

Hypertext marks in L^AT_EX

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

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1 Documentation overview for hyperref

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


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

ChangeLog This file records the version history.

Bookmark talk, slides Slides for the talk “PDF information and navigation elements with hyperref, pdfTeX and thumbpdf” at EuroT_EX 1999.

Bookmark talk, paper The paper version of the talk.

Source code documentation:

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

backref.dtx “Back referencing from bibliographical citations”

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

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3 File hycheck.tex

Many commands of L^AT_EX or other packages cannot be overloaded, but have to be redefined by hyperref directly. If these commands change in newer versions, these changes are not noticed by hyperref. With this test file this situation can be checked. It defines the command `\expandafter \cmd@to@cs \string \checkcommand` that is more powerful than L^AT_EX's `\expandafter \cmd@to@cs \string \CheckCommand`, because it takes `\expandafter \cmd@to@cs \string \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 `\expandafter \cmd@to@cs \string \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 `\expandafter \cmd@to@cs \string \checkcommand` parses the next tokens as a L^AT_EX definition and compares this definition with the current meaning of that command.

```

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

```

`\HyC@checklong` The definition command `\expandafter \cmd@to@cs \string \def` or `\expandafter \cmd@to@cs \string \edef` is read.

```

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

```

`\HyC@checkcommand` The optional star of L^AT_EX's definitions is parsed.

```

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

```

`\HyC@check` The macro `\expandafter \cmd@to@cs \string \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 `\expandafter \cmd@to@cs \string \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 `\expandafter \cmd@to@cs \string \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 `\expandafter \cmd@to@cs \string \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` `\expandafter \cmd@to@cs \string \DeclareRobustCommand {\cmd}` makes the command `\expandafter \cmd@to@cs \string \cmd robust`, that then calls `\cmd_` with an space at the end of the command name, defined by `\expandafter \cmd@to@cs \string \newcommand`. Therefore the further parsing is done by `\expandafter \cmd@to@cs \string \HyC @nc@opt` or `\expandafter \cmd@to@cs \string \HyC @nc@noopt` of the `\expandafter \cmd@to@cs \string \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 `\expandafter \cmd@to@cs \string \def` or `\expandafter \cmd@to@cs \string \edef` is stored in the token register `\HyC@Toks`.

```

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 \expandafter \cmd@to@cs \string \Hy @SetCatcodes and \expandafter \cmd@to@cs \string \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 \def\Hy@Error{\@PackageError{hyperref}}
246 \def\Hy@Warning{\@PackageWarning{hyperref}}
247 \def\Hy@WarningNoLine{\@PackageWarningNoLine{hyperref}}
248 \def\Hy@Info{\@PackageInfo{hyperref}}
249 \def\Hy@InfoNoLine{\@PackageInfoNoLine{hyperref}}
250 \def\Hy@Message#1{%
251   \GenericWarning{%
252     (hyperref)\@spaces\@spaces\@spaces\@spaces
253   }{%
254     Package hyperref Message: #1\ltx@gobble
255   }%
256 }

```

4.2 Version check

\Hy@VersionChecked

```

257 \chardef\Hy@VersionChecked=0 %

```

\Hy@VersionCheck

```

258 \def\Hy@VersionCheck#1{%
259   \begingroup
260   \ltx@ifundefined{ver@hyperref.sty}{%
261     \Hy@Error{%
262       This should not happen!\MessageBreak
263       Missing hyperref version%
264     }\@ehd
265   }{%
266     \ltx@ifundefined{ver@#1}{%
267       \Hy@Error{%
268         This should not happen!\MessageBreak
269         Missing version of `#1'%
270       }\@ehd
271     }{%
272       \def\x##1##2##3{%
273         \expandafter\expandafter\expandafter\Hy@@VersionCheck
274         \expandafter\expandafter\expandafter##2%
275         \csname ver@##3\endcsname##1##1\@nil
276       }%
277       \x{ }\y{hyperref.sty}%
278       \x{ }\z{#1}%
279       \ifx\y\z
280         \else

```

```

281 \edef\@{#1}%
282 \edef\b{\HyOpt@CustomDriver.def}%
283 \ifx\@ \b
284 \Hy@WarningNoLine{%
285 Version mismatch (custom driver)!\MessageBreak
286 * \y: hyperref.sty\MessageBreak
287 * \z: \a
288 }%
289 \else
290 \Hy@Error{%
291 Version mismatch!\MessageBreak
292 * \y: hyperref.sty\MessageBreak
293 * \z: \a
294 }\@ehd
295 \fi
296 \fi
297 }%
298 }%
299 \endgroup
300 \chardef\Hy@VersionChecked=1 %
301 }

```

\Hy@@VersionCheck

```

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

```

4.3 Checks with regular expressions

```

305 \ltx@ifundefined{pdfmatch}{%
306 \def\Hy@Match#1#2#3#4#5{%
307 }{%
308 \def\Hy@Match#1#2#3{%
309 \begingroup
310 \edef\~{\ltx@backslashchar\string~}%
311 \edef\.\{\ltx@backslashchar.}%
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\ltx@leftbracechar}%
321 \edef\}\{\ltx@rightbracechar}%
322 \edef\\{\ltx@backslashchar\ltx@backslashchar}%
323 \let\ \ltx@space
324 \ifcase\pdfmatch#2{#3}{#1} %
325 \endgroup
326 \expandafter\ltx@secondoftwo
327 \or
328 \endgroup
329 \expandafter\ltx@firstoftwo

```

```

330 \else
331 \Hy@Warning{%
332 Internal error: Wrong pattern!\MessageBreak
333 --> #3 <--\MessageBreak
334 Pattern check ignored%
335 }%
336 \endgroup
337 \expandafter\ltx@firstoftwo
338 \fi
339 }%
340 }

```

4.4 Compatibility with format dumps

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

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

```

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

```

`\Hy@AtBeginDocument` For the case that package ‘hyperref’ is loaded using `\AtBeginDocument`, we have to wrap the calls of `\AtBeginDocument/\AfterBeginDocument` in `\AtEndOfPackage`. However, packages must be loaded in `\AtEndOfPackage` *before* package ‘kvoptions’ has to perform its option cleanup. Therefore we use a hook.

```

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

```

`\Hy@AtEndOfPackage`

```

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

```

`\Hy@AtBeginDocumentHook`

```

350 \let\Hy@AtBeginDocumentHook\ltx@empty

```

`\Hy@AtEndOfPackageHook`

```

351 \let\Hy@AtEndOfPackageHook\ltx@empty

```

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

```

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

```

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

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

4.5 Switches

```

361 \newif\ifHy@stoppeadearly
362 \newif\ifHy@typexml
363 \newif\ifHy@activeanchor
364 \newif\ifHy@backref
365 \newif\ifHy@bookmarks
366 \newif\ifHy@bookmarksnumbered
367 \newif\ifHy@bookmarksopen
368 \newif\ifHy@breaklinks
369 \newif\ifHy@pdfcenterwindow
370 \newif\ifHy@CJKbookmarks
371 \newif\ifHy@colorlinks
372 \newif\ifHy@destlabel
373 \newif\ifHy@draft
374 \let\Hy@finaltrue\Hy@draftfalse
375 \let\Hy@finalfalse\Hy@drafttrue
376 \newif\ifHy@pdfescapeform
377 \newif\ifHy@hyperfigures
378 \newif\ifHy@pdffitwindow
379 \newif\ifHy@frenchlinks
380 \newif\ifHy@hyperfootnotes
381 \newif\ifHy@hyperindex
382 \newif\ifHy@hypertextnames
383 \newif\ifHy@implicit
384 \newif\ifHy@linktocpage
385 \newif\ifHy@localanchorname
386 \newif\ifHy@pdfmenubar
387 \newif\ifHy@naturalnames
388 \newif\ifHy@nesting
389 \newif\ifHy@pdfnewwindowset
390 \newif\ifHy@pdfnewwindow
391 \newif\ifHy@ocgcolorlinks
392 \newif\ifHy@pageanchor
393 \newif\ifHy@pdfpagelabels
394 \newif\ifHy@pdfstring
395 \newif\ifHy@plainpages
396 \newif\ifHy@psize
397 \newif\ifHy@raiselinks
398 \newif\ifHy@seminarslides
399 \newif\ifHy@setpagesize
400 \newif\ifHy@texht
401 \newif\ifHy@psdextra
402 \newif\ifHy@pdftoolbar
403 \newif\ifHy@unicode
404 \newif\ifHy@pdfusetitle
405 \newif\ifHy@verbose
406 \let\Hy@debugtrue\Hy@verbostrue
407 \let\Hy@debugfalse\Hy@verbostrue

```

```

408 \newif\ifHy@pdfwindowui
409 \newif\ifHy@pdfdisplaydoctitle
410 \newif\ifHy@pdfa

```

Defaults for the switches are now set.

```

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

```

5 Common help macros

\Hy@StepCount

```

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

```

`\Hy@GlobalStepCount`

```

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

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

```

5.1 Macros for recursions

```

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

```

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

```

5.3 Coordinate transformations

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

`\hypercalsbp` The user macro `\expandafter \cmd@to@cs \string \hypercalsbp` can be used, for example, inside option values:

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

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

Example (TeX):

```

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

```

`\hypercalsbp`

```

468 \def\hypercalsbp#1{%
469   \strip@pt\dimexpr 0.99626401\dimexpr(#1)\relax\relax
470 }%
471 \def\hypercalsbpdef{\def}%

```

6 Dealing with PDF strings

The PDF string stuff done by Heiko Oberdiek.

Naming convention: All internal commands that are only needed by `\pdfstringdef` are prefixed with `\HyPsd@`.

6.1 Description of PDF strings

The PDF specification defines several places to hold text strings (bookmark names, document information, text annotations, etc.). The PDF strings have following properties:

- They are surrounded by parentheses. The hexadecimal form is not supported.
- Like PostScript language strings they use the same escaping mechanism:

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

6.2 Definition of `\pdfstringdef`

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

Important: In \TeX 's view PDF strings are written to a file and are expanded only in its mouth. Stomach commands that cannot be expanded further aren't executed, they are written verbatim. But the PDF reader that reads such a string isn't a \TeX interpreter!

The macro `\pdfstringdef` consists of three main parts:

1. Preprocessing. Here the expansion is prepared. The encoding is set and many commands are redefined, so that they work appropriate.
2. Expansion. The \TeX string is expanded the first time to get a PDF string.
3. Postprocessing. The result of the expansion is checked and converted to the final form.

`\MakeUppercase` and `\MakeLowercase` do not work by expansion in legacy code but if the `expl3` code is available we can handle them.

