26B9 SEXTILE; \hexstar (wasysym)
18814 \DeclareTextCommand{\texthexstar}{PU}{\9046\271}%* U+26B9
18815 % U+26BD SOCCER BALL; \Football (marvosym)
18816 \DeclareTextCommand{\textSoccerBall}{PU}{\9046\275}% U+26BD
18817 %* \textSoccerBall -> \Football (marvosym)
18818 % U+26C5 SUN BEHIND CLOUD; \SunCloud (ifsym)
18819 \DeclareTextCommand{\textSunCloud}{PU}{\9046\305}%* U+26C5
18820 % U+26C6 RAIN; \Rain (ifsym)
18821 \DeclareTextCommand{\textRain}{PU}{\9046\306}%* U+26C6
18822 % U+26D4 NO ENTRY; \noway (fourier)
18823 \DeclareTextCommand{\textnoway}{PU}{\9046\324}%* U+26D4

18824 % U+26F0 MOUNTAIN; \Mountain (ifsym)
 18825 \DeclareTextCommand{\textMountain}{PU}{\9046\360}%* U+26F0
 18826 % U+26FA TENT; \Tent (ifsym)
 18827 \DeclareTextCommand{\textTent}{PU}{\9046\372}%* U+26FA

46.2.30 Dingbats: U+2700 to U+27BF

18828 % U+2701 UPPER BLADE SCISSORS; \ScissorRightBrokenBottom (bding)
 18829 \DeclareTextCommand{\textScissorRightBrokenBottom}{PU}{\9047\001}% U+2701
 18830 %* \textScissorRightBrokenBottom -> \CutLeft (marvosym)
 18831 %* \textScissorRightBrokenBottom -> \Cutright (marvosym)
 18832 % U+2702 BLACK SCISSORS; \ScissorRight (bding)
 18833 \DeclareTextCommand{\textScissorRight}{PU}{\9047\002}%* U+2702
 18834 %* \textScissorRight -> \RightScissors (marvosym)
 18835 %* \textScissorRight -> \Leftscissors (marvosym)
 18836 % U+2703 LOWER BLADE SCISSORS; \ScissorRightBrokenTop (bding)
 18837 \DeclareTextCommand{\textScissorRightBrokenTop}{PU}{\9047\003}%* U+2703
 18838 % U+2704 WHITE SCISSORS; \ScissorHollowRight (bding)
 18839 \DeclareTextCommand{\textScissorHollowRight}{PU}{\9047\004}%* U+2704
 18840 % U+2706 TELEPHONE LOCATION SIGN; \PhoneHandset (bding)
 18841 \DeclareTextCommand{\textPhoneHandset}{PU}{\9047\006}%* U+2706
 18842 % U+2707 TAPE DRIVE; \Tape (bding)
 18843 \DeclareTextCommand{\textTape}{PU}{\9047\007}%* U+2707
 18844 % U+2708 AIRPLANE; \Plane (bding)
 18845 \DeclareTextCommand{\textPlane}{PU}{\9047\010}%* U+2708
 18846 % U+2709 ENVELOPE; \Envelope (bding),
 18847 \DeclareTextCommand{\textEnvelope}{PU}{\9047\011}%* U+2709
 18848 %* \textEnvelope -> \Letter (marvosym)
 18849 % U+270C VICTORY HAND; \Peace (bding)
 18850 \DeclareTextCommand{\textPeace}{PU}{\9047\014}%* U+270C
 18851 % U+270D WRITING HAND; \WritingHand (marvosym)
 18852 \DeclareTextCommand{\textWritingHand}{PU}{\9047\015}%* U+270D
 18853 %* \textWritingHand -> \Writinghand (marvosym)
 18854 % U+270E LOWER RIGHT PENCIL; \PencilRightDown (bding)
 18855 \DeclareTextCommand{\textPencilRightDown}{PU}{\9047\016}%* U+270E
 18856 % U+270F PENCIL; \PencilRight (bding)
 18857 \DeclareTextCommand{\textPencilRight}{PU}{\9047\017}%* U+270F
 18858 % U+2710 UPPER RIGHT PENCIL; \PencilRightUp (bding)
 18859 \DeclareTextCommand{\textPencilRightUp}{PU}{\9047\020}%* U+2710
 18860 % U+2711 WHITE NIB; \NibRight (bding)
 18861 \DeclareTextCommand{\textNibRight}{PU}{\9047\021}%* U+2711
 18862 % U+2712 BLACK NIB; \NibSolidRight (bding)
 18863 \DeclareTextCommand{\textNibSolidRight}{PU}{\9047\022}%* U+2712
 18864 % U+2713 CHECK MARK; checkmark; \Checkmark (bding)
 18865 \DeclareTextCommand{\textCheckmark}{PU}{\9047\023}%* U+2713
 18866 %* \textCheckmark -> \checkmark (MnSymbol)
 18867 % U+2714 HEAVY CHECK MARK; \CheckmarkBold (bding)
 18868 \DeclareTextCommand{\textCheckmarkBold}{PU}{\9047\024}%* U+2714
 18869 % U+2715 MULTIPLICATION X; \XSolid (bding)
 18870 \DeclareTextCommand{\textXSolid}{PU}{\9047\025}%* U+2715
 18871 % U+2716 HEAVY MULTIPLICATION X; \XSolidBold (bding)
 18872 \DeclareTextCommand{\textXSolidBold}{PU}{\9047\026}%* U+2716
 18873 % U+2717 BALLOT X; \XSolidBrush (bding)
 18874 \DeclareTextCommand{\textXSolidBrush}{PU}{\9047\027}%* U+2717
 18875 % U+2719 OUTLINED GREEK CROSS; \PlusOutline (bding)

18876 \DeclareTextCommand{\textPlusOutline}{PU}{\9047\031}%* U+2719
18877 % U+271A HEAVY GREEK CROSS; \Plus (bding)
18878 \DeclareTextCommand{\textPlus}{PU}{\9047\032}%* U+271A
18879 % U+271B OPEN CENTRE CROSS; \PlusThinCenterOpen (bding)
18880 \DeclareTextCommand{\textPlusThinCenterOpen}{PU}{\9047\033}%* U+271B
18881 % U+271C HEAVY OPEN CENTRE CROSS; \PlusCenterOpen (bding)
18882 \DeclareTextCommand{\textPlusCenterOpen}{PU}{\9047\034}%* U+271C
18883 % U+271D LATIN CROSS; \Cross (bding)
18884 \DeclareTextCommand{\textCross}{PU}{\9047\035}%* U+271D
18885 % U+271E SHADOWED WHITE LATIN CROSS; \CrossOpenShadow (bding)
18886 \DeclareTextCommand{\textCrossOpenShadow}{PU}{\9047\036}%* U+271E
18887 % U+271F OUTLINED LATIN CROSS; \CrossOutline (bding)
18888 \DeclareTextCommand{\textCrossOutline}{PU}{\9047\037}%* U+271F
18889 % U+2720 MALTESE CROSS; \CrossMaltese (bding)
18890 \DeclareTextCommand{\textCrossMaltese}{PU}{\9047\040}%* U+2720
18891 % U+2721 STAR OF DAVID; \DavidStar (bding)
18892 \DeclareTextCommand{\textDavidStar}{PU}{\9047\041}%* U+2721
18893 %* \textDavidStar -> \davidstar (wasysym)
18894 % U+2722 FOUR TEARDROP-SPOKED ASTERISK; \FourAsterisk (bding)
18895 \DeclareTextCommand{\textFourAsterisk}{PU}{\9047\042}%* U+2722
18896 % U+2723 FOUR BALLOON-SPOKED ASTERISK; \JackStar (bding)
18897 \DeclareTextCommand{\textJackStar}{PU}{\9047\043}%* U+2723
18898 % U+2724 HEAVY FOUR BALLOON-SPOKED ASTERISK; \JackStarBold (bding)
18899 \DeclareTextCommand{\textJackStarBold}{PU}{\9047\044}%* U+2724
18900 % U+2725 FOUR CLUB-SPOKED ASTERISK; \CrossClowerTips (bding)
18901 \DeclareTextCommand{\textClowerTips}{PU}{\9047\045}%* U+2725
18902 % U+2726 BLACK FOUR POINTED STAR; \FourStar (bding)
18903 \DeclareTextCommand{\textFourStar}{PU}{\9047\046}%* U+2726
18904 % U+2727 WHITE FOUR POINTED STAR; \FourStarOpen (bding)
18905 \DeclareTextCommand{\textFourStarOpen}{PU}{\9047\047}%* U+2727
18906 % U+272A CIRCLED WHITE STAR; \FiveStarOpenCircled (bding)
18907 \DeclareTextCommand{\textFiveStarOpenCircled}{PU}{\9047\052}%* U+272A
18908 % U+272B OPEN CENTRE BLACK STAR; \FiveStarCenterOpen (bding)
18909 \DeclareTextCommand{\textFiveStarCenterOpen}{PU}{\9047\053}%* U+272B
18910 % U+272C BLACK CENTRE WHITE STAR; \FiveStarOpenDotted (bding)
18911 \DeclareTextCommand{\textFiveStarOpenDotted}{PU}{\9047\054}%* U+272C
18912 % U+272D OUTLINED BLACK STAR; \FiveStarOutline (bding)
18913 \DeclareTextCommand{\textFiveStarOutline}{PU}{\9047\055}%* U+272D
18914 % U+272E HEAVY OUTLINED BLACK STAR; \FiveStarOutlineHeavy (bding)
18915 \DeclareTextCommand{\textFiveStarOutlineHeavy}{PU}{\9047\056}%* U+272E
18916 % U+272F PINWHEEL STAR; \FiveStarConvex (bding)
18917 \DeclareTextCommand{\textFiveStarConvex}{PU}{\9047\057}%* U+272F
18918 % U+2730 SHADOWED WHITE STAR; \FiveStarShadow (bding)
18919 \DeclareTextCommand{\textFiveStarShadow}{PU}{\9047\060}%* U+2730
18920 % U+2731 HEAVY ASTERISK; \AsteriskBold (bding)
18921 \DeclareTextCommand{\textAsteriskBold}{PU}{\9047\061}%* U+2731
18922 % U+2732 OPEN CENTRE ASTERISK; \AsteriskCenterOpen (bding)
18923 \DeclareTextCommand{\textAsteriskCenterOpen}{PU}{\9047\062}%* U+2732
18924 % U+2734 EIGHT POINTED BLACK STAR; \EightStarTaper (bding)
18925 \DeclareTextCommand{\textEightStarTaper}{PU}{\9047\064}%* U+2734
18926 % U+2735 EIGHT POINTED PINWHEEL STAR; \EightStarConvex (bding)
18927 \DeclareTextCommand{\textEightStarConvex}{PU}{\9047\065}%* U+2735
18928 % U+2736 SIX POINTED BLACK STAR; \SixStar (bding)

18929 \DeclareTextCommand{\textSixStar}{PU}{\9047\066}%* U+2736
18930 % U+2737 EIGHT POINTED RECTILINEAR BLACK STAR; \EightStar (bding)
18931 \DeclareTextCommand{\textEightStar}{PU}{\9047\067}%* U+2737
18932 % U+2738 HEAVY EIGHT POINTED RECTILINEAR BLACK STAR; \EightStarBold (bding)
18933 \DeclareTextCommand{\textEightStarBold}{PU}{\9047\070}%* U+2738
18934 % U+2739 TWELVE POINTED BLACK STAR; \TwelveStar (bding)
18935 \DeclareTextCommand{\textTwelveStar}{PU}{\9047\071}%* U+2739
18936 % U+273A SIXTEEN POINTED ASTERISK; \SixteenStarLight (bding)
18937 \DeclareTextCommand{\textSixteenStarLight}{PU}{\9047\072}%* U+273A
18938 % U+273B TEARDROP-SPOKED ASTERISK; \SixFlowerPetalRemoved (bding)
18939 \DeclareTextCommand{\textSixFlowerPetalRemoved}{PU}{\9047\073}%* U+273B
18940 % U+273C OPEN CENTRE TEARDROP-SPOKED ASTERISK;
18941 % \SixFlowerOpenCenter (bding)
18942 \DeclareTextCommand{\textSixFlowerOpenCenter}{PU}{\9047\074}%* U+273C
18943 % U+273D HEAVY TEARDROP-SPOKED ASTERISK; \Asterisk (bding)
18944 \DeclareTextCommand{\textAsterisk}{PU}{\9047\075}%* U+273D
18945 % U+273E SIX PETALLED BLACK AND WHITE FLORETTE; \SixFlowerAlternate (bding)
18946 \DeclareTextCommand{\textSixFlowerAlternate}{PU}{\9047\076}%* U+273E
18947 % U+273F BLACK FLORETTE; \FiveFlowerPetal (bding)
18948 \DeclareTextCommand{\textFiveFlowerPetal}{PU}{\9047\077}%* U+273F
18949 % U+2740 WHITE FLORETTE; \FiveFlowerOpen (bding)
18950 \DeclareTextCommand{\textFiveFlowerOpen}{PU}{\9047\100}%* U+2740
18951 % U+2741 EIGHT PETALLED OUTLINED BLACK FLORETTE; \EightFlowerPetal (bding)
18952 \DeclareTextCommand{\textEightFlowerPetal}{PU}{\9047\101}%* U+2741
18953 % U+2742 CIRCLED OPEN CENTRE EIGHT POINTED STAR; \SunshineOpenCircled (bding)
18954 \DeclareTextCommand{\textSunshineOpenCircled}{PU}{\9047\102}%* U+2742
18955 % U+2743 HEAVY TEARDROP-SPOKED PINWHEEL ASTERISK; \SixFlowerAltPetal (bding)
18956 \DeclareTextCommand{\textSixFlowerAltPetal}{PU}{\9047\103}%* U+2743
18957 % U+2744 SNOWFLAKE; \SnowflakeChevron (bding)
18958 \DeclareTextCommand{\textSnowflakeChevron}{PU}{\9047\104}%* U+2744
18959 % U+2745 TIGHT TRIFOLIATE SNOWFLAKE; \Snowflake (bding)
18960 \DeclareTextCommand{\textSnowflake}{PU}{\9047\105}%* U+2745
18961 % U+2746 HEAVY CHEVRON SNOWFLAKE; \SnowflakeChevronBold (bding)
18962 \DeclareTextCommand{\textSnowflakeChevronBold}{PU}{\9047\106}%* U+2746
18963 % U+2747 SPARKLE; \Sparkle (bding)
18964 \DeclareTextCommand{\textSparkle}{PU}{\9047\107}%* U+2747
18965 % U+2748 HEAVY SPARKLE; \SparkleBold (bding)
18966 \DeclareTextCommand{\textSparkleBold}{PU}{\9047\110}%* U+2748
18967 % U+2749 BALLOON-SPOKED ASTERISK; \AsteriskRoundedEnds (bding)
18968 \DeclareTextCommand{\textAsteriskRoundedEnds}{PU}{\9047\111}%* U+2749
18969 % U+274A EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;
18970 % \EightFlowerPetalRemoved (bding)
18971 \DeclareTextCommand{\textEightFlowerPetalRemoved}{PU}{\9047\112}%* U+274A
18972 % U+274B HEAVY EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;
18973 % \EightAsterisk (bding)
18974 \DeclareTextCommand{\textEightAsterisk}{PU}{\9047\113}%* U+274B
18975 % U+274D SHADOWED WHITE CIRCLE; \CircleShadow (bding)

18976 \DeclareTextCommand{\textCircleShadow}{PU}{\9047\115}%* U+274D
 18977 % U+274F LOWER RIGHT DROP-SHADOWED WHITE SQUARE;
 18978 % \SquareShadowBottomRight (bding)
 18979 \DeclareTextCommand{\textSquareShadowBottomRight}{PU}{\9047\117}%* U+274F
 18980 % U+2750 UPPER RIGHT DROP-SHADOWED WHITE SQUARE;
 18981 % \SquareShadowTopRight (bding)
 18982 \DeclareTextCommand{\textSquareTopRight}{PU}{\9047\120}%* U+2750
 18983 % U+2751 LOWER RIGHT SHADOWED WHITE SQUARE;
 18984 % \SquareCastShadowBottomRight (bding)
 18985 \DeclareTextCommand{\textSquareCastShadowBottomRight}{PU}{\9047\121}%* U+2751
 18986 % U+2752 UPPER RIGHT SHADOWED WHITE SQUARE;
 18987 % \SquareCastShadowTopRight (bding)
 18988 \DeclareTextCommand{\textSquareCastShadowTopRight}{PU}{\9047\122}%* U+2752
 18989 % U+2756 BLACK DIAMOND MINUS WHITE X; \OrnamentDiamandSolid (bding)
 18990 \DeclareTextCommand{\textDiamandSolid}{PU}{\9047\126}%* U+2756
 18991 % U+2758 LIGHT VERTICAL BAR; \RectangleThin (bding)
 18992 \DeclareTextCommand{\textRectangleThin}{PU}{\9047\130}%* U+2758
 18993 % U+2759 MEDIUM VERTICAL BAR; \Rectangle (bding)
 18994 \DeclareTextCommand{\textRectangle}{PU}{\9047\131}%* U+2759
 18995 % U+275A HEAVY VERTICAL BAR; \RectangleBold (bding)
 18996 \DeclareTextCommand{\textRectangleBold}{PU}{\9047\132}%* U+275A

46.2.31 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

18997 % U+27C2 PERPENDICULAR; perpendicular; \perp (LaTeX)
 18998 \DeclareTextCommand{\textperp}{PU}{\9047\302}%* U+27C2
 18999 % \notperp (mathabx)
 19000 \DeclareTextCommand{\textnotperp}{PU}{\9047\302\83\070}%* U+27C2 U+0338
 19001 % U+27C7 OR WITH DOT INSIDE; \veedot (MnSymbol)
 19002 \DeclareTextCommand{\textveedot}{PU}{\9047\307}%* U+27C7
 19003 % U+27D1 AND WITH DOT; \wedgedot (MnSymbol)
 19004 \DeclareTextCommand{\textwedgedot}{PU}{\9047\321}%* U+27D1
 19005 % U+27DC LEFT MULTIMAP; \leftspoon (MnSymbol)
 19006 \DeclareTextCommand{\textleftspoon}{PU}{\9047\334}%* U+27DC
 19007 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
 19008 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}%* U+27E6
 19009 %* \textlbrackdbl -> \lbracket (stmaryrd)
 19010 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
 19011 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}%* U+27E7
 19012 %* \textrbrackdbl -> \rrbracket (stmaryrd)

46.2.32 Supplemental Arrows-A: U+27F0 to U+27FF

19013 % U+27F2 ANTICLOCKWISE GAPPED CIRCLE ARROW;
 19014 % \circlearrowleft (AmS)
 19015 \DeclareTextCommand{\textcirclearrowleft}{PU}{\9047\362}%* U+27F2
 19016 % U+27F3 CLOCKWISE GAPPED CIRCLE ARROW; \circlearrowright (AmS)
 19017 \DeclareTextCommand{\textcirclearrowright}{PU}{\9047\363}%* U+27F3
 19018 % U+27F5 LONG LEFTWARDS ARROW; \longleftarrow (AmS)
 19019 \DeclareTextCommand{\textlongleftarrow}{PU}{\9047\365}%* U+27F5
 19020 % U+27F6 LONG RIGHTWARDS ARROW; \longrightarrow (AmS)
 19021 \DeclareTextCommand{\textlongrightarrow}{PU}{\9047\366}%* U+27F6
 19022 % U+27F7 LONG LEFT RIGHT ARROW; \longlefttrightarrow (AmS)
 19023 \DeclareTextCommand{\textlonglefttrightarrow}{PU}{\9047\367}%* U+27F7
 19024 % U+27F8 LONG LEFTWARDS DOUBLE ARROW; \Longleftarrow (AmS)

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19025 \DeclareTextCommand{\textLongleftarrow}{PU}{\9047\370}%* U+27F8
19026 % U+27F9 LONG RIGHTWARDS DOUBLE ARROW; \Longrightarrow (AmS)
19027 \DeclareTextCommand{\textLongrightarrow}{PU}{\9047\371}%* U+27F9
19028 % U+27FA LONG LEFT RIGHT DOUBLE ARROW; \Longleftrightarrow (AmS)
19029 \DeclareTextCommand{\textLongleftrightarrow}{PU}{\9047\372}%* U+27FA
19030 % U+27FC LONG RIGHTWARDS ARROW FROM BAR; \longmapsto (AmS)
19031 \DeclareTextCommand{\textlongmapsto}{PU}{\9047\374}%* U+27FC
19032 % U+27FD LONG LEFTWARDS DOUBLE ARROW FROM BAR; \Longmaps-
    from (stmaryrd)
19033 \DeclareTextCommand{\textLongmapsfrom}{PU}{\9047\375}%* U+27FD
19034 % U+27FE LONG RIGHTWARDS DOUBLE ARROW FROM BAR; \Longmap-
    sto (stmaryrd)
19035 \DeclareTextCommand{\textLongmapsto}{PU}{\9047\376}%* U+27FE

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46.2.33 Supplemental Arrows-B: U+2900 to U+297F

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19036 % U+2921 NORTH WEST AND SOUTH EAST ARROW; \nwsearrow (MnSym-
    bol)
19037 \DeclareTextCommand{\textnwsearrow}{PU}{\9051\041}%* U+2921
19038 % U+2922 NORTH EAST AND SOUTH WEST ARROW; \neswarrow (MnSym-
    bol)
19039 \DeclareTextCommand{\textneswarrow}{PU}{\9051\042}%* U+2922
19040 % U+2923 NORTH WEST ARROW WITH HOOK; \hooknwarrow (MnSymbol)
19041 \DeclareTextCommand{\texthooknwarrow}{PU}{\9051\043}%* U+2923
19042 % U+2924 NORTH EAST ARROW WITH HOOK; \hooknearrow (MnSymbol)
19043 \DeclareTextCommand{\textrhooknearrow}{PU}{\9051\044}%* U+2924
19044 % U+2925 SOUTH EAST ARROW WITH HOOK; \hooksearrow (MnSymbol)
19045 \DeclareTextCommand{\texthooksearrow}{PU}{\9051\045}%* U+2925
19046 % U+2926 SOUTH WEST ARROW WITH HOOK; \hookswarrow (MnSymbol)
19047 \DeclareTextCommand{\textrhookswarrow}{PU}{\9051\046}%* U+2926
19048 % U+2933 WAVE ARROW POINTING DIRECTLY RIGHT; \leadsto (wasysym)
19049 \DeclareTextCommand{\textleadsto}{PU}{\9051\063}%* U+2933
19050 % U+2934 ARROW POINTING RIGHTWARDS THEN CURVING UPWARDS;
19051 % \rcurvearrowne (MnSymbol)
19052 \DeclareTextCommand{\textrcurvearrowne}{PU}{\9051\064}%* U+2934
19053 % U+2935 ARROW POINTING RIGHTWARDS THEN CURVING DOWN-
    WARDS;
19054 % \lcurvearrowse (MnSymbol)
19055 \DeclareTextCommand{\textlcurvearrowse}{PU}{\9051\065}%* U+2935
19056 % U+2936 ARROW POINTING DOWNWARDS THEN CURVING LEFT-
    WARDS;
19057 % \lcurvearrowsw (MnSymbol)
19058 \DeclareTextCommand{\textlcurvearrowsw}{PU}{\9051\066}%* U+2936
19059 % U+2937 ARROW POINTING DOWNWARDS THEN CURVING RIGHT-
    WARDS;
19060 % \rcurvearrowse (MnSymbol)
19061 \DeclareTextCommand{\textrcurvearrowse}{PU}{\9051\067}%* U+2937
19062 % U+2938 RIGHT-SIDE ARC CLOCKWISE ARROW; \lcurvearrowdown (Mn-
    Symbol)
19063 \DeclareTextCommand{\textlcurvearrowdown}{PU}{\9051\070}%* U+2938
19064 %* \textlcurvearrowdown -> \RightTorque (marvosym)
19065 %* \textlcurvearrowdown -> \Righttorque (marvosym)
19066 % U+2939 LEFT-SIDE ARC ANTICLOCKWISE ARROW;
19067 % \rcurvearrowdown (MnSymbol)
19068 \DeclareTextCommand{\textrcurvearrowdown}{PU}{\9051\071}%* U+2939

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19069 %* \texttrcurvearrowdown -> \LeftTorque (marvosym)
 19070 %* \texttrcurvearrowdown -> \Lefttorque (marvosym)
 19071 % U+293A TOP ARC ANTICLOCKWISE ARROW; \rcurvearrowleft (MnSymbol)
 19072 \DeclareTextCommand{\texttrcurvearrowleft}{PU}{\9051\072}%* U+293A
 19073 % U+293B BOTTOM ARC ANTICLOCKWISE ARROW;
 19074 % \rcurvearrowright (MnSymbol)
 19075 \DeclareTextCommand{\texttrcurvearrowright}{PU}{\9051\073}%* U+293B
 19076 % U+294A LEFT BARB UP RIGHT BARB DOWN HARPOON; \leftrightharpoon (mathabx)
 19077 \DeclareTextCommand{\textleftrightharpoon}{PU}{\9051\112}%* U+294A
 19078 % U+294B LEFT BARB DOWN RIGHT BARB UP HARPOON; \rightleftharpoon (mathabx)
 19079 \DeclareTextCommand{\textrightleftharpoon}{PU}{\9051\113}%* U+294B
 19080 % U+294C UP BARB RIGHT DOWN BARB LEFT HARPOON;
 19081 % \updownharpoonrightleft (MnSymbol)
 19082 \DeclareTextCommand{\textupdownharpoonrightleft}{PU}{\9051\114}%* U+294C
 19083 % U+294D UP BARB LEFT DOWN BARB RIGHT HARPOON;
 19084 % \updownharpoonleftright (MnSymbol)
 19085 \DeclareTextCommand{\textupdownharpoonleftright}{PU}{\9051\115}%* U+294D
 19086 % U+2962 LEFTWARDS HARPOON WITH BARB UP ABOVE LEFTWARDS
 19087 % HARPOON WITH BARB DOWN; \leftleftharpoons (mathabx)
 19088 \DeclareTextCommand{\textleftleftharpoons}{PU}{\9051\142}%* U+2962
 19089 % U+2963 UPWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS
 19090 % HARPOON WITH BARB RIGHT; \upupharpoons (mathabx)
 19091 \DeclareTextCommand{\textupupharpoons}{PU}{\9051\143}%* U+2963
 19092 % U+2964 RIGHTWARDS HARPOON WITH BARB UP ABOVE RIGHT-
 WARDS HARPOON
 19093 % WITH BARB DOWN; \rightrightarpoons (mathabx)
 19094 \DeclareTextCommand{\textrightarpoons}{PU}{\9051\144}%* U+2964
 19095 % U+2965 DOWNWARDS HARPOON WITH BARB LEFT BESIDE DOWN-
 WARDS HARPOON
 19096 % WITH BARB RIGHT; \downdownharpoons (mathabx)
 19097 \DeclareTextCommand{\textdowndownharpoons}{PU}{\9051\145}%* U+2965
 19098 % U+296A LEFTWARDS HARPOON WITH BARB UP ABOVE LONG DASH;
 19099 % \leftbarharpoon (mathabx)
 19100 \DeclareTextCommand{\textleftbarharpoon}{PU}{\9051\152}%* U+296A
 19101 % U+296B LEFTWARDS HARPOON WITH BARB DOWN BELOW
 19102 % LONG DASH; \barleftharpoon (mathabx)
 19103 \DeclareTextCommand{\textbarleftharpoon}{PU}{\9051\153}%* U+296B
 19104 % U+296C RIGHTWARDS HARPOON WITH BARB UP ABOVE
 19105 % LONG DASH; \rightbarharpoon (mathabx)
 19106 \DeclareTextCommand{\textrightbarharpoon}{PU}{\9051\154}%* U+296C
 19107 % U+296D RIGHTWARDS HARPOON WITH BARB DOWN BELOW
 19108 % LONG DASH; \barrightharpoon (mathabx)
 19109 \DeclareTextCommand{\textbarrightharpoon}{PU}{\9051\155}%* U+296D
 19110 % U+296E UPWARDS HARPOON WITH BARB LEFT BESIDE DOWN-
 WARDS HARPOON
 19111 % WITH BARB RIGHT; \updownharpoons (mathabx)
 19112 \DeclareTextCommand{\textupdownharpoons}{PU}{\9051\156}%* U+296E
 19113 % U+296F DOWNWARDS HARPOON WITH BARB LEFT BESIDE UP-
 WARDS HARPOON
 19114 % WITH BARB RIGHT; \downupharpoons (mathabx)
 19115 \DeclareTextCommand{\textdownupharpoons}{PU}{\9051\157}%* U+296F

19116 % U+297F DOWN FISH TAIL
 19117 \DeclareTextCommand{\textmoo}{PU}{\9051\177\83\066}%* U+297F U+0336

46.2.34 Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF

19118 % U+2987 Z NOTATION LEFT IMAGE BRACKET; \llparenthesis (stmaryrd)
 19119 \DeclareTextCommand{\textllparenthesis}{PU}{\9051\207}%* U+2987
 19120 % U+2988 Z NOTATION RIGHT IMAGE BRACKET; \rrparenthesis (stmaryrd)
 19121 \DeclareTextCommand{\textrrparenthesis}{PU}{\9051\210}%* U+2988
 19122 % U+29B0 REVERSED EMPTY SET; \invdiameter (wasysym)
 19123 \DeclareTextCommand{\textinvdiameter}{PU}{\9051\260}%* U+29B0
 19124 % U+29B6 CIRCLED VERTICAL BAR; \obar (stmaryrd)
 19125 \DeclareTextCommand{\textobar}{PU}{\9051\266}%* U+29B6
 19126 %* \textobar -> \textvarobar (stmaryrd)
 19127 % U+29B8 CIRCLED REVERSE SOLIDUS; \obslash (stmaryrd)
 19128 \DeclareTextCommand{\textobslash}{PU}{\9051\270}%* U+29B8
 19129 %* \textobslash -> \circledbslash (txfonts/pxfonts)
 19130 %* \textobslash -> \obackslash (mathabx)
 19131 %* \textobslash -> \varobslash (stmaryrd)
 19132 % U+29BA CIRCLE DIVIDED BY HORIZONTAL BAR AND TOP HALF
 19133 % DIVIDED BY VERTICAL BAR; \obot (mathabx)
 19134 \DeclareTextCommand{\textobot}{PU}{\9051\272}%* U+29BA
 19135 %* \textobot -> \odplus (ulsy)
 19136 % U+29BB CIRCLE WITH SUPERIMPOSED X; \NoChemicalCleaning (marvosym)
 19137 \DeclareTextCommand{\textNoChemicalCleaning}{PU}{\9051\273}%* U+29BB
 19138 % U+29C0 CIRCLED LESS-THAN; \olessthan (stmaryrd)
 19139 \DeclareTextCommand{\textolessthan}{PU}{\9051\300}%* U+29C0
 19140 %* \textolessthan -> \varolessthan (stmaryrd)
 19141 % U+29C1 CIRCLED GREATER-THAN; \ogreaterthan (stmaryrd)
 19142 \DeclareTextCommand{\textogreaterthan}{PU}{\9051\301}%* U+29C1
 19143 %* \textogreaterthan -> \varogreaterthan (stmaryrd)
 19144 % U+29C4 SQUARED RISING DIAGONAL SLASH; \boxslash (mathabx, stmaryrd)
 19145 \DeclareTextCommand{\textboxslash}{PU}{\9051\304}%* U+29C4
 19146 % U+29C5 SQUARED FALLING DIAGONAL SLASH; \boxbslash (stmaryrd)
 19147 \DeclareTextCommand{\textboxbslash}{PU}{\9051\305}%* U+29C5
 19148 % U+29C6 SQUARED ASTERISK; \boxast (stmaryrd)
 19149 \DeclareTextCommand{\textboxast}{PU}{\9051\306}%* U+29C6
 19150 % U+29C7 SQUARED SMALL CIRCLE; \boxcircle (stmaryrd)
 19151 \DeclareTextCommand{\textboxcircle}{PU}{\9051\307}%* U+29C7
 19152 % U+29C8 SQUARED SQUARE; \boxbox (stmaryrd)
 19153 \DeclareTextCommand{\textboxbox}{PU}{\9051\310}%* U+29C8
 19154 % U+29D3 BLACK BOWTIE; \Valve (marvosym)
 19155 \DeclareTextCommand{\textValve}{PU}{\9051\323}%* U+29D3
 19156 % U+29DF DOUBLE-ENDED MULTIMAP; \multimapboth (txfonts/pxfonts)
 19157 \DeclareTextCommand{\textmultimapboth}{PU}{\9051\337}%* U+29DF
 19158 % U+29E2 SHUFFLE PRODUCT; \shuffle (shuffle)
 19159 \DeclareTextCommand{\textshuffle}{PU}{\9051\342}%* U+29E2

46.2.35 Supplemental Mathematical Operators: U+2A00 to U+2AFF

19160 % U+2A04 N-ARY UNION OPERATOR WITH PLUS; \uplus (LaTeX)
 19161 \DeclareTextCommand{\textuplus}{PU}{\9052\004}%* U+2A04
 19162 % U+2A07 TWO LOGICAL AND OPERATOR; \bigdoublewedge (MnSymbol)
 19163 \DeclareTextCommand{\textbigdoublewedge}{PU}{\9052\007}%* U+2A07
 19164 % U+2A08 TWO LOGICAL OR OPERATOR; \bigdoublevee (MnSymbol)