```
ppercaseUnsupportedInPdfStrings
lowercaseUnsupportedInPdfStrings
472 \ExplSyntaxOn
473 \@ifundefined{text_uppercase:n}{}
474 {
475   \def\MakeUppercaseUnsupportedInPdfStrings#1{\use:e {\text_uppercase:n {#1}}}
```

```

476 \def\MakeLowercaseUnsupportedInPdfStrings#1{\use:e {\text_lowercase:n {#1}}}
477 }
478 \ExplSyntaxOff

```

`\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 catcodes 10 until 12.

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

```

479 \def\pdfstringdef#1#2{%

```

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

```

480 \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.

```

481 \escapechar`\%

```

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

```

482 \edef\0{\string\0}%
483 \edef\1{\string\1}%
484 \edef\2{\string\2}%
485 \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.

```

486 \ifHy@unicode
487 \edef\8{\string\8}%
488 \edef\9{\string\9}%
489 \fontencoding{PU}%
490 \HyPsd@UTFviii
491 \def\ifpdfstringunicode##1##2{##1}%
492 \else
493 \fontencoding{PD1}%
494 \def\ifpdfstringunicode##1##2{##2}%
495 \fi
496 \let\utf@viii@undeferr\HyPsd@utf@viii@undeferr
497 \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).

```

498 \@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).

```

499 \let\@inmathwarn\HyPsd@inmathwarn

```

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

```

500 \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.

```

501 \let\{\textbraceleft
502 \let\}\textbraceright
503 \let\\\textbackslash
504 \let\#\textnumbersign
505 \let\$\textdollar
506 \let\%\textpercent
507 \let\&\textampersand
508 % \let\~\textasciitilde
509 \let\_ \textunderscore
510 \let\P\textparagraph
511 \let\ldots\textellipsis
512 \let\dots\textellipsis
513 \ltx@ifundefined{textEncodingNoboundary}%
514 {}{\let\noboundary\textEncodingNoboundary}%

```

Newline `\expandafter \cmd@to@cs \string \newline` or `\expandafter \cmd@to@cs \string \` do not work in bookmarks, in text annotations they should expand to `\expandafter \cmd@to@cs \string \r`. In pdf strings `\expandafter \cmd@to@cs \string \` 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.

```
515 \def\{\pdfstringdefWarn\}%
516 \def\newline{\pdfstringdefWarn\newline}%
```

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

```
517 \def\TeX{\TeX}%
518 \def\LaTeX{\La\TeX}%
519 \def\LaTeXe{%
520   \LaTeX2%
521   \ifHy@unicode\83\265\else e\fi
522 }%
523 \def\eTeX{%
524   \ifHy@unicode\83\265\else e\fi
525   -\TeX%
526 }%
527 \def\SliTeX{\Sli\TeX}%
528 \def\MF{Metafont}%
529 \def\MP{Metapost}%
```

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

```
530 \let\fontencoding\@gobble
531 \let\fontfamily\@gobble
532 \let\fontseries\@gobble
533 \let\fontshape\@gobble
534 \let\fontsize\@gobbletwo
535 \let\selectfont\@empty
536 \let\usefont\@gobblefour
537 \let\emph\@firstofone
538 \let\textnormal\@firstofone
539 \let\textrm\@firstofone
540 \let\textsf\@firstofone
541 \let\texttt\@firstofone
542 \let\textbf\@firstofone
543 \let\textmd\@firstofone
544 \let\textit\@firstofone
545 \let\textsc\@firstofone
546 \let\textsl\@firstofone
```

```

547 \let\textup\@firstofone
548 \let\normalfont\@empty
549 \let\rmfamily\@empty
550 \let\sffamily\@empty
551 \let\ttfamily\@empty
552 \let\bfseries\@empty
553 \let\mdseries\@empty
554 \let\itshape\@empty
555 \let\scshape\@empty
556 \let\slshape\@empty
557 \let\upshape\@empty
558 \let\em\@empty
559 \let\rm\@empty
560 \let\Huge\@empty
561 \let\LARGE\@empty
562 \let\Large\@empty
563 \let\footnotesize\@empty
564 \let\huge\@empty
565 \let\large\@empty
566 \let\normalsize\@empty
567 \let\scriptsize\@empty
568 \let\small\@empty
569 \let\tiny\@empty
570 \let\mathversion\@gobble
571 \let\phantom\@gobble
572 \let\vphantom\@gobble
573 \let\hphantom\@gobble

```

Package pifont.

```

574 \let\ding\HyPsd@ding
575 \let\Cube\HyPsd@DieFace
576 %* \HyPsd@DieFace -> \epsdice (epsdice)
577 %* \HyPsd@DieFace -> \fcdice (hhcount)

```

Environments.

```

578 \def\begin##1{\csname##1\endcsname}%
579 \def\end##1{\csname end##1\endcsname}%

```

Package color.

```

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

```

Upper- and lowercase.

```

581 \def\MakeUppercase{\MakeUppercaseUnsupportedInPdfStrings}%
582 \def\MakeLowercase{\MakeLowercaseUnsupportedInPdfStrings}%

```

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

```

583 \ifHy@psdextra
584 \ifHy@unicode
585 \csname psdmapshortnames\endcsname
586 \csname psdaliasnames\endcsname

```

```

587 \fi
588 \fi

```

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

```

589 \let\foreignlanguage\@secondoftwo
590 \let\textlatin\@firstofone
591 \let\IfUndefined\language@group\@firstofone
592 \let\bbl@info\@gobble
593 \csname HyPsd@babel@\language@group\endcsname
594 }%

595 \let\@safe@activetrue\relax
596 \let\@safe@activesfalse\relax

  Disable \cyr, used in russianb.lda.
597 \let\cyr\relax

```

Package german.

```

598 \let\glqq\textglqq
599 \let\grqq\textgrqq
600 \let\glq\textglq
601 \let\grq\textgrq
602 \let\flqq\textflqq
603 \let\frqq\textfrqq
604 \let\flq\textflq
605 \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}

606 \let\if@mid@expandable\@firstoftwo

```

AMS classes.

```

607 \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.

```

608 \let\hspace\HyPsd@hspace

```

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

```

609 \let\label\@gobble
610 \let\index\@gobble
611 \let\glossary\@gobble
612 \let\href\HyPsd@href
613 \let\@mkboth\@gobbletwo

```

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

```
614 \let\ref\HyPsd@ref
615 \let\pageref\HyPsd@pageref
616 \let\nameref\HyPsd@nameref
617 \let\autoref\HyPsd@autoref
```

Miscellaneous commands.

```
618 \let\leavevmode\@empty
619 \let\mbox\@empty
```

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

```
620 \def\halign{\pdfstringdefWarn\halign\@gobble}%
621 \let\ignorespaces\HyPsd@ignorespaces
622 \let\Hy@SectionAnchorHref\@gobble
623 \let\ensuremath\@firstofone
```

Patch for cjk bookmarks.

```
624 \HyPsd@CJKhook
```

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

The position in the middle of the redefinitions is a compromise: The user should be able to provide his own (perhaps better) redefinitions, but some commands should have their original meaning, because they can be used in the hook (`\bgroup`, or `\@protected@tostopt`, and `\@ifnextchar` for `\renewcommand`).

```
625 \Hy@pdfstringtrue
626 \pdfstringdefPreHook
```

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

```
627 \HyPsd@LetUnexpandableSpace\space
628 \HyPsd@LetUnexpandableSpace\ %
629 \HyPsd@LetUnexpandableSpace~%
630 \HyPsd@LetUnexpandableSpace\nobreakspace
```

Package `xspace`.

```
631 \ltx@ifundefined{@xspace}{%
632 \let\xspace\HyPsd@ITALCORR
633 }{%
634 \let\xspace\HyPsd@XSPACE
635 }%
636 \let\/\HyPsd@ITALCORR
637 \let\bgroup\/%
638 \let\egroup\/%
```

Redefinitions of miscellaneous commands. Hyphenation does not make sense.

```
639 \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:

```
640 \def\@ifnextchar{\HyPsd@ifnextchar\@ifnextchar}%
641 \def\kernel@ifnextchar{\HyPsd@ifnextchar\kernel@ifnextchar}%
642 \def\new@ifnextchar{\HyPsd@ifnextchar\new@ifnextchar}%
643 \let\@protected@testopt\HyPsd@protected@testopt
```

Support for package 'xargs':

```
644 \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).

```
645 \begingroup
646 \let\GenericError\@gobblefour
647 \let\GenericWarning\@gobbletwo
648 \let\GenericInfo\@gobbletwo
```

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

```
649 \ifx\nofrenchguillemets\@undefined
650 \else
651 \nofrenchguillemets
652 \fi
```

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

```
653 \let\Hy@temp\xdef
654 \let\def\HyPsd@DefCommand
655 \let\gdef\HyPsd@DefCommand
656 \let\edef\HyPsd@DefCommand
657 \let\xdef\HyPsd@DefCommand
658 \let\futurelet\HyPsd@LetCommand
659 \let\let\HyPsd@LetCommand
660 \Hy@temp#1{#2}%
661 \endgroup
```

6.2.3 Postprocessing

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

```
662 \ifx#1\@empty
663 \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 little more complicate:

- `TEX` does not accept a space as an undelimited argument, it cancels space tokens while looking for an undelimited argument. Therefore we must protect the spaces now.
- An argument can be a single token or a group of many tokens. And within curly braces tokens aren't 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.

```
664 \HyPsd@ProtectSpaces#1%
665 \let\HyPsd@String\@empty
666 \expandafter\HyPsd@RemoveBraces\expandafter{#1|}%
667 \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 `\HyPsd@CheckCatcodes` the command `\HyPsd@RemoveMask` is reused to remove the group protection character |. This character is needed to ensure that the string at least consists of one token if `\HyPsd@CheckCatcodes` is called.

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

```
668 \let\HyPsd@SPACEOPTI\relax
669 {%
670 \let\HyPsd@String\@empty
671 \expandafter\HyPsd@CheckCatcodes#1\HyPsd@End
672 \global\let#1\HyPsd@String
673 }%
674 \expandafter\HyPsd@RemoveMask\expandafter
675 |\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.

```
676 \expandafter
677 \HyPsd@Subst\expandafter{\HyPsd@GLYPHERR}{\relax}#1%
```

```

678 \let\HyPsd@String\@empty
679 \expandafter\HyPsd@GlyphProcess#1\relax\@empty
680 \global\let#1\HyPsd@String

```

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

```

681 \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.