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19165 \DeclareTextCommand{\textbigdoublevee}{PU}{\9052\010}%* U+2A08
19166 % U+2A1D JOIN; \Join (latexsym, amsfonts, amssymb, mathabx, txfonts,
19167 %   pxfonts, wasysym)
19168 \DeclareTextCommand{\textJoin}{PU}{\9052\035}%* U+2A1D
19169 % U+2A1F Z NOTATION SCHEMA COMPOSITION; \fatsemi (stmaryrd)
19170 \DeclareTextCommand{\textfatsemi}{PU}{\9052\037}%* U+2A1F
19171 % U+2A22 PLUS SIGN WITH SMALL CIRCLE ABOVE; \circplus (mathabx)
19172 \DeclareTextCommand{\textcircplus}{PU}{\9052\042}%* U+2A22
19173 % U+2A2A MINUS SIGN WITH DOT BELOW; \minusdot (MnSymbol)
19174 \DeclareTextCommand{\textminusdot}{PU}{\9052\052}%* U+2A2A
19175 %* \textminusdot -> \divdot (mathabx)
19176 % U+2A30 MULTIPLICATION SIGN WITH DOT ABOVE; \dottimes (mathabx)
19177 \DeclareTextCommand{\textdottimes}{PU}{\9052\060}%* U+2A30
19178 % U+2A32 SEMIDIRECT PRODUCT WITH BOTTOM CLOSED;
19179 %   \dtimes (mathdesign)
19180 \DeclareTextCommand{\textdtimes}{PU}{\9052\062}%* U+2A32
19181 % U+2A38 CIRCLED DIVISION SIGN; \odiv (mathabx)
19182 \DeclareTextCommand{\textodiv}{PU}{\9052\070}%* U+2A38
19183 % U+2A3C INTERIOR PRODUCT; \invneg (MnSymbol)
19184 \DeclareTextCommand{\textinvneg}{PU}{\9052\074}%* U+2A3C
19185 % U+2A4E DOUBLE SQUARE INTERSECTION; \sqdoublecap (mathabx)
19186 \DeclareTextCommand{\textsqdoublecap}{PU}{\9052\116}%* U+2A4E
19187 %* \textsqdoublecap -> \doublesqcap (MnSymbol)
19188 % U+2A40 INTERSECTION WITH DOT; \capdot (MnSymbol)
19189 \DeclareTextCommand{\textcapdot}{PU}{\9052\100}%* U+2A40
19190 % U+2A4F DOUBLE SQUARE UNION; \sqdoublecup (mathabx)
19191 \DeclareTextCommand{\textsqdoublecup}{PU}{\9052\117}%* U+2A4F
19192 %* \textsqdoublecup -> \doublesqcup (MnSymbol)
19193 % U+2A55 TWO INTERSECTING LOGICAL AND; \doublewedge (MnSymbol)
19194 \DeclareTextCommand{\textdoublewedge}{PU}{\9052\125}%* U+2A55
19195 % U+2A56 TWO INTERSECTING LOGICAL OR; \doublevee (MnSymbol)
19196 \DeclareTextCommand{\textdoublevee}{PU}{\9052\126}%* U+2A56
19197 %* \textdoublevee -> \merge (stmaryrd)
19198 % U+2A5E LOGICAL AND WITH DOUBLE OVERBAR;
19199 %   \doublebarwedge (AmS)
19200 \DeclareTextCommand{\textdoublebarwedge}{PU}{\9052\136}%* U+2A5E
19201 % U+2A63 LOGICAL OR WITH DOUBLE UNDERBAR;
19202 %   \veedoublebar (mahtabx)
19203 \DeclareTextCommand{\textveedoublebar}{PU}{\9052\143}%* U+2A63
19204 % U+2A66 EQUALS SIGN WITH DOT BELOW; \eqdot (MnSymbol)
19205 \DeclareTextCommand{\texteqdot}{PU}{\9052\146}%* U+2A66
19206 % \neqdot (MnSymbol)
19207 \DeclareTextCommand{\textneqdot}{PU}{\9052\146\83\070}%* U+2A66 U+0338
19208 % U+2A74 DOUBLE COLON EQUAL; \coloncolonequals (colonequals)
19209 \DeclareTextCommand{\textcoloncolonequals}{PU}{\9052\164}%* U+2A74
19210 % U+2A7D LESS-THAN OR SLANTED EQUAL TO; \leqslant (AmS)
19211 \DeclareTextCommand{\textleqslant}{PU}{\9052\175}%* U+2A7D
19212 % \nleqslant (txfonts/pxfonts)
19213 \DeclareTextCommand{\textnleqslant}{PU}{\9052\175\83\070}%* U+2A7D U+0338
19214 % U+2A7E GREATER-THAN OR SLANTED EQUAL TO; \geqslant (AmS)
19215 \DeclareTextCommand{\textgeqslant}{PU}{\9052\176}%* U+2A7E
19216 % \ngeqslant (txfonts/pxfonts)
19217 \DeclareTextCommand{\textngeqslant}{PU}{\9052\176\83\070}%* U+2A7E U+0338
19218 % U+2A85 LESS-THAN OR APPROXIMATE; \lessapprox (AmS)

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19219 \DeclareTextCommand{\textlessapprox}{PU}{\9052\205}%* U+2A85
19220 % \nlessapprox (txfonts/pxfonts)
19221 \DeclareTextCommand{\textnlessapprox}{PU}{\9052\205\83\070}%* U+2A85 U+0338
19222 % U+2A86 GREATER-THAN OR APPROXIMATE; \gtrapprox (AmS)
19223 \DeclareTextCommand{\textgtrapprox}{PU}{\9052\206}%* U+2A86
19224 % \ngtrapprox (txfonts/pxfonts)
19225 \DeclareTextCommand{\textngtrapprox}{PU}{\9052\206\83\070}%* U+2A86 U+0338
19226 % U+2A87 LESS-THAN AND SINGLE-LINE NOT EQUAL TO; \lneq (AmS)
19227 \DeclareTextCommand{\textlneq}{PU}{\9052\207}%* U+2A87
19228 % U+2A88 GREATER-THAN AND SINGLE-LINE NOT EQUAL TO;
19229 % \gneq (AmS)
19230 \DeclareTextCommand{\textgneq}{PU}{\9052\210}%* U+2A88
19231 % U+2A89 LESS-THAN AND NOT APPROXIMATE; \lnapprox (AmS)
19232 \DeclareTextCommand{\textlnapprox}{PU}{\9052\211}%* U+2A89
19233 % U+2A8A GREATER-THAN AND NOT APPROXIMATE; \gnapprox (AmS)
19234 \DeclareTextCommand{\textgnapprox}{PU}{\9052\212}%* U+2A8A
19235 % U+2A8B LESS-THAN ABOVE DOUBLE-LINE EQUAL ABOVE GREATER-
    THAN;
19236 % \lesseqqgtr (AmS)
19237 \DeclareTextCommand{\textlesseqqgtr}{PU}{\9052\213}%* U+2A8B
19238 % U+2A8C GREATER-THAN ABOVE DOUBLE-LINE EQUAL ABOVE LESS-
    THAN;
19239 % \gtreqqless (AmS)
19240 \DeclareTextCommand{\textgtreqqless}{PU}{\9052\214}%* U+2A8C
19241 % U+2A95 SLANTED EQUAL TO OR LESS-THAN; \eqslantless (AmS)
19242 \DeclareTextCommand{\texteqslantless}{PU}{\9052\225}%* U+2A95
19243 % U+2A96 SLANTED EQUAL TO OR GREATER-THAN; \eqslantgtr (AmS)
19244 \DeclareTextCommand{\texteqslantgtr}{PU}{\9052\226}%* U+2A96
19245 % U+2AA6 LESS-THAN CLOSED BY CURVE; \leftslice (stmaryrd)
19246 \DeclareTextCommand{\textleftslice}{PU}{\9052\246}%* U+2AA6
19247 % U+2AA7 GREATER-THAN CLOSED BY CURVE; \rightslice (stmaryrd)
19248 \DeclareTextCommand{\textright slice}{PU}{\9052\247}%* U+2AA7
19249 % U+2AAF PRECEDES ABOVE SINGLE-LINE EQUALS SIGN; \preceq (Mn-
    Symbol)
19250 \DeclareTextCommand{\textpreceq}{PU}{\9052\257}%* U+2AAF
19251 % \npreceq (txfonts/pxfonts)
19252 \DeclareTextCommand{\textnpreceq}{PU}{\9052\257\83\070}%* U+2AAF U+0338
19253 % U+2AB0 SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN; \succeq (Mn-
    Symbol)
19254 \DeclareTextCommand{\textsucceq}{PU}{\9052\260}%* U+2AB0
19255 % \nsucceq (txfonts/pxfonts)
19256 \DeclareTextCommand{\textnsucceq}{PU}{\9052\260\83\070}%* U+2AB0 U+0338
19257 % U+2AB1 PRECEDES ABOVE SINGLE-LINE NOT EQUAL TO; \prec-
    neq (mathabx)
19258 \DeclareTextCommand{\textprecneq}{PU}{\9052\261}%* U+2AB1
19259 % U+2AB2 SUCCEEDS ABOVE SINGLE-LINE NOT EQUAL TO; \succ-
    neq (mathabx)
19260 \DeclareTextCommand{\textsuccneq}{PU}{\9052\262}%* U+2AB2
19261 % U+2AB3 PRECEDES ABOVE EQUALS SIGN; \preceqq (txfonts/pxfonts)
19262 \DeclareTextCommand{\textpreceqq}{PU}{\9052\263}%* U+2AB3
19263 % \npreceqq (txfonts/pxfonts)
19264 \DeclareTextCommand{\textnpreceqq}{PU}{\9052\263\83\070}%* U+2AB3 U+0338
19265 % U+2AB4 SUCCEEDS ABOVE EQUALS SIGN; \succeqq (txfonts/pxfonts)
19266 \DeclareTextCommand{\textsucceqq}{PU}{\9052\264}%* U+2AB4

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19267 % \nsucceqq (txfonts/pxfonts)
19268 \DeclareTextCommand{\textnsucceqq}{PU}{\9052\264\83\070}%* U+2AB4 U+0338
19269 % U+2AB5 PRECEDES ABOVE NOT EQUAL TO; \precneqq (txfonts/pxfonts)
19270 \DeclareTextCommand{\textprecneqq}{PU}{\9052\265}%* U+2AB5
19271 % U+2AB6 SUCCEEDS ABOVE NOT EQUAL TO; \succneqq (txfonts/pxfonts)
19272 \DeclareTextCommand{\textsucneqq}{PU}{\9052\266}%* U+2AB6
19273 % U+2AB7 PRECEDES ABOVE ALMOST EQUAL TO; \precapprox (AmS)
19274 \DeclareTextCommand{\textprecapprox}{PU}{\9052\267}%* U+2AB7
19275 % \nprecapprox (txfonts/pxfonts)
19276 \DeclareTextCommand{\textnprecapprox}{PU}{\9052\267\83\070}%* U+2AB7 U+0338
19277 % U+2AB8 SUCCEEDS ABOVE ALMOST EQUAL TO; \succapprox (AmS)
19278 \DeclareTextCommand{\textsuccapprox}{PU}{\9052\270}%* U+2AB8
19279 % \nsuccapprox (txfonts/pxfonts)
19280 \DeclareTextCommand{\textnsuccapprox}{PU}{\9052\270\83\070}%* U+2AB8 U+0338
19281 % U+2AB9 PRECEDES ABOVE NOT ALMOST EQUAL TO; \precnap-
      prox (AmS)
19282 \DeclareTextCommand{\textprecnapprox}{PU}{\9052\271}%* U+2AB9
19283 % U+2ABA SUCCEEDS ABOVE NOT ALMOST EQUAL TO; \succnap-
      prox (AmS)
19284 \DeclareTextCommand{\textsuccnapprox}{PU}{\9052\272}%* U+2ABA
19285 % U+2AC5 SUBSET OF ABOVE EQUALS SIGN; \subseteqq (AmS)
19286 \DeclareTextCommand{\textsubseteqq}{PU}{\9052\305}%* U+2AC5
19287 % \nsubseteqq (txfonts/pxfonts, mathabx)
19288 \DeclareTextCommand{\textnsubseteqq}{PU}{\9052\305\83\070}%* U+2AC5 U+0338
19289 % U+2AC6 SUPERSET OF ABOVE EQUALS SIGN; \supseteqq (AmS)
19290 \DeclareTextCommand{\textsupseteqq}{PU}{\9052\306}%* U+2AC6
19291 % \nsupseteqq (mathabx)
19292 \DeclareTextCommand{\textnsupseteqq}{PU}{\9052\306\83\070}%* U+2AC6 U+0338
19293 % U+2AE3 DOUBLE VERTICAL BAR LEFT TURNSTILE
19294 \DeclareTextCommand{\textdashV}{PU}{\9052\343}%* U+2AE3
19295 %* \textdashV -> \leftVdash (MnSymbol)
19296 % \ndashV (mathabx)
19297 \DeclareTextCommand{\textndashV}{PU}{\9052\343\83\070}%* U+2AE3 U+0338
19298 %* \textndashV -> \nleftVdash (MnSymbol)
19299 % U+2AE4 VERTICAL BAR DOUBLE LEFT TURNSTILE; \Dashv (mathabx)
19300 \DeclareTextCommand{\textDashv}{PU}{\9052\344}%* U+2AE4
19301 %* \textDashv -> \leftmodels (MnSymbol)
19302 % \nDashv (mathabx)
19303 \DeclareTextCommand{\textnDashv}{PU}{\9052\344\83\070}%* U+2AE4 U+0338
19304 %* \textnDashv -> \nleftmodels (MnSymbol)
19305 % U+2AE5 DOUBLE VERTICAL BAR DOUBLE LEFT TURNSTILE;
19306 % \DashV (mathabx)
19307 \DeclareTextCommand{\textDashV}{PU}{\9052\345}%* U+2AE5
19308 %* \textDashV -> \leftModels (MnSymbol)
19309 % \nDashV (mathabx)
19310 \DeclareTextCommand{\textnDashV}{PU}{\9052\345\83\070}%* U+2AE5 U+0338
19311 %* \textnDashV -> \nleftModels (MnSymbol)
19312 % U+2AEA DOUBLE DOWN TACK; \downmodels (MnSymbol)
19313 \DeclareTextCommand{\textdownmodels}{PU}{\9052\352}%* U+2AEA
19314 % \ndownmodels (MnSymbol)
19315 \DeclareTextCommand{\textndownmodels}{PU}{\9052\352\83\070}%* U+2AEA U+0338
19316 % U+2AEB DOUBLE UP TACK; \upmodels (MnSymbol)
19317 \DeclareTextCommand{\textupmodels}{PU}{\9052\353}%* U+2AEB
19318 % \nupmodels (MnSymbol)

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19319 \DeclareTextCommand{\textnupmodels}{PU}{\9052\353\83\070}%* U+2AEB U+0338
 19320 % U+2AEF VERTICAL LINE WITH CIRCLE ABOVE; \upspoon (MnSymbol)
 19321 \DeclareTextCommand{\textupspoon}{PU}{\9052\357}%* U+2AEF
 19322 % U+2AF4 TRIPLE VERTICAL BAR BINARY RELATION;
 19323 % \interleave (stmaryrd)
 19324 \DeclareTextCommand{\textinterleave}{PU}{\9052\364}%* U+2AF4
 19325 % U+2AFD DOUBLE SOLIDUS OPERATOR; \sslash (stmaryrd)
 19326 \DeclareTextCommand{\textsslash}{PU}{\9052\375}%* U+2AFD
 19327 %* \textsslash -> \varparallel (txfonts\pxfonts)

46.2.36 Miscellaneous Symbols and Arrows: U+2B00 to U+2BFF

19328 % U+2B20 WHITE PENTAGON; \pentagon (wasysym)
 19329 \DeclareTextCommand{\textpentagon}{PU}{\9053\040}%* U+2B20
 19330 % U+2B21 WHITE HEXAGON; \varhexagon (wasysym)
 19331 \DeclareTextCommand{\textvarhexagon}{PU}{\9053\041}%* U+2B21

46.2.37 Latin Extended-C: U+2C60 to U+2C7F

19332 % U+2C7C LATIN SUBSCRIPT SMALL LETTER J
 19333 \DeclareTextCommand{\textjinferior}{PU}{\9054\174}%* U+2C7C

46.2.38 Supplemental Punctuation: U+2E00 to U+2E7F

19334 % U+2E13 DOTTED OBELOS; \slashdiv (MnSymbol)
 19335 \DeclareTextCommand{\textslashdiv}{PU}{\9056\023}%* U+2E13
 19336 % U+2E18 INVERTED INTERROBANG; \textinterrobangdown (textcomp)
 19337 \DeclareTextCommand{\textinterrobangdown}{PU}{\9056\030}% U+2E18
 19338 % U+2E2D FIVE DOT MARK; \fivedots (MnSymbol)
 19339 \DeclareTextCommand{\textfivedots}{PU}{\9056\055}%* U+2E2D

46.2.39 Modifier Tone Letters: U+A700 to U+A71F

19340 % U+A71B MODIFIER LETTER RAISED UP ARROW; \textupstep (tipa)
 19341 \DeclareTextCommand{\textupstep}{PU}{\9247\033}% U+A71B
 19342 % U+A71C MODIFIER LETTER RAISED DOWN ARROW;
 19343 % \textdownstep (tipa)
 19344 \DeclareTextCommand{\textdownstep}{PU}{\9247\034}% U+A71C

46.2.40 Latin Extended-D: U+A720 to U+A7FF

19345 % U+A727 LATIN SMALL LETTER HENG; \textheng (tipx)
 19346 \DeclareTextCommand{\textPUheng}{PU}{\9247\047}% U+A727
 19347 %* \textPUheng -> \textheng (tipx)
 19348 % U+A72C LATIN CAPITAL LETTER CUATRILLO; \textlhookfour (tipx)
 19349 \DeclareTextCommand{\textPULhookfour}{PU}{\9247\054}% U+A72C
 19350 %* \textPULhookfour -> \textlhookfour (tipx)
 19351 % U+A730 LATIN LETTER SMALL CAPITAL F; \textscf (tipx)
 19352 \DeclareTextCommand{\textPUscf}{PU}{\9247\060}% U+A730
 19353 %* \textPUscf -> \textscf (tipx)
 19354 % U+A735 LATIN SMALL LETTER AO; \textao lig (tipx)
 19355 \DeclareTextCommand{\textPUaolig}{PU}{\9247\065}% U+A735
 19356 %* \textPUaolig -> \textao lig (tipx)
 19357 % U+A74F LATIN SMALL LETTER OO; \oo (wsuipa)
 19358 \DeclareTextCommand{\textoo}{PU}{\9247\117}%* U+A74F
 19359 % U+A788 MODIFIER LETTER LOW CIRCUMFLEX ACCENT
 19360 \DeclareTextCommand{\textcircumlowlow}{PU}{\9247\210}% U+A788

46.2.41 Alphabetic Presentation Forms: U+FB00 to U+FB4F

19361 % U+FB01 LATIN SMALL LIGATURE FI; fi
 19362 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
 19363 % U+FB02 LATIN SMALL LIGATURE FL; fl
 19364 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

46.2.42 Musical Symbols: U+1D100 to U+1D1FF

19365 % U+1D13B MUSICAL SYMBOL WHOLE REST; \GaPa (harmony)
 19366 \DeclareTextCommand{\textGaPa}{PU}{\9330\064\9335\073}%* U+1D13B
 19367 % U+1D13C MUSICAL SYMBOL HALF REST; \HaPa (harmony)
 19368 \DeclareTextCommand{\textHaPa}{PU}{\9330\064\9335\074}%* U+1D13C
 19369 % U+1D13D MUSICAL SYMBOL QUARTER REST; \ViPa (harmony)
 19370 \DeclareTextCommand{\textViPa}{PU}{\9330\064\9335\075}%* U+1D13D
 19371 % U+1D13E MUSICAL SYMBOL EIGHTH REST; \AcPa (harmony)
 19372 \DeclareTextCommand{\textAcPa}{PU}{\9330\064\9335\076}%* U+1D13E
 19373 % U+1D13F MUSICAL SYMBOL SIXTEENTH REST; \SePa (harmony)
 19374 \DeclareTextCommand{\textSePa}{PU}{\9330\064\9335\077}%* U+1D13F
 19375 % U+1D140 MUSICAL SYMBOL THIRTY-SECOND REST; \ZwPa (harmony)
 19376 \DeclareTextCommand{\textZwPa}{PU}{\9330\064\9335\100}%* U+1D140
 19377 % U+1D15D MUSICAL SYMBOL WHOLE NOTE; \fullnote (wasysym)
 19378 \DeclareTextCommand{\textfullnote}{PU}{\9330\064\9335\135}%* U+1D15D
 19379 %* \textfullnote -> \Ganz (harmony)
 19380 % U+1D15E MUSICAL SYMBOL HALF NOTE; \halfnote (wasysym)
 19381 \DeclareTextCommand{\texthalfnote}{PU}{\9330\064\9335\136}%* U+1D15E
 19382 %* \texthalfnote -> \Halb (harmony)
 19383 % U+1D15F MUSICAL SYMBOL QUARTER NOTE; \Vier (harmony)
 19384 \DeclareTextCommand{\textVier}{PU}{\9330\064\9335\137}%* U+1D15F
 19385 % U+1D160 MUSICAL SYMBOL EIGHTH NOTE; \Acht (harmony)
 19386 \DeclareTextCommand{\textAcht}{PU}{\9330\064\9335\140}%* U+1D160
 19387 % U+1D161 MUSICAL SYMBOL SIXTEENTH NOTE; \Sech (harmony)
 19388 \DeclareTextCommand{\textSech}{PU}{\9330\064\9335\141}%* U+1D161
 19389 % U+1D162 MUSICAL SYMBOL THIRTY-SECOND NOTE; \Zwdr (harmony)
 19390 \DeclareTextCommand{\textZwdr}{PU}{\9330\064\9335\142}%* U+1D162

46.2.43 Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF

19391 % U+1F30D EARTH GLOBE EUROPE-AFRICA; \Mundus (marvosym)
 19392 \DeclareTextCommand{\textMundus}{PU}{\9330\074\9337\015}%* U+1F30D
 19393 % U+1F319 CRESCENT MOON; \Moon (marvosym)
 19394 \DeclareTextCommand{\textMoon}{PU}{\9330\074\9337\031}%* U+1F319
 19395 % U+1F468 MAN; \ManFace (marvosym)
 19396 \DeclareTextCommand{\textManFace}{PU}{\9330\075\9334\150}%* U+1F468
 19397 % U+1F469 WOMAN; \WomanFace (marvosym)
 19398 \DeclareTextCommand{\textWomanFace}{PU}{\9330\075\9334\151}%* U+1F469
 19399 %* \textWomanFace -> \Womanface (marvosym)
 19400 % U+1F4E0 FAX MACHINE; \Fax (marvosym)
 19401 \DeclareTextCommand{\textFax}{PU}{\9330\075\9334\340}%* U+1F4E0
 19402 %* \textFax -> \Faxmachine (marvosym)
 19403 % U+1F525 FIRE; \Fire (ifsym)
 19404 \DeclareTextCommand{\textFire}{PU}{\9330\075\9335\045}%* U+1F525

46.2.44 Transport and Map Symbols: U+1F680 to U+1F6FF

19405 % U+1F6B2 BICYCLE; \Bicycle (marvosym)
 19406 \DeclareTextCommand{\textBicycle}{PU}{\9330\075\9336\262}%* U+1F6B2
 19407 % U+1F6B9 MENS SYMBOL; \Gentsroom (marvosym)
 19408 \DeclareTextCommand{\textGentsroom}{PU}{\9330\075\9336\271}%* U+1F6B9

```

19409 % U+1F6BA WOMENS SYMBOL; \Ladiesroom (marvosym)
19410 \DeclareTextCommand{\textLadiesroom}{PU}{\9330\075\9336\272}%* U+1F6BA

```

46.2.45 Miscellaneous

```

19411 \DeclareTextCommand{\SS}{PU}{SS}%
19412 % \textcopyleft (textcomp)
19413 \DeclareTextCommand{\textcopyleft}{PU}{\9041\204\9040\335}% U+2184 U+20DD
19414 % \ccnc (ccllicenses)
19415 \DeclareTextCommand{\textccnc}{PU}{\80\044\9040\340}%* U+0024 U+20E0
19416 % \ccnd (ccllicenses)
19417 \DeclareTextCommand{\textccnd}{PU}{=\9040\335}%* U+003D U+20DD
19418 % \ccsa (ccllicenses)
19419 \DeclareTextCommand{\textccsa}{PU}{\9047\362\9040\335}%* U+27F2 U+20DD
19420 % \Info (marvosym, china2e)
19421 \DeclareTextCommand{\textInfo}{PU}{\9330\065\9334\042\9040\336}%* U+1D422 U+20DE
19422 % \CESign (marvosym)
19423 \DeclareTextCommand{\textCESign}{PU}{\80\103\80\105}%* U+0043 U+0045
19424 %* \textCESign -> \CESign (marvosym)

```

46.2.46 Aliases

Aliases (german.sty)

```

19425 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}%
19426 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}%
19427 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}%
19428 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}%
19429 \DeclareTextCommand{\textflqq}{PU}{\guillemetleft}%
19430 \DeclareTextCommand{\textfrqq}{PU}{\guillemetright}%
19431 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}%
19432 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}%

```

Aliases (math names)

```

19433 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}%*
19434 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}%*
19435 \DeclareTextCommand{\textdiv}{PU}{\textdivide}%*
19436 \DeclareTextCommand{\textpm}{PU}{\textplusminus}%*
19437 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}%*
19438 \puenc

```

46.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

19439 \puvnenc
19440 \DeclareTextCommand{\abreve}{PU}{\81\003}% U+0103
19441 \DeclareTextCommand{\acircumflex}{PU}{\80\342}% U+00E2
19442 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}% U+00EA
19443 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}% U+00F4
19444 \DeclareTextCommand{\ohorn}{PU}{\81\241}% U+01A1
19445 \DeclareTextCommand{\uhorn}{PU}{\81\260}% U+01B0
19446 \DeclareTextCommand{\ABREVE}{PU}{\81\002}% U+0102
19447 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}% U+00C2
19448 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}% U+00CA
19449 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}% U+00D4

```

19450 \DeclareTextCommand{\OHORN}{PU}{\81\240}% U+01A0
 19451 \DeclareTextCommand{\UHORN}{PU}{\81\257}% U+01AF

 19452 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
 19453 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1
 19454 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
 19455 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}% U+1EA3
 19456 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
 19457 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}% U+1EAF
 19458 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}% U+1EB7
 19459 \DeclareTextCompositeCommand{\`}{PU}{\abreve}{\9036\261}% U+1EB1
 19460 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}% U+1EB3
 19461 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}% U+1EB5
 19462 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}% U+1EA5
 19463 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}% U+1EAD
 19464 \DeclareTextCompositeCommand{\`}{PU}{\acircumflex}{\9036\247}% U+1EA7
 19465 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}% U+1EA9
 19466 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}% U+1EAB
 19467 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
 19468 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9
 19469 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
 19470 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}% U+1EBB
 19471 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
 19472 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}% U+1EBF
 19473 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}% U+1EC7
 19474 \DeclareTextCompositeCommand{\`}{PU}{\ecircumflex}{\9036\301}% U+1EC1
 19475 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}% U+1EC3
 19476 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}% U+1EC5
 19477 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
 19478 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB
 19479 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
 19480 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}% U+1EC9
 19481 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
 19482 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
 19483 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD
 19484 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2
 19485 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}% U+1ECF
 19486 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
 19487 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}% U+1ED1
 19488 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}% U+1ED9
 19489 \DeclareTextCompositeCommand{\`}{PU}{\ocircumflex}{\9036\323}% U+1ED3
 19490 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}% U+1ED5
 19491 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}% U+1ED7
 19492 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}% U+1EDB
 19493 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}% U+1EE3
 19494 \DeclareTextCompositeCommand{\`}{PU}{\ohorn}{\9036\335}% U+1EDD
 19495 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}% U+1EDF
 19496 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}% U+1EE1
 19497 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
 19498 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5
 19499 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9
 19500 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}% U+1EE7
 19501 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
 19502 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}% U+1EE9
 19503 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}% U+1EF1

19504 \DeclareTextCompositeCommand{\`}{PU}{\uhorn}{\9036\353}% U+1EEB
19505 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}% U+1EED
19506 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}% U+1EEF
19507 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD
19508 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5
19509 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3
19510 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}% U+1EF7
19511 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9
19512 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
19513 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0
19514 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
19515 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}% U+1EA2
19516 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
19517 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}% U+1EAE
19518 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}% U+1EB6
19519 \DeclareTextCompositeCommand{\`}{PU}{\ABREVE}{\9036\260}% U+1EB0
19520 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}% U+1EB2
19521 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}% U+1EB4
19522 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}% U+1EA4
19523 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}% U+1EAC
19524 \DeclareTextCompositeCommand{\`}{PU}{\ACIRCUMFLEX}{\9036\246}% U+1EA6
19525 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}% U+1EA8
19526 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}% U+1EAA
19527 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
19528 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8
19529 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
19530 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}% U+1EBA
19531 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
19532 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}% U+1EBE
19533 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}% U+1EC6
19534 \DeclareTextCompositeCommand{\`}{PU}{\ECIRCUMFLEX}{\9036\300}% U+1EC0
19535 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}% U+1EC2
19536 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}% U+1EC4
19537 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
19538 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA
19539 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
19540 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}% U+1EC8
19541 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
19542 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
19543 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC
19544 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
19545 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}% U+1ECE
19546 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
19547 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}% U+1ED0
19548 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}% U+1ED8
19549 \DeclareTextCompositeCommand{\`}{PU}{\OCIRCUMFLEX}{\9036\322}% U+1ED2
19550 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}% U+1ED4
19551 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}% U+1ED6
19552 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}% U+1EDA
19553 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}% U+1EE2
19554 \DeclareTextCompositeCommand{\`}{PU}{\OHORN}{\9036\334}% U+1EDC
19555 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}% U+1EDE
19556 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}% U+1EE0
19557 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA

```

19558 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4
19559 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
19560 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}% U+1EE6
19561 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
19562 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}% U+1EE8
19563 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}% U+1EF0
19564 \DeclareTextCompositeCommand{\`}{PU}{\UHORN}{\9036\352}% U+1EEA
19565 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}% U+1EEC
19566 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}% U+1EEE
19567 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
19568 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4
19569 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
19570 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}% U+1EF6
19571 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
19572 </puvnenc>

```

46.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

19573 <*puarenc>
19574 % U+0621;afii57409;ARABIC LETTER HAMZA
19575 \DeclareTextCommand{\hamza}{PU}{\86\041}% U+0621
19576 % U+0622;afii57410;ARABIC LETTER ALEF WITH MADDA ABOVE
19577 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% U+0622
19578 % U+0623;afii57411;ARABIC LETTER ALEF WITH HAMZA ABOVE
19579 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% U+0623
19580 % U+0624;afii57412;ARABIC LETTER WAW WITH HAMZA ABOVE
19581 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% U+0624
19582 % U+0625;afii57413;ARABIC LETTER ALEF WITH HAMZA BELOW
19583 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% U+0625
19584 % U+0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
19585 \DeclareTextCommand{\yahamza}{PU}{\86\046}% U+0626
19586 % U+0627;afii57415;ARABIC LETTER ALEF
19587 \DeclareTextCommand{\alef}{PU}{\86\047}% U+0627
19588 % U+0628;afii57416;ARABIC LETTER BEH
19589 \DeclareTextCommand{\baa}{PU}{\86\050}% U+0628
19590 % U+0629;afii57417;ARABIC LETTER TEH MARBUTA
19591 \DeclareTextCommand{\T}{PU}{\86\051}% U+0629
19592 % U+062A;afii57418;ARABIC LETTER TEH
19593 \DeclareTextCommand{\taa}{PU}{\86\052}% U+062A
19594 % U+062B;afii57419;ARABIC LETTER THEH
19595 \DeclareTextCommand{\thaa}{PU}{\86\053}% U+062B
19596 % U+062C;afii57420;ARABIC LETTER JEEM
19597 \DeclareTextCommand{\jeem}{PU}{\86\054}% U+062C
19598 % U+062D;afii57421;ARABIC LETTER HAH
19599 \DeclareTextCommand{\Haa}{PU}{\86\055}% U+062D
19600 % U+062E;afii57422;ARABIC LETTER KHAH
19601 \DeclareTextCommand{\kha}{PU}{\86\056}% U+062E
19602 % U+062F;afii57423;ARABIC LETTER DAL
19603 \DeclareTextCommand{\dal}{PU}{\86\057}% U+062F
19604 % U+0630;afii57424;ARABIC LETTER THAL
19605 \DeclareTextCommand{\dhal}{PU}{\86\060}% U+0630
19606 % U+0631;afii57425;ARABIC LETTER REH

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19607 \DeclareTextCommand{\ra}{PU}{\86\061}% U+0631
 19608 % U+0632;afii57426;ARABIC LETTER ZAIN
 19609 \DeclareTextCommand{\zay}{PU}{\86\062}% U+0632
 19610 % U+0633;afii57427;ARABIC LETTER SEEN
 19611 \DeclareTextCommand{\seen}{PU}{\86\063}% U+0633
 19612 % U+0634;afii57428;ARABIC LETTER SHEEN
 19613 \DeclareTextCommand{\sheen}{PU}{\86\064}% U+0634
 19614 % U+0635;afii57429;ARABIC LETTER SAD
 19615 \DeclareTextCommand{\sad}{PU}{\86\065}% U+0635
 19616 % U+0636;afii57430;ARABIC LETTER DAD
 19617 \DeclareTextCommand{\dad}{PU}{\86\066}% U+0636
 19618 % U+0637;afii57431;ARABIC LETTER TAH
 19619 \DeclareTextCommand{\Ta}{PU}{\86\067}% U+0637
 19620 % U+0638;afii57432;ARABIC LETTER ZAH
 19621 \DeclareTextCommand{\za}{PU}{\86\070}% U+0638
 19622 % U+0639;afii57433;ARABIC LETTER AIN
 19623 \DeclareTextCommand{\ayn}{PU}{\86\071}% U+0639
 19624 % U+063A;afii57434;ARABIC LETTER GHAIN
 19625 \DeclareTextCommand{\ghayn}{PU}{\86\072}% U+063A
 19626 % U+0640;afii57440;ARABIC TATWEEL
 19627 \DeclareTextCommand{\tatweel}{PU}{\86\100}% U+0640
 19628 % U+0641;afii57441;ARABIC LETTER FEH
 19629 \DeclareTextCommand{\fa}{PU}{\86\101}% U+0641
 19630 % U+0642;afii57442;ARABIC LETTER QAF
 19631 \DeclareTextCommand{\qaf}{PU}{\86\102}% U+0642
 19632 % U+0643;afii57443;ARABIC LETTER KAF
 19633 \DeclareTextCommand{\kaf}{PU}{\86\103}% U+0643
 19634 % U+0644;afii57444;ARABIC LETTER LAM
 19635 \DeclareTextCommand{\lam}{PU}{\86\104}% U+0644
 19636 % U+0645;afii57445;ARABIC LETTER MEEM
 19637 \DeclareTextCommand{\meem}{PU}{\86\105}% U+0645
 19638 % U+0646;afii57446;ARABIC LETTER NOON
 19639 \DeclareTextCommand{\nun}{PU}{\86\106}% U+0646
 19640 % U+0647;afii57470;ARABIC LETTER HEH
 19641 \DeclareTextCommand{\ha}{PU}{\86\107}% U+0647
 19642 % U+0648;afii57448;ARABIC LETTER WAW
 19643 \DeclareTextCommand{\waw}{PU}{\86\110}% U+0648
 19644 % U+0649;afii57449;ARABIC LETTER ALEF MAKURA
 19645 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% U+0649
 19646 % U+064A;afii57450;ARABIC LETTER YEH
 19647 \DeclareTextCommand{\ya}{PU}{\86\112}% U+064A

 19648 % U+064B;afii57451;ARABIC FATHATAN
 19649 \DeclareTextCommand{\nasb}{PU}{\86\113}% U+064B
 19650 % U+064C;afii57452;ARABIC DAMMATAN
 19651 \DeclareTextCommand{\raff}{PU}{\86\114}% U+064C
 19652 % U+064D;afii57453;ARABIC KASRATAN
 19653 \DeclareTextCommand{\jarr}{PU}{\86\115}% U+064D
 19654 % U+064E;afii57454;ARABIC FATHA
 19655 \DeclareTextCommand{\fatha}{PU}{\86\116}% U+064E
 19656 % U+064F;afii57455;ARABIC DAMMA
 19657 \DeclareTextCommand{\damma}{PU}{\86\117}% U+064F
 19658 % U+0650;afii57456;ARABIC KASRA
 19659 \DeclareTextCommand{\kasra}{PU}{\86\120}% U+0650
 19660 % U+0651;afii57457;ARABIC SHADDA

19661 \DeclareTextCommand{\shadda}{PU}{\86\121}% U+0651
 19662 % U+0652;afi57458;ARABIC SUKUN
 19663 \DeclareTextCommand{\sukun}{PU}{\86\122}% U+0652
 Farsi
 19664 % U+067E ARABIC LETTER PEH; afi57506
 19665 \DeclareTextCommand{\peh}{PU}{\86\176}% U+067E
 19666 % U+0686 ARABIC LETTER TCHEH; afi57507
 19667 \DeclareTextCommand{\tcheh}{PU}{\86\206}% U+0686
 19668 % U+0698 ARABIC LETTER JEH; afi57508
 19669 \DeclareTextCommand{\jeh}{PU}{\86\230}% U+0698
 19670 % U+06A9 ARABIC LETTER KEHEH
 19671 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% U+06A9
 19672 % U+06AF ARABIC LETTER GAF; afi57509
 19673 \DeclareTextCommand{\gaf}{PU}{\86\257}% U+06AF
 19674 % U+06CC ARABIC LETTER FARSI YEH
 19675 \DeclareTextCommand{\farsiya}{PU}{\86\314}% U+06CC
 19676 % U+200C ZERO WIDTH NON-JOINER; afi61664
 19677 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% U+200C
 19678 % U+200D ZERO WIDTH JOINER; afi301
 19679 \DeclareTextCommand{\textEncodingNoboundary}{PU}{\9040\015}% U+200D
 19680 </puarenc>
 19681 <*psdextra>
 19682 \Hy@VersionCheck{psdextra.def}
 19683 \DeclareTextCommand{\textGamma}{PU}{\83\223}%* U+0393
 19684 \DeclareTextCommand{\textDelta}{PU}{\83\224}%* U+0394
 19685 \DeclareTextCommand{\textTheta}{PU}{\83\230}%* U+0398
 19686 \DeclareTextCommand{\textLambda}{PU}{\83\233}%* U+039B
 19687 \DeclareTextCommand{\textXi}{PU}{\83\236}%* U+039E
 19688 \DeclareTextCommand{\textPi}{PU}{\83\240}%* U+03A0
 19689 \DeclareTextCommand{\textSigma}{PU}{\83\243}%* U+03A3
 19690 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}%* U+03A5
 19691 \DeclareTextCommand{\textPhi}{PU}{\83\246}%* U+03A6
 19692 \DeclareTextCommand{\textChi}{PU}{\83\247}%* U+03A7
 19693 \DeclareTextCommand{\textPsi}{PU}{\83\250}%* U+03A8
 19694 \DeclareTextCommand{\textOmega}{PU}{\83\251}%* U+03A9
 19695 \DeclareTextCommand{\textalpha}{PU}{\83\261}%* U+03B1
 19696 \DeclareTextCommand{\textbeta}{PU}{\83\262}%* U+03B2
 19697 \DeclareTextCommand{\textgamma}{PU}{\83\263}%* U+03B3
 19698 \DeclareTextCommand{\textdelta}{PU}{\83\264}%* U+03B4
 19699 \DeclareTextCommand{\textepsilon}{PU}{\83\265}%* U+03B5
 19700 \DeclareTextCommand{\textzeta}{PU}{\83\266}%* U+03B6
 19701 \DeclareTextCommand{\texteta}{PU}{\83\267}%* U+03B7
 19702 \DeclareTextCommand{\texttheta}{PU}{\83\270}%* U+03B8
 19703 \DeclareTextCommand{\textiota}{PU}{\83\271}%* U+03B9
 19704 \DeclareTextCommand{\textkappa}{PU}{\83\272}%* U+03BA
 19705 \DeclareTextCommand{\textlambda}{PU}{\83\273}%* U+03BB
 19706 \DeclareTextCommand{\textmugreek}{PU}{\83\274}%* U+03BC
 19707 \DeclareTextCommand{\textnu}{PU}{\83\275}%* U+03BD
 19708 \DeclareTextCommand{\textxi}{PU}{\83\276}%* U+03BE
 19709 \DeclareTextCommand{\textpi}{PU}{\83\300}%* U+03C0
 19710 \DeclareTextCommand{\textrho}{PU}{\83\301}%* U+03C1
 19711 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}%* U+03C2

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19712 \DeclareTextCommand{\textsigma}{PU}{\83\303}%* U+03C3
19713 \DeclareTextCommand{\texttau}{PU}{\83\304}%* U+03C4
19714 \DeclareTextCommand{\textupsilon}{PU}{\83\305}%* U+03C5
19715 \DeclareTextCommand{\textphi}{PU}{\83\306}%* U+03C6
19716 \DeclareTextCommand{\textchi}{PU}{\83\307}%* U+03C7
19717 \DeclareTextCommand{\textpsi}{PU}{\83\310}%* U+03C8
19718 \DeclareTextCommand{\textomega}{PU}{\83\311}%* U+03C9
19719 \newcommand*{\psdmapshortnames}{%
19720   \let\MVPlus\textMVPlus
19721   \let\MVComma\textMVComma
19722   \let\MVMinus\textMVMinus
19723   \let\MVPeriod\textMVPeriod
19724   \let\MVDivision\textMVDivision
19725   \let\MVZero\textMVZero
19726   \let\MVOne\textMVOne
19727   \let\MVTwo\textMVTwo
19728   \let\MVThree\textMVThree
19729   \let\MVFour\textMVFour
19730   \let\MVFive\textMVFive
19731   \let\MVSix\textMVSix
19732   \let\MVSeven\textMVSeven
19733   \let\MVEight\textMVEight
19734   \let\MVNine\textMVNine
19735   \let\MVAt\textMVAt
19736   \let\copyright\textcopyright
19737   \let\twosuperior\texttwosuperior
19738   \let\threesuperior\textthreesuperior
19739   \let\onesuperior\textonesuperior
19740   \let\Thorn\textThorn
19741   \let\thorn\textthorn
19742   \let\hbar\texthbar
19743   \let\hausA\texthausA
19744   \let\hausD\texthausD
19745   \let\hausK\texthausK
19746   \let\barl\textbarl
19747   \let\inve\textinve
19748   \let\slashc\textslashc
19749   \let\scripta\textscripta
19750   \let\openo\textopeno
19751   \let\rtaild\textrtaild
19752   \let\reve\textreve
19753   \let\schwa\textschwa
19754   \let\niepsilon\textniepsilon
19755   \let\revepsilon\textrevepsilon
19756   \let\rhookrevepsilon\texthookrevepsilon
19757   \let\scriptg\textscriptg
19758   \let\scg\textscg
19759   \let\ipagamma\textipagamma
19760   \let\babygamma\textbabygamma
19761   \let\bari\textbari
19762   \let\niiota\textniiota
19763   \let\sci\textsci
19764   \let\scn\textscn
19765   \let\niphi\textniphi

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19766 \let\longlegr\textlonglegr
 19767 \let\scr\textscr
 19768 \let\invscr\textinvscr
 19769 \let\esh\textesh
 19770 \let\baru\textbaru
 19771 \let\niupsilon\textniupsilon
 19772 \let\scriptv\textscriptv
 19773 \let\turnv\textturnv
 19774 \let\turnw\textturnw
 19775 \let\turny\textturny
 19776 \let\scy\textscy
 19777 \let\yogh\textyogh
 19778 \let\glotstop\textglotstop
 19779 \let\revglotstop\textrevglotstop
 19780 \let\invglotstop\textinvglotstop
 19781 \let\Gamma\textGamma
 19782 \let\Delta\textDelta
 19783 \let\Theta\textTheta
 19784 \let\Lambda\textLambda
 19785 \let\Xi\textXi
 19786 \let\Pi\textPi
 19787 \let\Sigma\textSigma
 19788 \let\Upsilon\textUpsilon
 19789 \let\Phi\textPhi
 19790 \let\Psi\textPsi
 19791 \let\Omega\textOmega
 19792 \let\alpha\textalpha
 19793 \let\beta\textbeta
 19794 \let\gamma\textgamma
 19795 \let\delta\textdelta
 19796 \let\epsilon\textepsilon
 19797 \let\zeta\textzeta
 19798 \let\eta\texteta
 19799 \let\theta\texttheta
 19800 \let\iota\textiota
 19801 \let\kappa\textkappa
 19802 \let\lambda\textlambda
 19803 \let\mu\textmu
 19804 \let\mugreek\textmugreek
 19805 \let\nu\textnu
 19806 \let\xi\textxi
 19807 \let\pi\textpi
 19808 \let\rho\rho
 19809 \let\varsigma\textvarsigma
 19810 \let\sigma\textsigma
 19811 \let\tau\texttau
 19812 \let\upsilon\textupsilon
 19813 \let\phi\textphi
 19814 \let\chi\textchi
 19815 \let\psi\textpsi
 19816 \let\omega\textomega
 19817 \let\scd\textscd
 19818 \let\scu\textscu
 19819 \let\iinferior\textiinferior

19820 \let\rinferior\textrinferior
 19821 \let\uinferior\textuinferior
 19822 \let\vinferior\textvinferior
 19823 \let\betainferior\textbetainferior
 19824 \let\gammainferior\textgammainferior
 19825 \let\rhoinferior\textrhoinferior
 19826 \let\phiinferior\textphiinferior
 19827 \let\chiinferior\textchiinferior
 19828 \let\barsci\textbarsci
 19829 \let\barp\textbarp
 19830 \let\barscu\textbarscu
 19831 \let\htrtaild\texthtrtaild
 19832 \let\dagger\textdagger
 19833 \let\bullet\textbullet
 19834 \let\hdotfor\texthdotfor
 19835 \let\prime\textprime
 19836 \let\second\textsecond
 19837 \let\third\textthird
 19838 \let\backprime\textbackprime
 19839 \let\lefttherefore\textlefttherefore
 19840 \let\fourth\textfourth
 19841 \let\diamonddots\textdiamonddots
 19842 \let\zerosuperior\textzerosuperior
 19843 \let\isuperior\textisuperior
 19844 \let\foursuperior\textfoursuperior
 19845 \let\fivesuperior\textfivesuperior
 19846 \let\sixsuperior\textsixsuperior
 19847 \let\sevensuperior\textsevensuperior
 19848 \let\eightsuperior\texteightsuperior
 19849 \let\ninesuperior\textninesuperior
 19850 \let\plussuperior\textplussuperior
 19851 \let\minussuperior\textminussuperior
 19852 \let>equalsuperior\textequalsuperior
 19853 \let\parenleftsuperior\textparenleftsuperior
 19854 \let\parenrightsuperior\textparenrightsuperior
 19855 \let\nsuperior\textnsuperior
 19856 \let\zeroinferior\textzeroinferior
 19857 \let\oneinferior\textoneinferior
 19858 \let\twoinferior\texttwoinferior