```

682 \iffHy@unicode
683 \expandafter\HyPsd@StringSubst\csname 80\040\endcsname
684 \HyPsd@SPACEOPTI#1%
685 \edef\Hy@temp@A{\HyPsd@SPACEOPTI\HyPsd@SPACEOPTI\80\273}%
686 \expandafter\HyPsd@Subst\expandafter{\Hy@temp@A}%
687 {\HyPsd@SPACEOPTI\80\273}#1%
688 \else
689 \HyPsd@StringSubst{\040}\HyPsd@SPACEOPTI#1%
690 \expandafter\HyPsd@Subst\expandafter{%
691 \expandafter\HyPsd@SPACEOPTI\expandafter\HyPsd@SPACEOPTI
692 \string\273}\HyPsd@SPACEOPTI\273}#1%
693 \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.

```

694 \iffHy@unicode
695 \HyPsd@StringSubst{\)}{\80\051}#1%
696 \HyPsd@Subst){\80\051}#1%
697 \let\HyPsd@empty\relax
698 \expandafter\HyPsd@StringSubst\csname 80\051\endcsname
699 {\HyPsd@empty\80\051}#1%
700 \else
701 \HyPsd@StringSubst{\)}{\051}#1%
702 \HyPsd@Subst){\051}#1%
703 \let\HyPsd@empty\relax
704 \HyPsd@StringSubst{\051}\HyPsd@empty\string\)}#1%
705 \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`.

```

706 \expandafter\HyPsd@Subst\expandafter{\}\HyPsd@empty#1%
707 \ltx@ifundefined{@xspace}{%
708 }{%
709 \let\HyPsd@xspace\relax
710 \expandafter\HyPsd@Subst\expandafter
711   {\HyPsd@XSPACE}\HyPsd@xspace#1%
712 \let\HyPsd@xspace\HyPsd@doxspace
713 }%
714 \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.

```

715 \HyPsd@Subst{---}\textemdash#1%
716 \HyPsd@Subst{--}\textendash#1%
717 % \HyPsd@Subst{fi}\textfi#1%
718 % \HyPsd@Subst{fl}\textfl#1%
719 \HyPsd@Subst{!`}\textexclamdown#1%
720 \HyPsd@Subst{?`}\textquestiondown#1%

```

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

```

721 \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.

```

722 \ifHy@unicode
723 \HyPsd@StringSubst{\textparenleft#1%
724 \HyPsd@Subst{\textparenleft#1%
725 \else
726 \HyPsd@StringSubst{\{050\}#1%
727 \HyPsd@Subst{\{050\}#1%

```

```

728     \HyPsd@StringSubst{\050}{\string\{ }#1%
729     \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.

```

730     \ifHy@unicode
731     \edef\HyPsd@SPACEOPTI{\80\040}%
732     \else
733     \let\HyPsd@SPACEOPTI\HyPsd@spaceopti
734     \fi
735     \xdef#1{#1\@empty}%
736     \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.

```

737 \endgroup
738 \begingroup
739     \ifHy@unicode
740     \HyPsd@ConvertToUnicode#1%

```

Try conversion back to PDFDocEncoding.

```

741     \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
742     \ltx@ifundefined{StringEncodingConvertTest}{%
743     }{%
744     \EdefUnescapeString\HyPsd@temp#1%
745     \iftutex
746     \let\HyPsd@UnescapedString\HyPsd@temp
747     \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
748     {utf16be}{ascii-print}{%
749     \EdefEscapeString\HyPsd@temp\HyPsd@temp
750     \global\let#1\HyPsd@temp
751     \HyPsd@EscapeTeX#1%
752     \Hy@unicodedefalse
753     }{%
754     \HyPsd@EscapeTeX#1%
755     }%
756     \else
757     \StringEncodingConvertTest\HyPsd@temp\HyPsd@temp
758     {utf16be}{pdfdoc}{%
759     \EdefEscapeString\HyPsd@temp\HyPsd@temp
760     \global\let#1\HyPsd@temp
761     \HyPsd@EscapeTeX#1%
762     \Hy@unicodedefalse
763     }{%}%
764     \fi
765     }%
766     \fi
767     \fi

```

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

```
768 \pdfstringdefPostHook#1%
769 \endgroup
770 }
```

`\Hy@pdfstringdef`

```
771 \def\Hy@pdfstringdef#1#2{%
772 \pdfstringdef\Hy@gtemp{#2}%
773 \let#1\Hy@gtemp
774 }
```

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

```
775 \@ifpackageloaded{linguex}{%
776 \let\HyLinguex@OrgB\b
777 \let\HyLinguex@OrgC\c
778 \let\HyLinguex@OrgD\d
779 \def\HyLinguex@Restore{%
780 \let\b\HyLinguex@OrgB
781 \let\c\HyLinguex@OrgC
782 \let\d\HyLinguex@OrgD
783 }%
784 \Hy@AtEndOfPackage{%
785 \pdfstringdefDisableCommands{%
786 \ltx@ifundefined{oldb}{\let\b\oldb}%
787 \ltx@ifundefined{oldc}{\let\c\oldc}%
788 \ltx@ifundefined{oldd}{\let\d\oldd}%
789 }%
790 }%
791 }{%
792 \let\HyLinguex@Restore\relax
793 }%
```

6.3.3 Catcodes saving and restoring for .def files

`\Hy@SaveCatcodeSettings`

```
794 \def\Hy@SaveCatcodeSettings#1{%
795 \expandafter\edef\csname Hy@cat@#1\endcsname{%
796 \endlinechar=\the\endlinechar\relax
797 \catcode32 \the\catcode32\relax % (space)
798 \catcode34 \the\catcode34\relax % "
799 \catcode35 \the\catcode35\relax % #
800 \catcode37 \the\catcode37\relax % (percent)
801 \catcode40 \the\catcode40\relax % (
802 \catcode41 \the\catcode41\relax % )
803 \catcode42 \the\catcode42\relax % *
```

```

804 \catcode46 \the\catcode46\relax % .
805 \catcode58 \the\catcode58\relax % :
806 \catcode60 \the\catcode60\relax % <
807 \catcode61 \the\catcode61\relax % =
808 \catcode62 \the\catcode62\relax % >
809 \catcode64 \the\catcode64\relax % @
810 \catcode91 \the\catcode91\relax % [
811 \catcode92 \the\catcode92\relax % (backslash)
812 \catcode93 \the\catcode93\relax % ]
813 \catcode123 \the\catcode123\relax % {
814 \catcode124 \the\catcode124\relax % |
815 \catcode125 \the\catcode125\relax % }
816 }%
817 \endlinechar=-1 %
818 \catcode32 10 % (space)
819 \catcode34 12 % "
820 \catcode35 6 % #
821 \catcode37 14 % (percent)
822 \catcode40 12 % (
823 \catcode41 12 % )
824 \catcode42 12 % *
825 \catcode46 12 % .
826 \catcode58 12 % :
827 \catcode60 12 % <
828 \catcode61 12 % =
829 \catcode62 12 % >
830 \catcode91 12 % [
831 \catcode92 0 % (backslash)
832 \catcode93 12 % ]
833 \catcode123 1 % {
834 \catcode124 12 % |
835 \catcode125 2 % }
836 \makeatletter
837 }

\Hy@RestoreCatcodeSettings

838 \def\Hy@RestoreCatcodeSettings#1{%
839 \csname Hy@cat@#1\endcsname
840 \expandafter\let\csname Hy@cat@#1\endcsname\relax
841 }

```

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.

```

842 \@ifundefined{T@PD1}{%
843 \Hy@SaveCatcodeSettings{pd1}%
844 \input{pd1enc.def}%

```

```

845 \Hy@RestoreCatcodeSettings{pd1}%
846 \HyLinguex@Restore
847 }{}
848 \DeclareFontFamily{PD1}{pdf}{}
849 \DeclareFontShape{PD1}{pdf}{m}{n}{ <-> cmr10 }{}
850 \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`.

```

851 \def\HyPsd@LoadUnicode{%
852   \@ifundefined{T@PU}{}%
853   \Hy@SaveCatcodeSettings{pu}%
854   \input{puenc.def}%
855   \Hy@RestoreCatcodeSettings{pu}%
856   \HyLinguex@Restore
857 }{}%
858 \DeclareFontFamily{PU}{pdf}{}%
859 \DeclareFontShape{PU}{pdf}{m}{n}{ <-> cmr10 }{}%
860 \DeclareFontSubstitution{PU}{pdf}{m}{n}%
861 \HyPsd@LoadExtra
862 \let\HyPsd@LoadUnicode\relax
863 }

```

`\HyPsd@LoadExtra`

```

864 \def\HyPsd@LoadExtra{%
865   \ifHy@psdextra
866     \ltx@iffileloaded{puenc.def}{}%
867     \ltx@iffileloaded{puenc-greekbasic.def}{}{}%
868     \Hy@SaveCatcodeSettings{pu}%
869     \input{puenc-greekbasic.def}%
870     \Hy@RestoreCatcodeSettings{pu}%
871     \Hy@SaveCatcodeSettings{psdextra}%
872     \input{psdextra.def}%
873     \Hy@RestoreCatcodeSettings{psdextra}%
874     \let\HyPsd@LoadExtra\relax
875   }{}%
876   \fi
877 }

```

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 expandable macro `\texorpdfstring`. It expects two ar-

guments, the first contains the string that will be set and processed by T_EX's stomach, the second contains the replacement for PDF strings.

```

878 \def\texorpdfstring{%
879   \ifHy@pdfstring
880     \expandafter\@secondoftwo
881   \else
882     \expandafter\@firstoftwo
883   \fi
884 }
```

6.4.2 Hooks for `\pdfstringdef`

`\pdfstringdefPreHook` Default definition of the hooks for `\pdfstringdef`. The construct `\@ifundefined` with `\let` is a little bit faster than `\providecommand`.

```

885 \@ifundefined{pdfstringdefPreHook}{%
886   \let\pdfstringdefPreHook\@empty
887 }{}
888 \@ifundefined{pdfstringdefPostHook}{%
889   \let\pdfstringdefPostHook\@gobble
890 }{}
```

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

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

```

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

In the argument of `\expandafter \cmd@to@cs \string \pdfstringdefDisableCommands` the character `@` can be used in command names. So it is easy to use useful L^AT_EX commands like `\expandafter \cmd@to@cs \string \@gobble` or `\expandafter \cmd@to@cs \string \@firstofone`.

```

891 \def\pdfstringdefDisableCommands{%
892   \begingroup
893     \makeatletter
894     \HyPsd@DisableCommands
895 }
```

`\HyPsd@DisableCommands`

```

896 \long\def\HyPsd@DisableCommands#1{%
897   \ltx@GlobalAppendToMacro\pdfstringdefPreHook{#1}%
898   \endgroup
899 }
```

`\pdfstringdefWarn` The purpose of `\expandafter \cmd@to@cs \string \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. `\expandafter \cmd@to@cs \string \noexpand` protects the probably undefined one during the first expansion step. Then `\expandafter \cmd@to@cs \string \HyPsd @CheckCatcodes` can detect the not allowed token, `\expandafter \cmd@to@cs \string \HyPsd @Catcode-Warning` prints a warning message, after `\expandafter \cmd@to@cs \string \HyPsd @RemovePrefix` has removed the prefix.

`\expandafter \cmd@to@cs \string \pdfstringdefWarn` is intended for document authors or package writers, examples for use can be seen in the definition of `\expandafter \cmd@to@cs \string \HyPsd @ifnextchar` or `\expandafter \cmd@to@cs \string \HyPsd @protected@testopt`.