 19859 \let\threeinferior\textthreeinferior
 19860 \let\fourinferior\textfourinferior
 19861 \let\fiveinferior\textfiveinferior
 19862 \let\sixinferior\textsixinferior
 19863 \let\seveninferior\textseveninferior
 19864 \let\eightinferior\texteightinferior
 19865 \let\nineinferior\textnineinferior
 19866 \let\plusinferior\textplusinferior
 19867 \let\minusinferior\textminusinferior
 19868 \let>equalsinferior\textequalsinferior
 19869 \let\parenleftinferior\textparenleftinferior
 19870 \let\parenrightinferior\textparenrightinferior
 19871 \let\ainferior\textainferior
 19872 \let\einferior\texteinferior
 19873 \let\oinferior\textoinferior

19874 \let\xinferior\textxinferior
 19875 \let\schwainferior\textschwainferior
 19876 \let\hinferior\texthinferior
 19877 \let\kinferior\textkinferior
 19878 \let\linferior\textlinferior
 19879 \let\minferior\textminferior
 19880 \let\ninferior\textninferior
 19881 \let\pinferior\textpinferior
 19882 \let\sinferior\textsinferior
 19883 \let\tinferior\texttinferior
 19884 \let\Deleatur\textDeleatur
 19885 \let\hslash\texthslash
 19886 \let\Im\textIm
 19887 \let\ell\textell
 19888 \let\wp\textwp
 19889 \let\Re\textRe
 19890 \let\mho\textmho
 19891 \let\riota\textriota
 19892 \let\Finv\textFinv
 19893 \let\aleph\textaleph
 19894 \let\beth\textbeth
 19895 \let\gimel\textgimel
 19896 \let\daleth\textdaleth
 19897 \let\xfax\textfax
 19898 \let\Game\textGame
 19899 \let\leftarrow\textleftarrow
 19900 \let\uparrow\textuparrow
 19901 \let\rightarrow\textrightarrow
 19902 \let\downarrow\textdownarrow
 19903 \let\leftrightarrow\textleftrightarrow
 19904 \let\updownarrow\textupdownarrow
 19905 \let\nwarrow\textnwarrow
 19906 \let\nearrow\textnearrow
 19907 \let\searrow\textsearrow
 19908 \let\swarrow\textswarrow
 19909 \let\nleftarrow\textnleftarrow
 19910 \let\nrightarrow\textnrightarrow
 19911 \let\twoheadleftarrow\texttwoheadleftarrow
 19912 \let\ntwoheadleftarrow\textntwoheadleftarrow
 19913 \let\twoheaduparrow\texttwoheaduparrow
 19914 \let\twoheadrightarrow\texttwoheadrightarrow
 19915 \let\ntwoheadrightarrow\textntwoheadrightarrow
 19916 \let\twoheaddownarrow\texttwoheaddownarrow
 19917 \let\leftarrowtail\textleftarrowtail
 19918 \let\rightarrowtail\textrightarrowtail
 19919 \let\mapsto\textmapsto
 19920 \let\hookleftarrow\texthookleftarrow
 19921 \let\hookrightarrow\texthookrightarrow
 19922 \let\looparrowleft\textlooparrowleft
 19923 \let\looparrowright\textlooparrowright
 19924 \let\leftrightharrow\textleftrightharrow
 19925 \let\lightning\textlightning
 19926 \let\dlsh\textdlsh
 19927 \let\curvearrowleft\textcurvearrowleft

19928 $\backslash\text{curvearrowright}$
 19929 $\backslash\text{leftharpoonup}$
 19930 $\backslash\text{leftharpoondown}$
 19931 $\backslash\text{upharpoonright}$
 19932 $\backslash\text{upharpoonleft}$
 19933 $\backslash\text{rightharpoonup}$
 19934 $\backslash\text{rightharpoondown}$
 19935 $\backslash\text{downharpoonright}$
 19936 $\backslash\text{downharpoonleft}$
 19937 $\backslash\text{rightleftarrows}$
 19938 $\backslash\text{updownarrows}$
 19939 $\backslash\text{leftrightarrows}$
 19940 $\backslash\text{leftleftarrows}$
 19941 $\backslash\text{upuparrows}$
 19942 $\backslash\text{rightrightarrows}$
 19943 $\backslash\text{downdownarrows}$
 19944 $\backslash\text{leftrightharpoons}$
 19945 $\backslash\text{rightleftharpoons}$
 19946 $\backslash\text{nLeftarrow}$
 19947 $\backslash\text{nLeftrightarrow}$
 19948 $\backslash\text{nRrightarrow}$
 19949 $\backslash\text{Leftarrow}$
 19950 $\backslash\text{Uparrow}$
 19951 $\backslash\text{Rrightarrow}$
 19952 $\backslash\text{Downarrow}$
 19953 $\backslash\text{Leftrightarrow}$
 19954 $\backslash\text{Updownarrow}$
 19955 $\backslash\text{Nwarrow}$
 19956 $\backslash\text{Nearrow}$
 19957 $\backslash\text{Searrow}$
 19958 $\backslash\text{Swarrow}$
 19959 $\backslash\text{Lleftarrow}$
 19960 $\backslash\text{Rrightarrow}$
 19961 $\backslash\text{leftsquigarrow}$
 19962 $\backslash\text{rightsquigarrow}$
 19963 $\backslash\text{dashleftarrow}$
 19964 $\backslash\text{dasheduparrow}$
 19965 $\backslash\text{dashrightarrow}$
 19966 $\backslash\text{dasheddownarrow}$
 19967 $\backslash\text{pointer}$
 19968 $\backslash\text{downuparrows}$
 19969 $\backslash\text{leftarrowtriangle}$
 19970 $\backslash\text{rightarrowtriangle}$
 19971 $\backslash\text{leftrightarrowtriangle}$
 19972 $\backslash\text{forall}$
 19973 $\backslash\text{complement}$
 19974 $\backslash\text{partial}$
 19975 $\backslash\text{exists}$
 19976 $\backslash\text{nexists}$
 19977 $\backslash\text{emptyset}$
 19978 $\backslash\text{triangle}$
 19979 $\backslash\text{nabla}$
 19980 $\backslash\text{in}$
 19981 $\backslash\text{notin}$

19982 \let\smallin\textsmallin
 19983 \let\ni\textni
 19984 \let\notowner\textnotowner
 19985 \let\smallowns\textsmallowns
 19986 \let\prod\textprod
 19987 \let\amalg\textamalg
 19988 \let\sum\textsum
 19989 \let\mp\textmp
 19990 \let\dotplus\textdotplus
 19991 \let\Divides\textDivides
 19992 \let\DividesNot\textDividesNot
 19993 \let\setminus\textsetminus
 19994 \let\ast\textast
 19995 \let\circ\textcirc
 19996 \let\surd\textsurd
 19997 \let\propto\textpropto
 19998 \let\infty\textinfty
 19999 \let\angle\textangle
 20000 \let\measuredangle\textmeasuredangle
 20001 \let\sphericalangle\textsphericalangle
 20002 \let\mid\textmid
 20003 \let\nmid\textnmid
 20004 \let\parallel\textparallel
 20005 \let\nparallel\textnparallel
 20006 \let\wedge\textwedge
 20007 \let\owedge\textowedge
 20008 \let\vee\textvee
 20009 \let\ovee\textovee
 20010 \let\cap\textcap
 20011 \let\cup\textcup
 20012 \let\int\textint
 20013 \let\iint\textiint
 20014 \let\iiint\textiiint
 20015 \let\oint\textoint
 20016 \let\oiint\textoiint
 20017 \let\ointclockwise\textointclockwise
 20018 \let\ointctrlockwise\textointctrlockwise
 20019 \let\therefore\texttherefore
 20020 \let\because\textbecause
 20021 \let\vdots\textvdots
 20022 \let\squaredots\textsquaredots
 20023 \let\dotminus\textdotminus
 20024 \let\eqcolon\texteqcolon
 20025 \let\sim\textsim
 20026 \let\backsim\textbacksim
 20027 \let\nbacksim\textnbacksim
 20028 \let\wr\textwr
 20029 \let\sim\textsim
 20030 \let\eqsim\texteqsim
 20031 \let\neqsim\textneqsim
 20032 \let\simeq\textsimeq
 20033 \let\nsimeq\textnsimeq
 20034 \let\cong\textcong
 20035 \let\ncong\textncong

20036 \let\approx\textapprox
 20037 \let\napprox\textnapprox
 20038 \let\approxeq\textapproxeq
 20039 \let\napproxeq\textnapproxeq
 20040 \let\triplesim\texttriplesim
 20041 \let\ntriplesim\textntriplesim
 20042 \let\backcong\textbackcong
 20043 \let\nbackcong\textnbackcong
 20044 \let\asymp\textasymp
 20045 \let\nasymp\textnasymp
 20046 \let\Bumpeq\textBumpeq
 20047 \let\NBumpeq\textNBumpeq
 20048 \let\bumpeq\textbumpeq
 20049 \let\Nbumpeq\textNbumpeq
 20050 \let\doteq\textdoteq
 20051 \let\ndoteq\textndoteq
 20052 \let\doteqdot\textdoteqdot
 20053 \let\NDoteq\textNDoteq
 20054 \let\fallingdoteq\textfallingdoteq
 20055 \let\Nfallingdoteq\textNfallingdoteq
 20056 \let\risingdoteq\textrisingdoteq
 20057 \let\Nrisingdoteq\textNrisingdoteq
 20058 \let\colonequals\textcolonequals
 20059 \let\equalscolon\textequalscolon
 20060 \let\eqcirc\texteqcirc
 20061 \let\neqcirc\textneqcirc
 20062 \let\circeq\textcirceq
 20063 \let\ncirceq\textncirceq
 20064 \let\hateq\texthateq
 20065 \let\nhateq\textnhateq
 20066 \let\triangleeq\texttriangleeq
 20067 \let\neq\textneq
 20068 \let\ne\textne
 20069 \let\equiv\textequiv
 20070 \let\nequiv\textnequiv
 20071 \let\leq\textleq
 20072 \let\le\textle
 20073 \let\geq\textgeq
 20074 \let\ge\textge
 20075 \let\leqq\textleqq
 20076 \let\Nleqq\textNleqq
 20077 \let\geqq\textgeqq
 20078 \let\Ngeqq\textNgeqq
 20079 \let\lneqq\textlneqq
 20080 \let\gneqq\textgneqq
 20081 \let\ll\textll
 20082 \let\nll\textnll
 20083 \let\gg\textgg
 20084 \let\ngg\textngg
 20085 \let\between\textbetween
 20086 \let\nless\textnless
 20087 \let\ngtr\textngtr
 20088 \let\lneq\textlneq
 20089 \let\gneq\textgneq

20090 \let\lessim\textlessim
 20091 \let\gtrsim\textgtrsim
 20092 \let\nlessim\textnlessim
 20093 \let\ngtrsim\textngtrsim
 20094 \let\lessgtr\textlessgtr
 20095 \let\gtrless\textgtrless
 20096 \let\ngtrless\textngtrless
 20097 \let\nlessgtr\textnlessgtr
 20098 \let\prec\textprec
 20099 \let\succ\textsucc
 20100 \let\preccurlyeq\textpreccurlyeq
 20101 \let\succcurlyeq\textsucccurlyeq
 20102 \let\precsim\textprecsim
 20103 \let\nprecsim\textnprecsim
 20104 \let\succsim\textsuccsim
 20105 \let\nsuccsim\textnsuccsim
 20106 \let\nprec\textnprec
 20107 \let\nsucc\textnsucc
 20108 \let\subset\textsubset
 20109 \let\supset\textsupset
 20110 \let\nsubset\textnssubset
 20111 \let\nsupset\textnsupset
 20112 \let\subseteq\textsubseteq
 20113 \let\supseteq\textsupseteq
 20114 \let\nsubseteq\textnssubseteq
 20115 \let\nsupseteq\textnsupseteq
 20116 \let\subsetneq\textsubsetneq
 20117 \let\supsetneq\textsupsetneq
 20118 \let\cupdot\textcupdot
 20119 \let\cupplus\textcupplus
 20120 \let\sqsubset\textsqsubset
 20121 \let\nsqsubset\textnsqsubset
 20122 \let\sqsupset\textsqsupset
 20123 \let\nsqsupset\textnsqsupset
 20124 \let\sqsubseteq\textsqsubseteq
 20125 \let\nsqsubseteq\textnsqsubseteq
 20126 \let\sqsupseteq\textsqsupseteq
 20127 \let\nsqsupseteq\textnsqsupseteq
 20128 \let\sqcap\textsqcap
 20129 \let\sqcup\textsqcup
 20130 \let\oplus\textoplus
 20131 \let\ominus\textominus
 20132 \let\otimes\textotimes
 20133 \let\oslash\textoslash
 20134 \let\odot\textodot
 20135 \let\circledcirc\textcircledcirc
 20136 \let\circledast\textcircledast
 20137 \let\circleddash\textcircleddash
 20138 \let\boxplus\textboxplus
 20139 \let\boxminus\textboxminus
 20140 \let\boxtimes\textboxtimes
 20141 \let\boxdot\textboxdot
 20142 \let\vdash\textvdash
 20143 \let\dashv\textdashv

20144 \let\ndashv\textndashv
 20145 \let\top\texttop
 20146 \let\ndownvdash\textndownvdash
 20147 \let\bot\textbot
 20148 \let\nupvdash\textnupvdash
 20149 \let\vDash\textvDash
 20150 \let\Vdash\textVdash
 20151 \let\Vvdash\textVvdash
 20152 \let\NVdash\textNVdash
 20153 \let\VDash\textVDash
 20154 \let\ndash\textndash
 20155 \let\NVdash\textNVdash
 20156 \let\NVdash\textNVdash
 20157 \let\NVdash\textNVdash
 20158 \let\lhd\textlhd
 20159 \let\rhd\textrhd
 20160 \let\unlhd\textunlhd
 20161 \let\unrhd\textunrhd
 20162 \let\multimapdotbothA\textmultimapdotbothA
 20163 \let\multimapdotbothB\textmultimapdotbothB
 20164 \let\multimap\textmultimap
 20165 \let\veebar\textveebar
 20166 \let\barwedge\textbarwedge
 20167 \let\star\textstar
 20168 \let\divideontimes\textdivideontimes
 20169 \let\bowtie\textbowtie
 20170 \let\ltimes\textltimes
 20171 \let\rtimes\textrtimes
 20172 \let\leftthreetimes\textleftthreetimes
 20173 \let\rightthreetimes\textrightthreetimes
 20174 \let\backsimeq\textbacksimeq
 20175 \let\Nbacksimeq\textNbacksimeq
 20176 \let\curlyvee\textcurlyvee
 20177 \let\curlywedge\textcurlywedge
 20178 \let\Subset\textSubset
 20179 \let\NSubset\textNSubset
 20180 \let\Supset\textSupset
 20181 \let\NSupset\textNSupset
 20182 \let\Cap\textCap
 20183 \let\Cup\textCup
 20184 \let\pitchfork\textpitchfork
 20185 \let\lessdot\textlessdot
 20186 \let\gtrdot\textgtrdot
 20187 \let\lll\textlll
 20188 \let\ggg\textggg
 20189 \let\lesseqgtr\textlesseqgtr
 20190 \let\gtreqless\textgtreqless
 20191 \let\curlyeqprec\textcurlyeqprec
 20192 \let\Ncurlyeqprec\textNcurlyeqprec
 20193 \let\curlyeqsucc\textcurlyeqsucc
 20194 \let\Ncurlyeqsucc\textNcurlyeqsucc
 20195 \let\preccurlyeq\textpreccurlyeq
 20196 \let\nsucccurlyeq\textnsucccurlyeq
 20197 \let\sqsubset\textsqsubset

20198 \let\nqsupseteq\textnqsupseteq
 20199 \let\sqsubsetneq\textsqssubsetneq
 20200 \let\sqsupsetneq\textsqsupsetneq
 20201 \let\lnsim\textlnsim
 20202 \let\gnsim\textgnsim
 20203 \let\precnsim\textprecnsim
 20204 \let\succnsim\textsuccnsim
 20205 \let\ntriangleleft\textntriangleleft
 20206 \let\ntriangleright\textntriangleright
 20207 \let\ntrianglelefteq\textntrianglelefteq
 20208 \let\ntrianglerighteq\textntrianglerighteq
 20209 \let\vdots\textvdots
 20210 \let\cdots\textcdots
 20211 \let\udots\textudots
 20212 \let\ddots\textddots
 20213 \let\barin\textbarin
 20214 \let\diameter\textdiameter
 20215 \let\backneg\textbackneg
 20216 \let\wasylozenge\textwasylozenge
 20217 \let\invbackneg\textinvbackneg
 20218 \let\clock\textclock
 20219 \let\ulcorner\textulcorner
 20220 \let\urcorner\texturcorner
 20221 \let\llcorner\textllcorner
 20222 \let\lrcorner\textlrcorner
 20223 \let\frown\textfrown
 20224 \let\smile\textsmile
 20225 \let\Keyboard\textKeyboard
 20226 \let\langle\textlangle
 20227 \let\rangle\textrangle
 20228 \let\APLinv\textAPLinv
 20229 \let\Tumbler\textTumbler
 20230 \let\notslash\textnotslash
 20231 \let\notbackslash\textnotbackslash
 20232 \let\boxbackslash\textboxbackslash
 20233 \let\APLleftarrowbox\textAPLleftarrowbox
 20234 \let\APLrightarrowbox\textAPLrightarrowbox
 20235 \let\APLuparrowbox\textAPLuparrowbox
 20236 \let\APLdownarrowbox\textAPLdownarrowbox
 20237 \let\APLinput\textAPLinput
 20238 \let\Request\textRequest
 20239 \let\Beam\textBeam
 20240 \let\hexagon\texthexagon
 20241 \let\APLbox\textAPLbox
 20242 \let\ForwardToIndex\textForwardToIndex
 20243 \let\RewindToIndex\textRewindToIndex
 20244 \let\bbslash\textbbslash
 20245 \let\CircledA\textCircledA
 20246 \let\CleaningF\textCleaningF
 20247 \let\CleaningFF\textCleaningFF
 20248 \let\CleaningP\textCleaningP