```

900 \def\pdfstringdefWarn#1{%
901   \expandafter\noexpand\csname<>- \string#1\endcsname
902 }

```

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.

```

903 \begingroup
904   \catcode0=12 %
905   \def\x{\endgroup
906     \def\HyPsd@ignorespaces{%
907       \romannumeral\expandafter`\expandafter^^@%
908       \romannumeral`^^@%
909     }%
910   }%
911 \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.

```

912 \newif\ifHy@next
913 \</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.

914 <*package>

6.5.3 CJK patch

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

\HyPsd@CJKhook

```
916 \def\HyPsd@CJKhook{%
917   \ltx@ifpackageloaded{CJK}{%
918     \let\CJK@kern\relax
919     \let\CJKkern\relax
920     \let\CJK@CJK\relax
921     \ifHy@CJKbookmarks
922       \HyPsd@CJKhook@bookmarks
923     \fi
924     \HyPsd@CJKhook@unicode
925   }{}%
926 }
```

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 ($\geq 0x40$).

```
927 \begingroup
928 \catcode"7F=\active
929 \toks@{%
930   \let\CJK@ignorespaces\empty
931   \def\CJK@char#1{\@gobbletwo}%
932   \let\CJK@charx\@gobblefour
933   \let\CJK@punctchar\@gobblefour
934   \def\CJK@punctcharx#1{\@gobblefour}%
935   \catcode"7F=\active
936   \def^^7f#1^^7f#2^^7f{%
937     \string #1\HyPsd@DecimalToOctal{#2}%
```

```

938 }%
939 % ... ?
940 \ifHy@unicode
941   \def\Hy@cjkpu{\80}%
942   \else
943     \let\Hy@cjkpu\@empty
944   \fi
945   \HyPsd@CJKActiveChars
946 }%
947 \count@=127 %
948 \@whilenum\count@<255 \do{%
949   \advance\count@ by 1 %
950   \lccode\~=\count@
951   \lowercase{%
952     \toks@\expandafter{\the\toks@ ~}%
953   }%
954 }%
955 \toks@\expandafter{\the\toks@ !}%
956 \xdef\HyPsd@CJKhook@bookmarks{%
957   \the\toks@
958 }%
959 \endgroup

```

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

```

960 \def\HyPsd@CJKActiveChars#1{%
961   \ifx#1!%
962     \let\HyPsd@CJKActiveChars\relax
963   \else
964     \edef#1{\noexpand\Hy@cjkpu\string#1}%
965   \fi
966   \HyPsd@CJKActiveChars
967 }

```

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

```

968 \def\HyPsd@DecimalToOctal#1{%
969   \ifcase #1 %
970     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%
971     \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
972     \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
973     \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
974     \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
975     \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
976     \or 0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
977     \or 8\or 9\or \072\or \073\or \074\or \075\or \076\or \077%
978     \or @\or A\or B\or C\or D\or E\or F\or G%
979     \or H\or I\or J\or K\or L\or M\or N\or O%
980     \or P\or Q\or R\or S\or T\or U\or V\or W%
981     \or X\or Y\or Z\or \133\or \134\or \135\or \136\or \137%
982     \or \140\or a\or b\or c\or d\or e\or f\or g%
983     \or h\or i\or j\or k\or l\or m\or n\or o%
984     \or p\or q\or r\or s\or t\or u\or v\or w%
985     \or x\or y\or z\or \173\or \174\or \175\or \176\or \177%

```

```

986 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
987 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
988 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
989 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
990 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
991 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
992 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
993 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
994 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
995 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
996 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
997 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
998 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
999 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1000 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1001 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1002 \fi
1003 }

```

6.5.5 CJK unicode

\HyPsd@CJKhook@unicode

```

1004 \def\HyPsd@CJKhook@unicode{%
1005 \let\Unicode\HyPsd@CJK@Unicode
1006 \let\CJKnumber\HyPsd@CJKnumber
1007 \let\CJKdigits\HyPsd@CJKdigits
1008 }

```

\HyPsd@CJK@Unicode

```

1009 \def\HyPsd@CJK@Unicode#1#2{%
1010 \ifnum#1<256 %
1011 \HyPsd@DecimalToOctalFirst{#1}%
1012 \HyPsd@DecimalToOctalSecond{#2}%
1013 \else
1014 \933%
1015 \expandafter\expandafter\expandafter\HyPsd@HighA
1016 \intcalcDiv{#1}{4}!%
1017 \933%
1018 \ifcase\intcalcMod{#1}{4} %
1019 4\or 5\or 6\or 7%
1020 \fi
1021 \HyPsd@DecimalToOctalSecond{#2}%
1022 \fi
1023 }

1024 \def\HyPsd@HighA#1!{%
1025 \expandafter\expandafter\expandafter\HyPsd@HighB
1026 \IntCalcDiv#1!64!!%
1027 \expandafter\expandafter\expandafter\HyPsd@HighD
1028 \IntCalcMod#1!64!!%
1029 }

1030 \def\HyPsd@HighB#1!{%
1031 \expandafter\expandafter\expandafter\HyPsd@HighC
1032 \IntCalcDec#1!!%

```

```

1033 }
1034 \def\HyPsd@HighC#1!{%
1035   \IntCalcDiv#1!4!%
1036   \@backslashchar
1037   \IntCalcMod#1!4!%
1038 }
1039 \def\HyPsd@HighD#1!{%
1040   \ifcase\IntCalcDiv#1!8! %
1041     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1042   \fi
1043   \ifcase\IntCalcMod#1!8! %
1044     0\or 1\or 2\or 3\or 4\or 5\or 6\or 7%
1045   \fi
1046 }
1047 \def\HyPsd@DecimalToOctalFirst#1{%
1048   \9%
1049   \ifcase#1 %
1050     000\or 001\or 002\or 003\or 004\or 005\or 006\or 007%
1051     \or 010\or 011\or 012\or 013\or 014\or 015\or 016\or 017%
1052     \or 020\or 021\or 022\or 023\or 024\or 025\or 026\or 027%
1053     \or 030\or 031\or 032\or 033\or 034\or 035\or 036\or 037%
1054     \or 040\or 041\or 042\or 043\or 044\or 045\or 046\or 047%
1055     \or 050\or 051\or 052\or 053\or 054\or 055\or 056\or 057%
1056     \or 060\or 061\or 062\or 063\or 064\or 065\or 066\or 067%
1057     \or 070\or 071\or 072\or 073\or 074\or 075\or 076\or 077%
1058     \or 100\or 101\or 102\or 103\or 104\or 105\or 106\or 107%
1059     \or 120\or 111\or 112\or 113\or 114\or 115\or 116\or 117%
1060     \or 120\or 121\or 122\or 123\or 124\or 125\or 126\or 127%
1061     \or 130\or 131\or 132\or 133\or 134\or 135\or 136\or 137%
1062     \or 140\or 141\or 142\or 143\or 144\or 145\or 146\or 147%
1063     \or 150\or 151\or 152\or 153\or 154\or 155\or 156\or 157%
1064     \or 160\or 161\or 162\or 163\or 164\or 165\or 166\or 167%
1065     \or 170\or 171\or 172\or 173\or 174\or 175\or 176\or 177%
1066     \or 200\or 201\or 202\or 203\or 204\or 205\or 206\or 207%
1067     \or 210\or 211\or 212\or 213\or 214\or 215\or 216\or 217%
1068     \or 220\or 221\or 222\or 223\or 224\or 225\or 226\or 227%
1069     \or 230\or 231\or 232\or 233\or 234\or 235\or 236\or 237%
1070     \or 240\or 241\or 242\or 243\or 244\or 245\or 246\or 247%
1071     \or 250\or 251\or 252\or 253\or 254\or 255\or 256\or 257%
1072     \or 260\or 261\or 262\or 263\or 264\or 265\or 266\or 267%
1073     \or 270\or 271\or 272\or 273\or 274\or 275\or 276\or 277%
1074     \or 300\or 301\or 302\or 303\or 304\or 305\or 306\or 307%
1075     \or 310\or 311\or 312\or 313\or 314\or 315\or 316\or 317%
1076     \or 320\or 321\or 322\or 323\or 324\or 325\or 326\or 327%
1077     \or 330\or 331\or 332\or 333\or 334\or 335\or 336\or 337%
1078     \or 340\or 341\or 342\or 343\or 344\or 345\or 346\or 347%
1079     \or 350\or 351\or 352\or 353\or 354\or 355\or 356\or 357%
1080     \or 360\or 361\or 362\or 363\or 364\or 365\or 366\or 367%
1081     \or 370\or 371\or 372\or 373\or 374\or 375\or 376\or 377%
1082   \fi
1083 }
1084 \def\HyPsd@DecimalToOctalSecond#1{%
1085   \ifcase #1 %
1086     \000\or \001\or \002\or \003\or \004\or \005\or \006\or \007%

```

```

1087 \or \010\or \011\or \012\or \013\or \014\or \015\or \016\or \017%
1088 \or \020\or \021\or \022\or \023\or \024\or \025\or \026\or \027%
1089 \or \030\or \031\or \032\or \033\or \034\or \035\or \036\or \037%
1090 \or \040\or \041\or \042\or \043\or \044\or \045\or \046\or \047%
1091 \or \050\or \051\or \052\or \053\or \054\or \055\or \056\or \057%
1092 \or \060\or \061\or \062\or \063\or \064\or \065\or \066\or \067%
1093 \or \070\or \071\or \072\or \073\or \074\or \075\or \076\or \077%
1094 \or \100\or \101\or \102\or \103\or \104\or \105\or \106\or \107%
1095 \or \110\or \111\or \112\or \113\or \114\or \115\or \116\or \117%
1096 \or \120\or \121\or \122\or \123\or \124\or \125\or \126\or \127%
1097 \or \130\or \131\or \132\or \133\or \134\or \135\or \136\or \137%
1098 \or \140\or \141\or \142\or \143\or \144\or \145\or \146\or \147%
1099 \or \150\or \151\or \152\or \153\or \154\or \155\or \156\or \157%
1100 \or \160\or \161\or \162\or \163\or \164\or \165\or \166\or \167%
1101 \or \170\or \171\or \172\or \173\or \174\or \175\or \176\or \177%
1102 \or \200\or \201\or \202\or \203\or \204\or \205\or \206\or \207%
1103 \or \210\or \211\or \212\or \213\or \214\or \215\or \216\or \217%
1104 \or \220\or \221\or \222\or \223\or \224\or \225\or \226\or \227%
1105 \or \230\or \231\or \232\or \233\or \234\or \235\or \236\or \237%
1106 \or \240\or \241\or \242\or \243\or \244\or \245\or \246\or \247%
1107 \or \250\or \251\or \252\or \253\or \254\or \255\or \256\or \257%
1108 \or \260\or \261\or \262\or \263\or \264\or \265\or \266\or \267%
1109 \or \270\or \271\or \272\or \273\or \274\or \275\or \276\or \277%
1110 \or \300\or \301\or \302\or \303\or \304\or \305\or \306\or \307%
1111 \or \310\or \311\or \312\or \313\or \314\or \315\or \316\or \317%
1112 \or \320\or \321\or \322\or \323\or \324\or \325\or \326\or \327%
1113 \or \330\or \331\or \332\or \333\or \334\or \335\or \336\or \337%
1114 \or \340\or \341\or \342\or \343\or \344\or \345\or \346\or \347%
1115 \or \350\or \351\or \352\or \353\or \354\or \355\or \356\or \357%
1116 \or \360\or \361\or \362\or \363\or \364\or \365\or \366\or \367%
1117 \or \370\or \371\or \372\or \373\or \374\or \375\or \376\or \377%
1118 \fi
1119 }

1120 \def\HyPsd@CJKnumber#1{%
1121 \ifnum#1<\z@
1122 \CJK@minus
1123 \expandafter\HyPsd@@CJKnumber\expandafter{\number-\number#1}%
1124 \else
1125 \expandafter\HyPsd@@CJKnumber\expandafter{\number#1}%
1126 \fi
1127 }

1128 \def\HyPsd@@CJKnumber#1{%
1129 \ifcase#1 %
1130 \CJK@zero\or\CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1131 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine\or
1132 \CJK@ten\or\CJK@ten\CJK@one\or\CJK@ten\CJK@two\or
1133 \CJK@ten\CJK@three\or\CJK@ten\CJK@four\or\CJK@ten\CJK@five\or
1134 \CJK@ten\CJK@six\or\CJK@ten\CJK@seven\or\CJK@ten\CJK@eight\or
1135 \CJK@ten\CJK@nine
1136 \else
1137 \ifnum#1<10000 %
1138 \HyPsd@CJKnumberFour#1!\@empty{20}%
1139 \@empty
1140 \else

```

```

1141 \ifnum#1<100000000 %
1142 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1143 \IntCalcDiv#1!10000!%
1144 !\{#3}%
1145 \CJK@tenthousand
1146 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1147 \IntCalcMod#1!10000!%
1148 !\CJK@zero{10}%
1149 \@empty
1150 \else
1151 \expandafter\HyPsd@CJKnumberLarge
1152 \number\IntCalcDiv#1!100000000!\expandafter!%
1153 \number\IntCalcMod#1!100000000!!%
1154 \fi
1155 \fi
1156 \fi
1157 }
1158 \def\HyPsd@CJKnumberLarge#1!#2!{%
1159 \HyPsd@CJKnumberFour#1!{\{#3}%
1160 \CJK@hundredmillion
1161 \ifnum#2=\z@
1162 \else
1163 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1164 \IntCalcDiv#2!10000!%
1165 !\CJK@zero{10}%
1166 \CJK@tenthousand
1167 \expandafter\expandafter\expandafter\HyPsd@CJKnumberFour
1168 \IntCalcMod#2!10000!%
1169 !\CJK@zero{10}%
1170 \@empty
1171 \fi
1172 }
1173 \def\HyPsd@CJKnumberFour#1!#2#3{%
1174 \ifnum#1=\z@
1175 \expandafter\@gobble
1176 \else
1177 \ifnum#1<1000 %
1178 #2%
1179 \HyPsd@CJKnumberThree#1!{\{#3}%
1180 \else
1181 \HyPsd@@@CJKnumber{\IntCalcDiv#1!1000!}%
1182 \CJK@thousand
1183 \expandafter\expandafter\expandafter\HyPsd@CJKnumberThree
1184 \IntCalcMod#1!1000!%
1185 !\CJK@zero{10}%
1186 \fi
1187 \fi
1188 }
1189 \def\HyPsd@CJKnumberThree#1!#2#3{%
1190 \ifnum#1=\z@
1191 \else
1192 \ifnum#1<100 %
1193 #2%
1194 \HyPsd@CJKnumberTwo#1!{\{#3}%

```

```

1195 \else
1196 \HyPsd@@CJKnumber{\IntCalcDiv#1!100!}%
1197 \CJK@hundred
1198 \expandafter\expandafter\expandafter\HyPsd@CJKnumberTwo
1199 \IntCalcMod#1!100!%
1200 !\CJK@zero{10}%
1201 \fi
1202 \fi
1203 }
1204 \def\HyPsd@CJKnumberTwo#1!#2#3{%
1205 \ifnum#1=\z@
1206 \else
1207 \ifnum#1<#3 %
1208 #2%
1209 \HyPsd@@CJKnumber{#1}%
1210 \else
1211 \HyPsd@@CJKnumber{\IntCalcDiv#1!10!}%
1212 \CJK@ten
1213 \ifnum\IntCalcMod#1!10!=\z@
1214 \else
1215 \HyPsd@@CJKnumber{\IntCalcMod#1!10!}%
1216 \fi
1217 \fi
1218 \fi
1219 }
1220 \def\HyPsd@CJKdigits#1{%
1221 \ifx*#1\relax
1222 \expandafter\HyPsd@@CJKdigits\expandafter\CJK@zero
1223 \else
1224 \HyPsd@@CJKdigits\CJK@null{#1}%
1225 \fi
1226 }
1227 \def\HyPsd@@CJKdigits#1#2{%
1228 \ifx\#2\%
1229 \else
1230 \HyPsd@@@CJKdigits#1#2\@nil
1231 \fi
1232 }%
1233 \def\HyPsd@@@CJKdigits#1#2#3\@nil{%
1234 \HyPsd@CJKdigit#1{#2}%
1235 \ifx\#3\%
1236 \expandafter\@gobble
1237 \else
1238 \expandafter\@firstofone
1239 \fi
1240 {%
1241 \HyPsd@@@CJKdigits#1#3\@nil
1242 }%
1243 }
1244 \def\HyPsd@CJKdigit#1#2{%
1245 \ifcase#2 %
1246 #1\or
1247 \CJK@one\or\CJK@two\or\CJK@three\or\CJK@four\or
1248 \CJK@five\or\CJK@six\or\CJK@seven\or\CJK@eight\or\CJK@nine

```

```

1249 \fi
1250 }

```

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}

1251 \def\HyPsd@inmathwarn#1#2{%
1252   \ifx#2\expandafter
1253     \expandafter\ifx\csname\cf@encoding\string#1\endcsname\relax
1254       \HyPsd@GLYPHERR
1255       \expandafter\@gobble\string#1%
1256       >%

```

```

1257 \expandafter\expandafter\expandafter\HyPsd@EndWithElse
1258 \else
1259 \expandafter\expandafter\expandafter\HyPsd@GobbleFiFi
1260 \fi
1261 \else
1262 \expandafter#2%
1263 \fi
1264 }
1265 \def\HyPsd@GobbleFiFi#1\fi#2\fi{}
1266 \def\HyPsd@EndWithElse#1\else\else{}

```

\HyPsd@add@accent

```

1267 \def\HyPsd@add@accent#1#2{%
1268 \HyPsd@GLYPHERR\expandafter\@gobble\string#1+\string#2>%
1269 #2%
1270 }%

```

6.5.7 Unexpandable spaces

\HyPsd@LetUnexpandableSpace In `\expandafter \cmd@to@cs \string \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 `\expandafter \cmd@to@cs \string \HyPsd @CheckCatcodes`.

```

1271 \def\HyPsd@LetUnexpandableSpace#1{%
1272 \expandafter\futurelet\expandafter#1\expandafter\@gobble\space\relax
1273 }

```

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

```

1274 \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.

```

1275 \edef\HyPsd@XSPACE{\string#\string X}
1276 \edef\HyPsd@ITALCORR{\string#\string I}
1277 \edef\HyPsd@GLYPHERR{\string#\string G}

```

6.5.9 \hspace fix

\HyPsd@hspace

```

1278 \def\HyPsd@hspace#1{\HyPsd@@hspace#1*\END}

```

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

```
1279 \def\HyPsd@@hspace#1*#2\END{%
1280   \ifx\#2\%
1281     \HyPsd@hspacetest{#1}%
1282   \else
1283     \expandafter\HyPsd@hspacetest
1284   \fi
1285 }
```

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

```
1286 \def\HyPsd@hspacetest#1{\ifdim\dimexpr#1\relax>\z@\space\fi}
```

6.5.10 Fix for AMS classes

```
1287 \ltx@ifundefined{tocsection}{%
1288   \let\HyPsd@AMSclassfix\relax
1289 }{%
1290   \def\HyPsd@AMSclassfix{%
1291     \let\tocpart\HyPsd@tocsection
1292     \let\tocchapter\HyPsd@tocsection
1293     \let\tocappendix\HyPsd@tocsection
1294     \let\tocsection\HyPsd@tocsection
1295     \let\tocsubsection\HyPsd@tocsection
1296     \let\tocsubsubsection\HyPsd@tocsection
1297     \let\tocparagraph\HyPsd@tocsection
1298   }%
1299   \def\HyPsd@tocsection#1#2#3{%
1300     \if @#2@ \else \if @#1@ \else #1 \fi #2. \fi
1301     #3%
1302   }%
1303 }
```

6.5.11 Reference commands

`\HyPsd@href`

```
1304 \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.

```
1305 \def\HyPsd@ref#1{\HyPsd@@ref#1*\END}%
```

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

```
1306 \def\HyPsd@@ref#1*#2\END{%
1307   \ifx\#2\%
1308     \HyPsd@@@ref{#1}%
1309   \else
1310     \expandafter\HyPsd@@@ref
1311   \fi
1312 }
```

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

```
1313 \def\HyPsd@@@ref#1{%
1314   \expandafter\ifx\csname r@#1\endcsname\relax
```

```

1315   ??%
1316   \else
1317     \expandafter\expandafter\expandafter
1318     \@car\csname r@#1\endcsname\@nil
1319   \fi
1320 }

```

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

```

1321 \def\HyPsd@pageref#1{\HyPsd@@pageref#1*END}

```

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

```

1322 \def\HyPsd@@pageref#1*#2END{%
1323   \ifx\#2\%
1324     \HyPsd@@@pageref{#1}%
1325   \else
1326     \expandafter\HyPsd@@@pageref
1327   \fi
1328 }

```

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

```

1329 \def\HyPsd@@@pageref#1{%
1330   \expandafter\ifx\csname r@#1\endcsname\relax
1331     ??%
1332   \else
1333     \expandafter\expandafter\expandafter\expandafter
1334     \expandafter\expandafter\expandafter\@car
1335     \expandafter\expandafter\expandafter\@gobble
1336     \csname r@#1\endcsname{}\@nil
1337   \fi
1338 }