 20249 \let\CleaningPP\textCleaningPP
 20250 \let\CuttingLine\textCuttingLine
 20251 \let\UParrow\textUParrow

20252 \let\bigtriangleup\textbigtriangleup
 20253 \let\Forward\textForward
 20254 \let\triangleright\texttriangleright
 20255 \let\RHD\textRHD
 20256 \let\DOWNarrow\textDOWNarrow
 20257 \let\bigtriangledown\textbigtriangledown
 20258 \let\Rewind\textRewind
 20259 \let\triangleleft\texttriangleleft
 20260 \let\LHD\textLHD
 20261 \let\diamond\textdiamond
 20262 \let\lozenge\textlozenge
 20263 \let\LEFTCIRCLE\textLEFTCIRCLE
 20264 \let\RIGHTCIRCLE\textRIGHTCIRCLE
 20265 \let\openbullet\textopenbullet
 20266 \let\boxbar\textboxbar
 20267 \let\bigcirc\textbigcirc
 20268 \let\Cloud\textCloud
 20269 \let\FiveStar\textFiveStar
 20270 \let\FiveStarOpen\textFiveStarOpen
 20271 \let\Phone\textPhone
 20272 \let\boxempty\textboxempty
 20273 \let\Checkedbox\textCheckedbox
 20274 \let\Crossedbox\textCrossedbox
 20275 \let\Coffeecup\textCoffeecup
 20276 \let\HandCuffLeft\textHandCuffLeft
 20277 \let\HandCuffRight\textHandCuffRight
 20278 \let\HandLeft\textHandLeft
 20279 \let\HandRight\textHandRight
 20280 \let\Radioactivity\textRadioactivity
 20281 \let\Biohazard\textBiohazard
 20282 \let\Ankh\textAnkh
 20283 \let\YinYang\textYinYang
 20284 \let\frownie\textfrownie
 20285 \let\smiley\textsmiley
 20286 \let\blacksmiley\textblacksmiley
 20287 \let\sun\textsun
 20288 \let\leftmoon\textleftmoon
 20289 \let\rightmoon\textrightmoon
 20290 \let\mercury\textmercury
 20291 \let\earth\textearth
 20292 \let\male\textmale
 20293 \let\jupiter\textjupiter
 20294 \let\saturn\textsaturn
 20295 \let\uranus\texturanus
 20296 \let\neptune\textneptune
 20297 \let\pluto\textpluto
 20298 \let\aries\textaries
 20299 \let\taurus\texttaurus
 20300 \let\gemini\textgemini
 20301 \let\cancer\textcancer
 20302 \let\leo\textleo
 20303 \let\virgo\textvirgo
 20304 \let\libra\textlibra
 20305 \let\scorpio\textscorpio

20306 \let\sagittarius\textsagittarius
 20307 \let\capricornus\textcapricornus
 20308 \let\aquarius\textaquarius
 20309 \let\pisces\textpisces
 20310 \let\quarternote\textquarternote
 20311 \let\twonotes\texttwonotes
 20312 \let\sixteenthnote\textsixteenthnote
 20313 \let\flat\textflat
 20314 \let\natural\textnatural
 20315 \let\sharp\textsharp
 20316 \let\recycle\textrecycle
 20317 \let\Wheelchair\textWheelchair
 20318 \let\Flag\textFlag
 20319 \let\MineSign\textMineSign
 20320 \let\ds military\textds military
 20321 \let\ds medical\textds medical
 20322 \let\ds juridical\textds juridical
 20323 \let\ds chemical\textds chemical
 20324 \let\ds biological\textds biological
 20325 \let\ds commercial\textds commercial
 20326 \let\manstar\textmanstar
 20327 \let\danger\textdanger
 20328 \let\FemaleFemale\textFemaleFemale
 20329 \let\MaleMale\textMaleMale
 20330 \let\FemaleMale\textFemaleMale
 20331 \let\Hermaphrodite\textHermaphrodite
 20332 \let\Neutral\textNeutral
 20333 \let\hexstar\texthexstar
 20334 \let\SunCload\textSunCload
 20335 \let\Rain\textRain
 20336 \let\noway\textnoway
 20337 \let\Mountain\textMountain
 20338 \let\Tent\textTent
 20339 \let\ScissorRight\textScissorRight
 20340 \let\ScissorRightBrokenTop\textScissorRightBrokenTop
 20341 \let\ScissorHollowRight\textScissorHollowRight
 20342 \let\PhoneHandset\textPhoneHandset
 20343 \let\Tape\textTape
 20344 \let\Plane\textPlane
 20345 \let\Envelope\textEnvelope
 20346 \let\Peace\textPeace
 20347 \let\WritingHand\textWritingHand
 20348 \let\PencilRightDown\textPencilRightDown
 20349 \let\PencilRight\textPencilRight
 20350 \let\PencilRightUp\textPencilRightUp
 20351 \let\NibRight\textNibRight
 20352 \let\NibSolidRight\textNibSolidRight
 20353 \let\Checkmark\textCheckmark
 20354 \let\CheckmarkBold\textCheckmarkBold
 20355 \let\XSolid\textXSolid
 20356 \let\XSolidBold\textXSolidBold
 20357 \let\XSolidBrush\textXSolidBrush
 20358 \let\PlusOutline\textPlusOutline
 20359 \let\Plus\textPlus

20360 \let\PlusThinCenterOpen\textPlusThinCenterOpen
 20361 \let\PlusCenterOpen\textPlusCenterOpen
 20362 \let\Cross\textCross
 20363 \let\CrossOpenShadow\textCrossOpenShadow
 20364 \let\CrossOutline\textCrossOutline
 20365 \let\CrossMaltese\textCrossMaltese
 20366 \let\DavidStar\textDavidStar
 20367 \let\FourAsterisk\textFourAsterisk
 20368 \let\JackStar\textJackStar
 20369 \let\JackStarBold\textJackStarBold
 20370 \let\ClowerTips\textClowerTips
 20371 \let\FourStar\textFourStar
 20372 \let\FourStarOpen\textFourStarOpen
 20373 \let\FiveStarOpenCircled\textFiveStarOpenCircled
 20374 \let\FiveStarCenterOpen\textFiveStarCenterOpen
 20375 \let\FiveStarOpenDotted\textFiveStarOpenDotted
 20376 \let\FiveStarOutline\textFiveStarOutline
 20377 \let\FiveStarOutlineHeavy\textFiveStarOutlineHeavy
 20378 \let\FiveStarConvex\textFiveStarConvex
 20379 \let\FiveStarShadow\textFiveStarShadow
 20380 \let\AsteriskBold\textAsteriskBold
 20381 \let\AsteriskCenterOpen\textAsteriskCenterOpen
 20382 \let\EightStarTaper\textEightStarTaper
 20383 \let\EightStarConvex\textEightStarConvex
 20384 \let\SixStar\textSixStar
 20385 \let\EightStar\textEightStar
 20386 \let\EightStarBold\textEightStarBold
 20387 \let\TwelveStar\textTwelveStar
 20388 \let\SixteenStarLight\textSixteenStarLight
 20389 \let\SixFlowerPetalRemoved\textSixFlowerPetalRemoved
 20390 \let\SixFlowerOpenCenter\textSixFlowerOpenCenter
 20391 \let\Asterisk\textAsterisk
 20392 \let\SixFlowerAlternate\textSixFlowerAlternate
 20393 \let\FiveFlowerPetal\textFiveFlowerPetal
 20394 \let\FiveFlowerOpen\textFiveFlowerOpen
 20395 \let\EightFlowerPetal\textEightFlowerPetal
 20396 \let\SunshineOpenCircled\textSunshineOpenCircled
 20397 \let\SixFlowerAltPetal\textSixFlowerAltPetal
 20398 \let\SnowflakeChevron\textSnowflakeChevron
 20399 \let\Snowflake\textSnowflake
 20400 \let\SnowflakeChevronBold\textSnowflakeChevronBold
 20401 \let\Sparkle\textSparkle
 20402 \let\SparkleBold\textSparkleBold
 20403 \let\AsteriskRoundedEnds\textAsteriskRoundedEnds
 20404 \let\EightFlowerPetalRemoved\textEightFlowerPetalRemoved
 20405 \let\EightAsterisk\textEightAsterisk
 20406 \let\CircleShadow\textCircleShadow
 20407 \let\SquareShadowBottomRight\textSquareShadowBottomRight
 20408 \let\SquareTopRight\textSquareTopRight
 20409 \let\SquareCastShadowBottomRight\textSquareCastShadowBottomRight
 20410 \let\SquareCastShadowTopRight\textSquareCastShadowTopRight
 20411 \let\DiamandSolid\textDiamandSolid
 20412 \let\RectangleThin\textRectangleThin
 20413 \let\Rectangle\textRectangle

20414 `\let\RectangleBold\textRectangleBold`
 20415 `\let\perp\textperp`
 20416 `\let\notperp\textnotperp`
 20417 `\let\veedot\textveedot`
 20418 `\let\wedgedot\textwedgedot`
 20419 `\let\leftspoon\textleftspoon`
 20420 `\let\lbrackdbl\textlbrackdbl`
 20421 `\let\rbrackdbl\textrbrackdbl`
 20422 `\let\circlearrowleft\textcirclearrowleft`
 20423 `\let\circlearrowright\textcirclearrowright`
 20424 `\let\longleftarrow\textlongleftarrow`
 20425 `\let\longrightarrow\textlongrightarrow`
 20426 `\let\longleftarrow\textLongleftarrow`
 20427 `\let\Longleftarrow\textLongleftarrow`
 20428 `\let\Longrightarrow\textLongrightarrow`
 20429 `\let\Longleftarrow\textLongleftarrow`
 20430 `\let\longmapsto\textlongmapsto`
 20431 `\let\Longmapsfrom\textLongmapsfrom`
 20432 `\let\Longmapsto\textLongmapsto`
 20433 `\let\nwsearrow\textnwsearrow`
 20434 `\let\neswarrow\textneswarrow`
 20435 `\let\lhooknarrow\textlhooknarrow`
 20436 `\let\rhooknarrow\texthooknarrow`
 20437 `\let\lhooksearrow\textlhooksearrow`
 20438 `\let\rhooksearrow\texthooksearrow`
 20439 `\let\leadsto\textleadsto`
 20440 `\let\rcurvearrowne\textrcurvearrowne`
 20441 `\let\lcurvearrowse\textlcurvearrowse`
 20442 `\let\lcurvearrowsw\textlcurvearrowsw`
 20443 `\let\rcurvearrowse\textrcurvearrowse`
 20444 `\let\lcurvearrowdown\textlcurvearrowdown`
 20445 `\let\rcurvearrowdown\textrcurvearrowdown`
 20446 `\let\rcurvearrowleft\textrcurvearrowleft`
 20447 `\let\rcurvearrowright\textrcurvearrowright`
 20448 `\let\leftrightharpoon\textleftrightharpoon`
 20449 `\let\rightleftharpoon\textrightleftharpoon`
 20450 `\let\updownharpoonrightleft\textupdownharpoonrightleft`
 20451 `\let\updownharpoonleftright\textupdownharpoonleftright`
 20452 `\let\leftleftharpoons\textleftleftharpoons`
 20453 `\let\upupharpoons\textupupharpoons`
 20454 `\let\rightleftharpoons\textrightleftharpoons`
 20455 `\let\downdownharpoons\textdowndownharpoons`
 20456 `\let\leftbarharpoon\textleftbarharpoon`
 20457 `\let\barleftharpoon\textbarleftharpoon`
 20458 `\let\rightbarharpoon\textrightbarharpoon`
 20459 `\let\barriharpoon\textbarriharpoon`
 20460 `\let\updownharpoons\textupdownharpoons`
 20461 `\let\downupharpoons\textdownupharpoons`
 20462 `\let\moo\textmoo`
 20463 `\let\llparenthesis\textllparenthesis`
 20464 `\let\rrparenthesis\textrrparenthesis`
 20465 `\let\invdiameter\textinvdiameter`
 20466 `\let\obar\textobar`
 20467 `\let\obslash\textobslash`

20468 $\backslash\text{obot}\backslash\text{textobot}$
 20469 $\backslash\text{let}\backslash\text{NoChemicalCleaning}\backslash\text{textNoChemicalCleaning}$
 20470 $\backslash\text{let}\backslash\text{olessthan}\backslash\text{textolessthan}$
 20471 $\backslash\text{let}\backslash\text{ogreaterthan}\backslash\text{textogreaterthan}$
 20472 $\backslash\text{let}\backslash\text{boxslash}\backslash\text{textboxslash}$
 20473 $\backslash\text{let}\backslash\text{boxbslash}\backslash\text{textboxbslash}$
 20474 $\backslash\text{let}\backslash\text{boxast}\backslash\text{textboxast}$
 20475 $\backslash\text{let}\backslash\text{boxcircle}\backslash\text{textboxcircle}$
 20476 $\backslash\text{let}\backslash\text{boxbox}\backslash\text{textboxbox}$
 20477 $\backslash\text{let}\backslash\text{Valve}\backslash\text{textValve}$
 20478 $\backslash\text{let}\backslash\text{multimapboth}\backslash\text{textmultimapboth}$
 20479 $\backslash\text{let}\backslash\text{shuffle}\backslash\text{textshuffle}$
 20480 $\backslash\text{let}\backslash\text{uplus}\backslash\text{textuplus}$
 20481 $\backslash\text{let}\backslash\text{bigdoublewedge}\backslash\text{textbigdoublewedge}$
 20482 $\backslash\text{let}\backslash\text{bigdoublevee}\backslash\text{textbigdoublevee}$
 20483 $\backslash\text{let}\backslash\text{Join}\backslash\text{textJoin}$
 20484 $\backslash\text{let}\backslash\text{fatsemi}\backslash\text{textfatsemi}$
 20485 $\backslash\text{let}\backslash\text{circplus}\backslash\text{textcircplus}$
 20486 $\backslash\text{let}\backslash\text{minusdot}\backslash\text{textminusdot}$
 20487 $\backslash\text{let}\backslash\text{dottimes}\backslash\text{textdottimes}$
 20488 $\backslash\text{let}\backslash\text{dtimes}\backslash\text{texdtimes}$
 20489 $\backslash\text{let}\backslash\text{odiv}\backslash\text{textodiv}$
 20490 $\backslash\text{let}\backslash\text{invneg}\backslash\text{textinvneg}$
 20491 $\backslash\text{let}\backslash\text{sqdoublecap}\backslash\text{textsdoublecap}$
 20492 $\backslash\text{let}\backslash\text{capdot}\backslash\text{textcapdot}$
 20493 $\backslash\text{let}\backslash\text{sqdoublecup}\backslash\text{textsdoublecup}$
 20494 $\backslash\text{let}\backslash\text{doublewedge}\backslash\text{texdoublewedge}$
 20495 $\backslash\text{let}\backslash\text{doublevee}\backslash\text{texdoublevee}$
 20496 $\backslash\text{let}\backslash\text{doublebarwedge}\backslash\text{texdoublebarwedge}$
 20497 $\backslash\text{let}\backslash\text{veedoublebar}\backslash\text{texveedoublebar}$
 20498 $\backslash\text{let}\backslash\text{eqdot}\backslash\text{texeqdot}$
 20499 $\backslash\text{let}\backslash\text{neqdot}\backslash\text{texneqdot}$
 20500 $\backslash\text{let}\backslash\text{coloncolonequals}\backslash\text{textcoloncolonequals}$
 20501 $\backslash\text{let}\backslash\text{leqslant}\backslash\text{textleqslant}$
 20502 $\backslash\text{let}\backslash\text{nleqslant}\backslash\text{texnleqslant}$
 20503 $\backslash\text{let}\backslash\text{geqslant}\backslash\text{textgeqslant}$
 20504 $\backslash\text{let}\backslash\text{ngeqslant}\backslash\text{texngeqslant}$
 20505 $\backslash\text{let}\backslash\text{lessapprox}\backslash\text{texlessapprox}$
 20506 $\backslash\text{let}\backslash\text{nlessapprox}\backslash\text{texnlessapprox}$
 20507 $\backslash\text{let}\backslash\text{gtrapprox}\backslash\text{textgtrapprox}$
 20508 $\backslash\text{let}\backslash\text{ngtrapprox}\backslash\text{texngtrapprox}$
 20509 $\backslash\text{let}\backslash\text{lneq}\backslash\text{texlneq}$
 20510 $\backslash\text{let}\backslash\text{gneq}\backslash\text{texgneq}$
 20511 $\backslash\text{let}\backslash\text{lnapprox}\backslash\text{texlnapprox}$
 20512 $\backslash\text{let}\backslash\text{gnapprox}\backslash\text{texgnapprox}$
 20513 $\backslash\text{let}\backslash\text{lesseqqgtr}\backslash\text{texlesseqqgtr}$
 20514 $\backslash\text{let}\backslash\text{gtreqqlless}\backslash\text{texgtreqqlless}$
 20515 $\backslash\text{let}\backslash\text{eqslantless}\backslash\text{texeqslantless}$
 20516 $\backslash\text{let}\backslash\text{eqslantgtr}\backslash\text{texeqslantgtr}$
 20517 $\backslash\text{let}\backslash\text{leftslice}\backslash\text{texleftslice}$
 20518 $\backslash\text{let}\backslash\text{rightslice}\backslash\text{texrightslice}$
 20519 $\backslash\text{let}\backslash\text{preceq}\backslash\text{texpreceq}$
 20520 $\backslash\text{let}\backslash\text{npreceq}\backslash\text{texnpreceq}$
 20521 $\backslash\text{let}\backslash\text{succeq}\backslash\text{texsucceq}$