```

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

```

1339 \def\HyPsd@nameref#1{\HyPsd@@nameref#1*END}

```

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

```

1340 \def\HyPsd@@nameref#1*#2END{%
1341   \ifx\#2\%
1342     \HyPsd@@@nameref{#1}%
1343   \else
1344     \expandafter\HyPsd@@@nameref
1345   \fi
1346 }

```

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

```

1347 \def\HyPsd@@@nameref#1{%
1348   \expandafter\ifx\csname r@#1\endcsname\relax
1349     ??%
1350   \else
1351     \expandafter\expandafter\expandafter\expandafter
1352     \expandafter\expandafter\expandafter\@car
1353     \expandafter\expandafter\expandafter\@gobbletwo

```

```

1354 \csname r@#1\endcsname{}\}\@nil
1355 \fi
1356 }

```

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

```

1357 \def\HyPsd@autoref#1{\HyPsd@@autoref#1*\END}

```

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

```

1358 \def\HyPsd@@autoref#1*#2\END{%
1359 \ifx\#2\%
1360 \HyPsd@@@autoref{#1}%
1361 \else
1362 \expandafter\HyPsd@@@autoref
1363 \fi
1364 }

```

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

```

1365 \def\HyPsd@@@autoref#1{%
1366 \expandafter\ifx\csname r@#1\endcsname\relax
1367 ??%
1368 \else
1369 \expandafter\expandafter\expandafter\HyPsd@autorefname
1370 \csname r@#1\endcsname{}\}\}\@nil
1371 \expandafter\expandafter\expandafter
1372 \@car\csname r@#1\endcsname\@nil
1373 \fi
1374 }

```

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

```

1375 \def\HyPsd@autorefname#1#2#3#4#5\@nil{%
1376 \ifx\#4\%
1377 \else
1378 \HyPsd@@autorefname#4.\@nil
1379 \fi
1380 }

```

`\HyPsd@@autorefname`

```

1381 \def\HyPsd@@autorefname#1.#2\@nil{%
1382 \ltx@ifundefined{#1autorefname}{%
1383 \ltx@ifundefined{#1name}{%
1384 }{%
1385 \csname#1name\endcsname\space
1386 }%
1387 }{%
1388 \csname#1autorefname\endcsname\space
1389 }%
1390 }

```

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

```

\HyPsd@DefCommand
\HyPsd@LetCommand 1391 \begingroup
1392   \def\x#1#2{%
1393     \endgroup
1394     \let#1\def
1395     \def\HyPsd@DefCommand##1##2###{%
1396       #1%
1397       \expandafter\noexpand
1398       \csname\expandafter\@gobble\string##1\@empty\endcsname
1399       \@gobble
1400     }%
1401     \let#2\let
1402     \def\HyPsd@@LetCommand##1{%
1403       \expandafter\ifx\csname##1\expandafter\endcsname
1404         \csname iftrue\endcsname
1405       \pdfstringdefWarn\let
1406       \expandafter\@gobble
1407     \else
1408       \expandafter\ifx\csname##1\expandafter\endcsname
1409         \csname iffalse\endcsname
1410       \pdfstringdefWarn\let
1411       \expandafter\expandafter\expandafter\@gobble
1412     \else
1413       #2%
1414       \expandafter\noexpand
1415       \csname##1\expandafter\expandafter\expandafter\endcsname
1416     \fi

```

```

1417 \fi
1418 }%
1419 }%
1420 \expandafter\x\csname <def>-command\expandafter\endcsname
1421 \csname <let>-command\endcsname
1422 \def\HyPsd@LetCommand#1{%
1423 \expandafter\expandafter\expandafter\HyPsd@@LetCommand
1424 \expandafter\expandafter\expandafter{%
1425 \expandafter\@gobble\string#1\@empty
1426 }%
1427 }

```

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).

```

1428 \def\HyPsd@ifnextchar#1{%
1429 \pdfstringdefWarn#1%
1430 \expandafter\@gobbletwo\@gobble
1431 }

```

6.5.14 \@protected@testoptifnextchar

`\HyPsd@protected@testopt` Macros with optional arguments doesn't work properly, because they call `\expandafter \cmd@to@cs \string \@ifnextchar` to detect the optional argument (see the explanation of `\expandafter \cmd@to@cs \string \HyPsd @ifnextchar`). But a warning, that `\expandafter \cmd@to@cs \string \@ifnextchar` doesn't work, doesn't help the user very much. Therefore `\expandafter \cmd@to@cs \string \@protected@testopt` is also disabled, because its first argument is the problematic macro with the optional argument and it is called before `\expandafter \cmd@to@cs \string \@ifnextchar`.

```

1432 \def\HyPsd@protected@testopt#1{%
1433 \pdfstringdefWarn#1%
1434 \@gobbletwo
1435 }

```

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:

```

1436 \def\HyPsd@Warning#1{%
1437 \begingroup

```

```

1438 \let\space\ltx@space
1439 \Hy@Warning{#1}%
1440 \endgroup
1441 }

```

6.6.2 Protecting spaces

```

1442 \RequirePackage{etexcmds}[2007/09/09]
1443 \ifetex@unexpanded
1444 \expandafter\@secondoftwo
1445 \else
1446 \expandafter\@firstoftwo
1447 \fi
1448 {%

```

`\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`.

```

1449 \def\HyPsd@ProtectSpaces#1{%
1450 \iftrue
1451 \expandafter\HyPsd@@ProtectSpacesFi
1452 \expandafter|\expandafter\@empty#1| \HyPsd@End#1%
1453 \fi
1454 }%

```

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

```

1455 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@End#3\fi{%
1456 \fi
1457 \ifx\scrollmode#2\scrollmode
1458 \HyPsd@RemoveMask#1\HyPsd@End#3%
1459 \else
1460 \gdef#3{#1\HyPsd@UnexpandableSpace#2}%
1461 \expandafter\HyPsd@@ProtectSpacesFi#3\HyPsd@End#3%
1462 \fi
1463 }%

```

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.

```

1464 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1465 \toks@\expandafter{#1}%
1466 \xdef#2{\the\toks@}%
1467 }%

1468 }{%
1469 \let\HyPsd@fi\fi
1470 \def\HyPsd@ProtectSpaces#1{%
1471 \xdef#1{%
1472 \iftrue

```

```

1473     \expandafter\HyPsd@@ProtectSpacesFi
1474     \expandafter|\expandafter\@empty#1| %
1475     \HyPsd@fi
1476 }%
1477 \expandafter\HyPsd@RemoveMask#1\HyPsd@End#1%
1478 }%
1479 \def\HyPsd@@ProtectSpacesFi#1 #2\HyPsd@fi{%
1480   \fi
1481   \etex@unexpanded{#1}%
1482   \ifx\scrollmode#2\scrollmode
1483   \else
1484     \HyPsd@@ProtectSpacesFi\HyPsd@UnexpandableSpace#2%
1485     \HyPsd@fi
1486   }%
1487 \def\HyPsd@RemoveMask|#1|\HyPsd@End#2{%
1488   \xdef#2{\etex@unexpanded\expandafter{#1}}%
1489 }%
1490 }

```

6.6.3 Remove grouping braces

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

```

1491 \def\HyPsd@RemoveBraces#1{%
1492   \ifx\scrollmode#1\scrollmode
1493   \else
1494     \HyPsd@@RemoveBracesFi#1\HyPsd@End{#1}%
1495   \fi
1496 }

```

`\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`.

```

1497 \def\HyPsd@@RemoveBracesFi#1#2\HyPsd@End#3\fi{%
1498   \fi
1499   \def\Hy@temp@A{#1#2}%
1500   \def\Hy@temp@B{#3}%
1501   \ifx\Hy@temp@A\Hy@temp@B
1502     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1503       \HyPsd@String#1%
1504     }%
1505   \ifx\scrollmode#2\scrollmode
1506   \else
1507     \Hy@ReturnAfterFiFiEnd{%
1508       \HyPsd@RemoveBraces{#2}%
1509     }%

```

```

1510 \fi
1511 \else
1512 \def\HyPsd@temp@A{#1}%
1513 \HyPsd@AppendItalcorr\HyPsd@String
1514 \ifx\HyPsd@temp@A\@empty
1515 \HyPsd@ReturnAfterElseFiFiEnd{%
1516 \HyPsd@RemoveBraces{#2}%
1517 }%
1518 \else
1519 \HyPsd@ProtectSpaces\HyPsd@temp@A
1520 \HyPsd@AppendItalcorr\HyPsd@temp@A
1521 \HyPsd@ReturnAfterFiFiEnd{%
1522 \expandafter\HyPsd@RemoveBraces\expandafter
1523 {\HyPsd@temp@A#2}%
1524 }%
1525 \fi
1526 \fi
1527 \HyPsd@ReturnEnd
1528 }

```

\HyPsd@AppendItalcorr The string can contain commands yet, so it is better to use `\def` instead of a shorter `\edef`. The two help macros limit the count of `\expandafter`.

```

1529 \def\HyPsd@AppendItalcorr#1{%
1530 \expandafter\HyPsd@@AppendItalcorr\expandafter{/}#1%
1531 }
1532 \def\HyPsd@@AppendItalcorr#1#2{%
1533 \expandafter\def\expandafter#2\expandafter{#2#1}%
1534 }

```

6.6.4 Catcode check

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

```

1535 \ltx@ifundefined{directlua}{%
1536 }{%
1537 \expandafter\ifx\csname\endcsname\relax\fi
1538 }

```

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`.

```

1539 \begingroup
1540 \catcode`\Q=\active
1541 \let Q\ltx@empty
1542 \gdef\HyPsd@CheckCatcodes#1#2\HyPsd@end{%
1543   \global\let\HyPsd@Rest\relax
1544   \ifcat\relax\noexpand#1\relax
1545     \ifx#1\protect
1546     \else
1547       \ifx#1\penalty
1548         \setbox\z@=\hbox{%
1549           \afterassignment\HyPsd@AfterCountRemove
1550           \count@=#2\HyPsd@end
1551         }%
1552       \else
1553         \ifx#1\kern
1554           \setbox\z@=\hbox{%
1555             \afterassignment\HyPsd@AfterDimenRemove
1556             \dimen@=#2\HyPsd@end
1557           }%
1558         \else
1559           \ifx#1\hskip
1560             \setbox\z@=\hbox{%
1561               \afterassignment\HyPsd@AfterSkipRemove
1562               \skip@=#2\HyPsd@end
1563             }%
1564           \else
1565             \HyPsd@CatcodeWarning{#1}%
1566           \fi
1567         \fi
1568       \fi
1569     \fi
1570   \else
1571     \ifcat\noexpand#1\noexpandQ% active character
1572     \expandafter\expandafter\expandafter\def
1573     \expandafter\expandafter\expandafter\HyPsd@String
1574     \expandafter\expandafter\expandafter{%
1575       \expandafter\HyPsd@String\string#1%
1576     }%
1577   \else
1578     \ifcat#1A% letter
1579     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1580       \HyPsd@String#1%
1581     }%
1582   \else
1583     \ifcat#1 % SPACE
1584     \expandafter\def\expandafter\HyPsd@String\expandafter{%
1585       \HyPsd@String\HyPsd@SPACEOPTI
1586     }%
1587   \else
1588     \ifcat$#1%
1589     \HyPsd@CatcodeWarning{math shift}%
1590   \else
1591     \ifcat&#1%
1592     \HyPsd@CatcodeWarning{alignment tab}%