20522 \let\nsucceq\textnsucceq
 20523 \let\precneq\textprecneq
 20524 \let\succneq\textsuccneq
 20525 \let\preceqq\textpreceqq
 20526 \let\npreceqq\textnpreceqq
 20527 \let\succeqq\textsucceqq
 20528 \let\nsucceqq\textnsucceqq
 20529 \let\precneqq\textprecneqq
 20530 \let\succneqq\textsuccneqq
 20531 \let\precapprox\textprecapprox
 20532 \let\nprecapprox\textnprecapprox
 20533 \let\succapprox\textsuccapprox
 20534 \let\nsuccapprox\textnsuccapprox
 20535 \let\precnapprox\textprecnapprox
 20536 \let\succnapprox\textsuccnapprox
 20537 \let\subseteqq\textsubseteqq
 20538 \let\nsubseteqq\textnsubseteqq
 20539 \let\supseteqq\textsupseteqq
 20540 \let\nsupseteqq\textnsupseteqq
 20541 \let\dashV\textdashV
 20542 \let\ndashV\textndashV
 20543 \let\Dashv\textDashv
 20544 \let\ndashv\textndashv
 20545 \let\DashV\textDashV
 20546 \let\ndashV\textndashV
 20547 \let\downmodels\textdownmodels
 20548 \let\ndownmodels\textndownmodels
 20549 \let\upmodels\textupmodels
 20550 \let\nupmodels\textnupmodels
 20551 \let\upspoon\textupspoon
 20552 \let\interleave\textinterleave
 20553 \let\slash\textslash
 20554 \let\pentagon\textpentagon
 20555 \let\varhexagon\textvarhexagon
 20556 \let\jinferior\textjinferior
 20557 \let\slashdiv\textslashdiv
 20558 \let\fivedots\textfivedots
 20559 \let\oo\textoo
 20560 \let\GaPa\textGaPa
 20561 \let\HaPa\textHaPa
 20562 \let\ViPa\textViPa
 20563 \let\AcPa\textAcPa
 20564 \let\SePa\textSePa
 20565 \let\ZwPa\textZwPa
 20566 \let\fullnote\textfullnote
 20567 \let\halfnote\texthalfnote
 20568 \let\Vier\textVier
 20569 \let\Acht\textAcht
 20570 \let\Sech\textSech
 20571 \let\Zwdr\textZwdr
 20572 \let\Mundus\textMundus
 20573 \let\Moon\textMoon
 20574 \let\ManFace\textManFace
 20575 \let\WomanFace\textWomanFace

20576 \let\Fax\textFax
 20577 \let\Fire\textFire
 20578 \let\Bicycle\textBicycle
 20579 \let\Gentsroom\textGentsroom
 20580 \let\Ladiesroom\textLadiesroom
 20581 \let\ccnc\textccnc
 20582 \let\ccsa\textccsa
 20583 \let\Info\textInfo
 20584 \let\CESign\textCESign
 20585 \let\neg\textneg
 20586 \let\times\texttimes
 20587 \let\div\textdiv
 20588 \let\pm\textpm
 20589 \let\cdot\textcdot
 20590 }% \psdmapshortnames
 20591 \newcommand*{\psdaliasnames}{%
 20592 \let\epsdice\HyPsd@DieFace
 20593 \let\fcdice\HyPsd@DieFace
 20594 \let\MoonPha\HyPsd@MoonPha
 20595 \let\mathdollar\textdollar
 20596 \let\EyesDollar\textdollar
 20597 \let\binampersand\textampersand
 20598 \let\with\textampersand
 20599 \let\mathunderscore\textunderscore
 20600 \let\textvertline\textbar
 20601 \let\mathsterling\textsterling
 20602 \let\pounds\textsterling
 20603 \let\brokenvert\textbrokenbar
 20604 \let\mathsection\textsection
 20605 \let\S\textsection
 20606 \let\mathparagraph\textparagraph
 20607 \let\MultiplicationDot\textperiodcentered
 20608 \let\Squaredot\textperiodcentered
 20609 \let\vartimes\textmultiply
 20610 \let\MVMultiplication\textmultiply
 20611 \let\eth\dh
 20612 \let\crossd\textcrd
 20613 \let\textbard\textcrd
 20614 \let\bard\textcrd
 20615 \let\textcrh\textthbar
 20616 \let\crossh\textthbar
 20617 \let\planck\textthbar
 20618 \let\eng\ng
 20619 \let\engma\ng
 20620 \let\crossb\textcrb
 20621 \let\textbarb\textcrb
 20622 \let\barb\textcrb
 20623 \let\Florin\textflorin
 20624 \let\hv\texthvl
 20625 \let\hausak\texthtk
 20626 \let\crossnilambda\textcrlambda
 20627 \let\barlambda\textcrlambda
 20628 \let\lambdabar\textcrlambda
 20629 \let\lambdaslash\textcrlambda

20630 \let\textnrleg\textPUnrleg
 20631 \let\textpipevar\textpipe
 20632 \let\textdoublepipevar\textdoublepipe
 20633 \let\textdoublebarpipevar\textdoublebarpipe
 20634 \let\textcrg\textgslash
 20635 \let\textdblig\textPUdblig
 20636 \let\textqplig\textPUqplig
 20637 \let\textcentoldstyle\textslashc
 20638 \let\textbarc\textslashc
 20639 \let\inva\textturna
 20640 \let\vara\textscripta
 20641 \let\invscripta\textturnscripta
 20642 \let\rotvara\textturnscripta
 20643 \let\hookb\texthtb
 20644 \let\hausab\texthtb
 20645 \let\varopeno\textopeno
 20646 \let\curlyc\textctc
 20647 \let\taild\textrtaild
 20648 \let\hookd\texthtd
 20649 \let\hausad\texthtd
 20650 \let\er\textrhooschwa
 20651 \let\epsi\textniepsilon
 20652 \let\hookrepsilon\textrhoosepsilon
 20653 \let\closedrepsilon\textcloserepsilon
 20654 \let\barj\textbardotlessj
 20655 \let\hookg\texthtg
 20656 \let\varg\textscriptg
 20657 \let\vod\textipagamma
 20658 \let\invh\textturnh
 20659 \let\udesc\textturnh
 20660 \let\hookh\texthth
 20661 \let\voicedh\texthth
 20662 \let\hookheng\texththeng
 20663 \let\ibar\textbari
 20664 \let\vari\textniota
 20665 \let\tildel\textltilde
 20666 \let\latfric\textbeltl
 20667 \let\taill\texttrtail
 20668 \let\lz\textlyoghlig
 20669 \let\invm\textturnm
 20670 \let\rotm\textturnm
 20671 \let\legm\textturnmrleg
 20672 \let\labdentalnas\textltailm
 20673 \let\emgma\textltailm
 20674 \let\nj\textltailn
 20675 \let\enya\textltailn
 20676 \let\tailn\textrtailn
 20677 \let\closedniomega\textcloseomega
 20678 \let\varomega\textcloseomega
 20679 \let\invr\textturnr
 20680 \let\rotr\textturnr
 20681 \let\invlegr\textturnlonglegr
 20682 \let\tailinvr\textturnrrtail
 20683 \let\legr\textlonglegr

20684 \let\tailr\textrtailr
 20685 \let\flapr\textfishhookr
 20686 \let\flap\textfishhookr
 20687 \let\tails\textrtails
 20688 \let\curlyesh\textctesh
 20689 \let\clickt\textturnt
 20690 \let\tailt\textrtailt
 20691 \let\ubar\textbaru
 20692 \let\rotOmega\textniupsilon
 20693 \let\invv\textturnv
 20694 \let\pwedge\textturnv
 20695 \let\invw\textturnw
 20696 \let\rotw\textturnw
 20697 \let\invy\textturny
 20698 \let\roty\textturny
 20699 \let\tailz\textrtailz
 20700 \let\curlyz\textctz
 20701 \let\curlyyogh\textctyogh
 20702 \let\ejective\textglotstop
 20703 \let\glottal\textglotstop
 20704 \let\reject\textrevglotstop
 20705 \let\clickc\textstretchc
 20706 \let\textstretchcvar\textstretchc
 20707 \let\clickb\textbullseye
 20708 \let\textObullseye\textbullseye
 20709 \let\textctjvar\textctj
 20710 \let\textturnsck\textturnk
 20711 \let\dz\textdzlig
 20712 \let\tesh\textteshlig
 20713 \let\digamma\textdigammagreek
 20714 \let\hardsign\cyrhrdsn
 20715 \let\softsign\cyrsoftsn
 20716 \let\hebsin\hebshin
 20717 \let\textsck\textPUscck
 20718 \let\textscm\textPUscm
 20719 \let\textscp\textPUscp
 20720 \let\textrevscr\textPUrevscr
 20721 \let\textrhoaka\textPUrhoaka
 20722 \let\textrhooke\textPUrhooke
 20723 \let\textrhookepsilon\textPUrhookepsilon
 20724 \let\textrhookeno\textPUrhookeno
 20725 \let\textdoublevertline\textbardbl
 20726 \let\dag\textdagger
 20727 \let\ddagger\textdaggerdbl
 20728 \let\ddag\textdaggerdbl
 20729 \let\mathellipsis\textellipsis
 20730 \let\EurDig\texteuro
 20731 \let\EURdig\texteuro
 20732 \let\EurHv\texteuro
 20733 \let\EURhv\texteuro
 20734 \let\EurCr\texteuro
 20735 \let\EURcr\texteuro
 20736 \let\EurTm\texteuro
 20737 \let\EURtm\texteuro

20738 $\backslash\mathrm{Eur}$
 20739 $\backslash\mathrm{Denarius}$
 20740 $\backslash\mathrm{agemO}$
 20741 $\backslash\mathrm{EstimatedSign}$
 20742 $\backslash\mathrm{Ecommerce}$
 20743 $\backslash\mathrm{bindnasrepma}$
 20744 $\backslash\mathrm{parr}$
 20745 $\backslash\mathrm{MVRightArrow}$
 20746 $\backslash\mathrm{MVRightarrow}$
 20747 $\backslash\mathrm{MVArrowDown}$
 20748 $\backslash\mathrm{Force}$
 20749 $\backslash\mathrm{textglobrise}$
 20750 $\backslash\mathrm{textglobfall}$
 20751 $\backslash\mathrm{Lightning}$
 20752 $\backslash\mathrm{Conclusion}$
 20753 $\backslash\mathrm{dashedleftarrow}$
 20754 $\backslash\mathrm{dashedrightarrow}$
 20755 $\backslash\mathrm{varnothing}$
 20756 $\backslash\mathrm{owns}$
 20757 $\backslash\mathrm{notni}$
 20758 $\backslash\mathrm{varprop}$
 20759 $\backslash\mathrm{varangle}$
 20760 $\backslash\mathrm{Anglesign}$
 20761 $\backslash\mathrm{AngleSign}$
 20762 $\backslash\mathrm{notdivides}$
 20763 $\backslash\mathrm{varowedge}$
 20764 $\backslash\mathrm{varovee}$
 20765 $\backslash\mathrm{varint}$
 20766 $\backslash\mathrm{varoint}$
 20767 $\backslash\mathrm{downtherefore}$
 20768 $\backslash\mathrm{textdotdiv}$
 20769 $\backslash\mathrm{AC}$
 20770 $\backslash\mathrm{wreath}$
 20771 $\backslash\mathrm{nthickapprox}$
 20772 $\backslash\mathrm{VHF}$
 20773 $\backslash\mathrm{notasympt}$
 20774 $\backslash\mathrm{Doteq}$
 20775 $\backslash\mathrm{corresponds}$
 20776 $\backslash\mathrm{Corresponds}$
 20777 $\backslash\mathrm{nequal}$
 20778 $\backslash\mathrm{Congruent}$
 20779 $\backslash\mathrm{NotCongruent}$
 20780 $\backslash\mathrm{notequiv}$
 20781 $\backslash\mathrm{LessOrEqual}$
 20782 $\backslash\mathrm{LargerOrEqual}$
 20783 $\backslash\mathrm{apprle}$
 20784 $\backslash\mathrm{apprge}$
 20785 $\backslash\mathrm{varoplus}$
 20786 $\backslash\mathrm{varominus}$
 20787 $\backslash\mathrm{varotimes}$
 20788 $\backslash\mathrm{varoslash}$
 20789 $\backslash\mathrm{varodot}$
 20790 $\backslash\mathrm{ocirc}$
 20791 $\backslash\mathrm{varocircle}$

20792 \let\varoast\textcircledast
 20793 \let\oasterisk\textcircledast
 20794 \let\rightvdash\textvdash
 20795 \let\leftvdash\textdashv
 20796 \let\leftvdash\textndashv
 20797 \let\downvdash\texttop
 20798 \let\upvdash\textbot
 20799 \let\nperp\textnupvdash
 20800 \let\models\textvDash
 20801 \let\rightmodels\textvDash
 20802 \let\rightVdash\textVdash
 20803 \let\rightModels\textVDash
 20804 \let\rightvdash\textnvdash
 20805 \let\rightmodels\textnvDash
 20806 \let\rightVdash\textnVdash
 20807 \let\rightModels\textnVDash
 20808 \let\lessclosed\textlhd
 20809 \let\gtrclosed\textrhd
 20810 \let\leqclosed\textunlhd
 20811 \let\trianglelefteq\textunlhd
 20812 \let\geqclosed\textunrhd
 20813 \let\trianglerighteq\textunrhd
 20814 \let\Bowtie\textbowtie
 20815 \let\varcurlyvee\textcurlyvee
 20816 \let\varcurlywedge\textcurlywedge
 20817 \let\doublecap\textCap
 20818 \let\doublecup\textCup
 20819 \let\varsubsetneq\textsubsetneq
 20820 \let\varsupsetneq\textsupsetneq
 20821 \let\lessclosed\textntriangleleft
 20822 \let\ngtrclosed\textntriangleright
 20823 \let\Clocklogo\textclock
 20824 \let\ClockLogo\textclock
 20825 \let\baro\textstmaryrdbaro
 20826 \let\varparallelinv\textbbslash
 20827 \let\CleaningA\textCircledA
 20828 \let\Kutline\textCuttingLine
 20829 \let\CutLine\textCuttingLine
 20830 \let\Cutline\textCuttingLine
 20831 \let\MoveUp\textUParrow
 20832 \let\APLup\textbigtriangleup
 20833 \let\Bleech\textbigtriangleup
 20834 \let\MoveDown\textDOWNarrow
 20835 \let\APLdown\textbigtriangledown
 20836 \let\Diamond\textdiamond
 20837 \let\varbigcirc\textbigcircle
 20838 \let\Telefon\textPhone
 20839 \let\Box\textboxempty
 20840 \let\CheckedBox\textCheckedbox
 20841 \let\XBox\textCrossedbox
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20846 \let\PointingHand\textHandRight
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 20848 \let\Radiation\textRadioactivity
 20849 \let\Yinyang\textYinYang
 20850 \let\YingYang\textYinYang
 20851 \let\Yingyang\textYinYang
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 20853 \let\Smiley\textsmiley
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 20876 \let\Libra\textlibra
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 20879 \let\Capricorn\textcapricornus
 20880 \let\Aquarius\textaquarius
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 20883 \let\Heart\textheartsuitwhite
 20884 \let\heartsuit\textheartsuitwhite
 20885 \let\diamondsuit\textdiamondsuitwhite
 20886 \let\clubsuit\textclubsuitblack
 20887 \let\leighthnote\textmusicalnote
 20888 \let\Recycling\textrecycle
 20889 \let\VarFlag\textFlag
 20890 \let\textxswup\textdsmilitary
 20891 \let\textuncrfemale\textPUuncrfemale
 20892 \let\Football\textSoccerBall
 20893 \let\CutLeft\textScissorRightBrokenBottom
 20894 \let\Cutright\textScissorRightBrokenBottom
 20895 \let\RightScissors\textScissorRight
 20896 \let\Leftscissors\textScissorRight
 20897 \let\Letter\textEnvelope
 20898 \let\Writinghand\textWritingHand
 20899 \let\checkmark\textCheckmark


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20900 \let\DavidStar\textDavidStar
20901 \let\llbracket\textlbrackdbl
20902 \let\rrbracket\textrrackdbl
20903 \let\RightTorque\textlcurvearrowdown
20904 \let\Righttorque\textlcurvearrowdown
20905 \let\LeftTorque\textrcurvearrowdown
20906 \let\Lefttorque\textrcurvearrowdown
20907 \let\textvarobar\textobar
20908 \let\circledbslash\textobslash
20909 \let\obackslash\textobslash
20910 \let\varobslash\textobslash
20911 \let\odplus\textobot
20912 \let\varolessthan\textolessthan
20913 \let\varogreaterthan\textogreaterthan
20914 \let\divdot\textminusdot
20915 \let\doublesqcap\textsqdoublecap
20916 \let\doublesqcup\textsqdoublecup
20917 \let\merge\textdoublevee
20918 \let\leftVdash\textdashV
20919 \let\nleftVdash\textndashV
20920 \let\leftmodels\textDashv
20921 \let\nleftmodels\textnDashv
20922 \let\leftModels\textDashV
20923 \let\nleftModels\textnDashV
20924 \let\varparallel\textsslash
20925 \let\textheng\textPUheng
20926 \let\textlhookfour\textPUlhookfour
20927 \let\textscf\textPUscf
20928 \let\textaoilig\textPUaolig
20929 \let\Ganz\textfullnote
20930 \let\Halb\texthalfnote
20931 \let\Womanface\textWomanFace
20932 \let\Faxmachine\textFax
20933 \let\CEsign\textCESign
20934 }% \psdaliasnames
20935 </psdextra>

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20938 \begin{document}
20939 \end{document}
20940 </check>

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