```

```

1593         \else
1594         \ifcat^#1%
1595         \HyPsd@CatcodeWarning{superscript}%
1596         \else
1597         \ifcat_#1%
1598         \HyPsd@CatcodeWarning{subscript}%
1599         \else
1600         \expandafter\def\expandafter\HyPsd@String\expandafter{%
1601         \HyPsd@String#1%
1602         }%
1603         \fi
1604         \fi
1605         \fi
1606         \fi
1607         \fi
1608         \fi
1609         \fi
1610         \fi
1611         \ifx\HyPsd@Rest\relax
1612         \ifx\scrollmode#2\scrollmode
1613         \else
1614         \Hy@ReturnAfterFiFiEnd{%
1615         \HyPsd@CheckCatcodes#2\HyPsd@End
1616         }%
1617         \fi
1618         \else
1619         \ifx\HyPsd@Rest\@empty
1620         \else
1621         \Hy@ReturnAfterFiFiEnd{%
1622         \expandafter\HyPsd@CheckCatcodes\HyPsd@Rest\HyPsd@End
1623         }%
1624         \fi
1625         \fi
1626         \Hy@ReturnEnd
1627     }%
1628 \endgroup

```

Remove counts, dimens, skips.

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

```

1629 \def\HyPsd@AfterCountRemove#1\HyPsd@End{%
1630   \gdef\HyPsd@Rest{#1}%
1631 }

```

`\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.

```

1632 \def\HyPsd@AfterDimenRemove#1\HyPsd@End{%
1633   \ifdim\ifx\HyPsd@String\@empty\z@\else\dimen@>1ex %
1634   \HyPsd@ReplaceSpaceWarning{\string\kern\space\the\dimen@}%
1635   \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1636   \else

```

```

1637 \ifdim\dimen@=\z@
1638 \else
1639 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\dimen@}%
1640 \fi
1641 \gdef\HyPsd@Rest{#1}%
1642 \fi
1643 }

```

`\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).

```

1644 \def\HyPsd@AfterSkipRemove#1\HyPsd@end{%
1645 \ifdim\ifx\HyPsd@String\@empty\z@\else\skip@>\fi>lex %
1646 \HyPsd@ReplaceSpaceWarning{\string\hskip\space\the\skip@}%
1647 \gdef\HyPsd@Rest{\HyPsd@UnexpandableSpace #1}%
1648 \else
1649 \ifdim\skip@=\z@
1650 \else
1651 \HyPsd@RemoveSpaceWarning{\string\kern\space\the\skip@}%
1652 \fi
1653 \gdef\HyPsd@Rest{#1}%
1654 \fi
1655 }

```

Catcode warnings.

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

```

1656 \def\HyPsd@CatcodeWarning#1{%
1657 \HyPsd@Warning{%
1658 Token not allowed in a PDF string (%)
1659 \ifHy@unicode
1660 Unicode%
1661 \else
1662 PDFDocEncoding%
1663 \fi
1664 }:%
1665 \MessageBreak removing ``\HyPsd@RemoveCmdPrefix#1'%'
1666 }%
1667 }
1668 \begingroup
1669 \catcode`\|=0 %
1670 \catcode`\|=12 %
1671 |gdef|HyPsd@RemoveCmdPrefix#1{%
1672 |expandafter|HyPsd@@RemoveCmdPrefix
1673 |string#1|@empty\<>-|@empty|@empty
1674 }%
1675 |gdef|HyPsd@@RemoveCmdPrefix#1\<>-#2|@empty#3|@empty{#1#2}%
1676 |endgroup

```

`\HyPsd@RemoveSpaceWarning`

```

1677 \def\HyPsd@RemoveSpaceWarning#1{%
1678 \HyPsd@Warning{%
1679 Token not allowed in a PDF string (%)
1680 \ifHy@unicode
1681 Unicode%

```

```

1682 \else
1683     PDFDocEncoding%
1684 \fi
1685 ):%
1686 \MessageBreak #1\MessageBreak
1687 removed%
1688 }%
1689 }

```

\HyPsd@ReplaceSpaceWarning

```

1690 \def\HyPsd@ReplaceSpaceWarning#1{%
1691 \HyPsd@Warning{%
1692     Token not allowed in a PDF string (%
1693     \ifHy@unicode
1694         Unicode%
1695     \else
1696         PDFDocEncoding%
1697     \fi
1698 ):%
1699 \MessageBreak #1\MessageBreak
1700 replaced by space%
1701 }%
1702 }

```

6.6.5 Check for wrong glyphs

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

```

1703 \def\HyPsd@GlyphProcess#1\relax#2\@empty{%
1704 \expandafter\def\expandafter\HyPsd@String\expandafter{%
1705     \HyPsd@String#1%
1706 }%
1707 \ifx\#2\%
1708 \else
1709     \ltx@ReturnAfterFi{%
1710         \HyPsd@GlyphProcessWarning#2\@empty
1711     }%
1712 \fi
1713 }
1714 \def\HyPsd@GlyphProcessWarning#1>#2\@empty{%
1715 \HyPsd@@GlyphProcessWarning#1++>%
1716 \HyPsd@GlyphProcess#2\@empty
1717 }
1718 \def\HyPsd@@GlyphProcessWarning#1+#2+#3>{%
1719 \ifx\#2\%
1720 \HyPsd@Warning{%
1721     Glyph not defined in %
1722     P\ifHy@unicode U\else D1\fi\space encoding,\MessageBreak
1723     removing ` \@backslashchar#1'%
1724 }%
1725 \else
1726 \HyPsd@Warning{%
1727     Composite letter ` \@backslashchar#1+#2'\MessageBreak
1728     not defined in P\ifHy@unicode U\else D1\fi\space encoding,%

```

```

1729 \MessageBreak
1730 removing `\"@backslashchar#1'%
1731 }%
1732 \fi
1733 }

```

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`.

```

1734 \def\HyPsd@spaceopti#1{ % first space
1735 \ifx\HyPsd@spaceopti#1%
1736 \040%
1737 \else
1738 #1%
1739 \fi
1740 }%

```

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.

```

1741 \def\HyPsd@Subst#1#2#3{%
1742 \def\HyPsd@@ReplaceFi##1#1##2\END\fi{%
1743 \fi
1744 ##1%
1745 \ifx\scrollmode##2\scrollmode
1746 \else
1747 #2%
1748 \HyPsd@@@ReplaceFi##2\END
1749 \fi
1750 }%
1751 \xdef#3{%
1752 \iftrue
1753 \expandafter\HyPsd@@@ReplaceFi#3#1\END
1754 \fi
1755 }%
1756 }

```

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

```

1757 \def\HyPsd@StringSubst#1{%
1758 \expandafter\HyPsd@Subst\expandafter{\string#1}%
1759 }

```

`\HyPsd@EscapeTeX`

```

1760 \begingroup

```

```

1761 \lccode`!=`\%%
1762 \lccode`|=`\%%
1763 \lccode`\(=\{%
1764 \lccode`\)=`\}%
1765 \lccode`0=\ltx@zero
1766 \lccode`1=\ltx@zero
1767 \lccode`3=\ltx@zero
1768 \lccode`4=\ltx@zero
1769 \lccode`5=\ltx@zero
1770 \lccode`7=\ltx@zero
1771 \lowercase{\endgroup
1772 \def\HyPsd@EscapeTeX#1{%
1773   \HyPsd@Subst!{|045}#1%
1774   \HyPsd@Subst({|173}#1%
1775   \HyPsd@Subst){|175}#1%
1776 }%
1777 }

```

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.

```

1778 \def\HyPsd@doxspace#1{%
1779   \ifx#1\relax\else
1780     \ifx#1.\else
1781       \ifx#1:\else
1782         \ifx#1,\else
1783           \ifx#1;\else
1784             \ifx#1!\else
1785               \ifx#1?\else
1786                 \ifx#1/\else
1787                   \ifx#1-\else
1788                     \ifx#1'\else
1789                       \HyPsd@SPACEOPTI
1790                     \fi
1791                   \fi
1792                 \fi
1793               \fi
1794             \fi
1795           \fi
1796         \fi
1797       \fi
1798     \fi
1799   \fi
1800   #1%
1801 }%

```

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.

```
1802 \begingroup
1803 \catcode`\|=0 %
1804 \catcode`\|=12 %
```

\HyPsd@ConvertToUnicode

```
1805 |gdef|HyPsd@ConvertToUnicode#1{%
1806   |xdef#1{%
1807     |expandafter|HyPsd@DoConvert#1|@empty|@empty|@empty
1808   }%
1809   |ifx#1|@empty
1810   |else
1811     |xdef#1{%
1812       \376\377%
1813       #1%
1814     }%
1815   |fi
1816 }%
```

\HyPsd@DoConvert

```
1817 |gdef|HyPsd@DoConvert#1{%
1818   |ifx#1|@empty
1819   |else
1820     |ltx@ReturnAfterFi{%
1821       |ifx#1\%%
1822       \%%
1823       |expandafter|HyPsd@DoEscape
1824     |else
1825       |HyPsd@Char{#1}%
1826     |expandafter|HyPsd@DoConvert
1827   |fi
1828 }%
1829 |fi
1830 }%
```

\HyPsd@DoEscape

```
1831 |gdef|HyPsd@DoEscape#1{%
1832   |ifx#19%
1833   |expandafter|HyPsd@GetTwoBytes
1834   |else
1835     |ltx@ReturnAfterFi{%
1836       |ifx#18%
1837       00%
1838     |expandafter|HyPsd@GetTwoBytes
1839   |else
1840     #1%
1841     |expandafter|HyPsd@GetOneByte
1842   |fi
1843 }%
1844 |fi
1845 }%
```

\HyPsd@GetTwoBytes

```

1846 |gdef|HyPsd@GetTwoBytes#1\#2#3#4{%
1847   #1\#2#3#4%
1848   |HyPsd@DoConvert
1849 }%

```

\HyPsd@GetOneByte

```

1850 |gdef|HyPsd@GetOneByte#1#2{%
1851   #1#2%
1852   |HyPsd@DoConvert
1853 }%
1854 |endgroup

```

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

```

1855 \def\HyPsd@GetNextTwoTokens#1#2#3\END#4{%
1856   \xdef#4{#4#1#2}%
1857   \HyPsd@@ConvertToUnicode#3\END#4%
1858 }

```

\HyPsd@Char

```

1859 \begingroup
1860 \catcode0=9 %
1861 \catcode`\^=7 %
1862 \catcode`\^^=12 %
1863 \def\x{^^^0000}%
1864 \expandafter\endgroup
1865 \ifx\x\@empty
1866 \def\HyPsd@Char#1{%
1867   \ifnum`#1<128 %
1868     \@backslashchar 000#1%
1869   \else
1870     \ifnum`#1<65536 %
1871       \expandafter\HyPsd@CharTwoByte\number`#1!%
1872     \else
1873       \expandafter\expandafter\expandafter\HyPsd@CharSurrogate
1874       \intcalcSub{`#1}{65536}!%
1875     \fi
1876   \fi
1877 }%
1878 \def\HyPsd@CharTwoByte#1!{%
1879   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1880   \IntCalcDiv#1!256!!%
1881   \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1882   \IntCalcMod#1!256!!%
1883 }%
1884 \def\HyPsd@CharOctByte#1!{%
1885   \@backslashchar
1886   \IntCalcDiv#1!64!%
1887   \intcalcDiv{\IntCalcMod#1!64!}{8}%
1888   \IntCalcMod#1!8!%
1889 }%
1890 \def\HyPsd@CharSurrogate#1!{%
1891   \@backslashchar 33%
1892   \IntCalcDiv#1!262144!%

```

```

1893 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1894 \intcalcDiv{\IntCalcMod#1!262144!}{1024}!%
1895 \@backslashchar 33%
1896 \expandafter\expandafter\expandafter\IntCalcAdd
1897 \intcalcDiv{\IntCalcMod#1!1024!}{256}!4!%
1898 \expandafter\expandafter\expandafter\HyPsd@CharOctByte
1899 \IntCalcMod#1!256!!%
1900 }%
1901 \else
1902 \def\HyPsd@Char#1{%
1903 \@backslashchar 000#1%
1904 }%
1905 \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.

```

1906 \ifcsname UTFviii@loop\endcsname
1907 \def\HyPsd@expand@utfvii{%
1908 \count@"C2
1909 \@tempcnta"F5
1910 \def\UTFviii@tmp{\expandafter\def\expandafter~\expandafter{~}}%
1911 \UTFviii@loop
1912 }
1913 \else
1914 \def\HyPsd@expand@utfvii{}
1915 \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`

```

1916 \begingroup
1917 \lccode\~=\^^f4\relax
1918 \lowercase{\endgroup
1919 \def\HyPsd@UTFviii{%
1920 \HyPsd@expand@utfvii
1921 \let\UTFviii@two@octets\HyPsd@UTFviii@two
1922 \let\UTFviii@three@octets\HyPsd@UTFviii@three
1923 \let\UTFviii@four@octets\HyPsd@UTFviii@four
1924 \ifx~\HyPsd@UTFviii@cccxliv@undef
1925 \let~\HyPsd@UTFviii@cccxliv@def
1926 \fi
1927 \let\unichar\HyPsd@unichar
1928 }%

```

```

1929 }%
1930 \def\HyPsd@UTFviii@ccxliv@undef{\@inpenc@undefined@{utf8}}%
1931 \edef\HyPsd@UTFviii@ccxliv@def{%
1932   \noexpand\UTFviii@four@octets\string ^^f4%
1933 }%

```

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.

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

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

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

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

$$(5)$$

```

1934 \def\HyPsd@UTFviii@two#1#2{%
1935   \expandafter\HyPsd@UTFviii@@two
1936   \number\dimexpr.25\dimexpr`#1sp\expandafter\relax\expandafter|
1937   \number`#1\expandafter|
1938   \number\dimexpr.125\dimexpr`#2sp\expandafter\relax\expandafter|
1939   \number`#2 \@nil
1940 }%
1941 \def\HyPsd@UTFviii@@two#1|#2|#3|#4\@nil{%
1942   \expandafter\8%
1943   \number\numexpr #1-48\expandafter\relax
1944   \csname\number\numexpr #2-4*#1\relax\expandafter\endcsname
1945   \number\numexpr #3-8*%
1946   \number\dimexpr.125\dimexpr#3sp\relax\relax\expandafter\relax
1947   \number\numexpr #4-8*#3\relax
1948 }%

```

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

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

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

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

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

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

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

$$(12)$$

```

1949 \def\HyPsd@UTFviii@three#1#2#3{%
1950   \expandafter\HyPsd@UTFviii@@three
1951   \number\dimexpr.25\dimexpr`#1sp\expandafter\relax\expandafter|
1952   \number`#1\expandafter|
1953   \number\ifnum\numexpr`#2-128\relax <32 0\else 1\fi\expandafter|
1954   \number\dimexpr.25\dimexpr`#2sp\expandafter\relax\expandafter|
1955   \number`#2\expandafter|
1956   \number\dimexpr.125\dimexpr`#3sp\expandafter\relax\expandafter|
1957   \number`#3 \@nil

```

```

1958 }%
1959 \def\HyPsd@UTFviii@@three#1|#2|#3|#4|#5|#6|#7\@nil{%
1960 \expandafter\9%
1961 \number\numexpr #1-56\expandafter\relax
1962 \number\numexpr 2*(#2-4*#1)+#3\expandafter\relax
1963 \number\numexpr #4 - 32 -\ifcase#3 0\else 8\fi\expandafter\relax
1964 \csname\number\numexpr #5-4*#4\relax\expandafter\endcsname
1965 \number\numexpr #6-16\expandafter\relax
1966 \number\numexpr #7-8*#6\relax
1967 }%

```

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

```

```

1968 \def\HyPsd@UTFviii@four#1#2{%
1969 \expandafter\HyPsd@@UTFviii@four\number
1970 \numexpr-1+(\`#1-240)*4+\dimexpr.0625\dimexpr`#2sp-128sp%
1971 \expandafter|\number
1972 \numexpr`#2-16*\dimexpr.0625\dimexpr`#2sp| %
1973 }%
1974 \def\HyPsd@@UTFviii@four#1|#2|#3{%
1975 \933\number\dimexpr.25\dimexpr#1sp\relax\relax
1976 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1977 \ifodd#2 %
1978 \number\numexpr(#2-1)/2\relax
1979 \else
1980 \number\numexpr#2/2\relax
1981 \fi
1982 \number\numexpr\ifodd#2 4+\fi
1983 \dimexpr.0625\dimexpr`#3sp-128sp\relax\relax\relax
1984 \933%
1985 \expandafter\HyPsd@@@UTFviii@four\number
1986 \numexpr`#3-16*\dimexpr.0625\dimexpr`#3sp| %
1987 }%
1988 \def\HyPsd@@@UTFviii@four#1|#2{%
1989 \number\numexpr4+\dimexpr.25\dimexpr#1sp\relax\relax\relax
1990 \csname\number\numexpr#1-4*\dimexpr.25\dimexpr#1sp\endcsname
1991 \number\dimexpr.125\dimexpr`#2sp-128sp\relax\relax
1992 \number\numexpr`#2-8*\dimexpr.125\dimexpr`#2sp\relax\relax\relax
1993 }%

```

Input encoding utf8x of package ucs uses macro `\expandafter \cmd@to@cs \string \unichar`. Values greater than "FFFF" are not supported.

```

1994 \def\HyPsd@unichar#1{%
1995 \ifHy@unicode
1996 \ifnum#1>"10FFFF %
1997 \HyPsd@UnicodeReplacementCharacter % illegal
1998 \else
1999 \ifnum#1>"FFFF %

```

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

```

2000      \expandafter\HyPsd@unichar\expandafter{%
2001      \number\numexpr 55296+%
2002      \dimexpr.0009765625\dimexpr\number#1sp-\p@
2003      \relax\relax\relax
2004      }%

```

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

```

2005      \expandafter\HyPsd@unichar\expandafter{%
2006      \number\numexpr#1-9216%
2007      -1024*\dimexpr.0009765625\dimexpr\number#1sp-\p@
2008      \relax\relax\relax
2009      }%
2010      \else
2011      \ifnum#1>"7FF %
2012      \9%
2013      \expandafter\HyPsd@unichar@first@byte\expandafter{%
2014      \number
2015      \dimexpr.00390625\dimexpr\number#1sp\relax\relax
2016      }%
2017      \else
2018      \8%
2019      \number\dimexpr.00390625\dimexpr\number#1sp\relax\relax
2020      \fi
2021      \expandafter\HyPsd@unichar@second@byte\expandafter{%
2022      \number
2023      \numexpr#1-256*\number
2024      \dimexpr.00390625\dimexpr\number#1sp\relax\relax\relax
2025      }%
2026      \fi
2027      \fi
2028      \else
2029      .% unsupported (Unicode -> PDF Doc Encoding)
2030      \fi
2031      }%
2032      \def\HyPsd@UnicodeReplacementCharacter{\9377\375}%
2033      \def\HyPsd@unichar@first@byte#1{%
2034      \number\dimexpr.015625\dimexpr#1sp\relax\relax
2035      \expandafter\HyPsd@unichar@octtwo\expandafter{%
2036      \number
2037      \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2038      \relax\relax\relax
2039      }%
2040      }%
2041      \def\HyPsd@unichar@second@byte#1{%
2042      \csname\number\dimexpr.015625\dimexpr#1sp\relax\relax\endcsname
2043      \expandafter\HyPsd@unichar@octtwo\expandafter{%
2044      \number
2045      \numexpr#1-64*\number\dimexpr.015625\dimexpr#1sp%
2046      \relax\relax\relax
2047      }%
2048      }%
2049      \def\HyPsd@unichar@octtwo#1{%
2050      \number\dimexpr.125\dimexpr#1sp\relax\relax
2051      \number\numexpr#1-8*\number\dimexpr.125\dimexpr#1sp%
2052      \relax\relax\relax

```

2053 }%

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

```

2054 \def\HyPsd@utf@viii@undeferr#1#2#3#4#5#6{%
2055   \ifx\@gobble#1%
2056   \else
2057     [Please insert \textbackslash PrerenderUnicode%
2058     \textbraceleft#1\textbraceright\space
2059     into preamble]%
2060   \fi
2061 }%
```

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.

```

2062 \def\HyPsd@DieFace#1{%
2063   \ifHy@unicode
2064   \ifnum#1<1 %
2065     \HyPsd@UnicodeReplacementCharacter
2066   \else
2067     \ifnum#1>6 %
2068       \9046\205%
2069       \expandafter\expandafter\expandafter
2070       \HyPsd@DieFaceLarge\intcalcSub{#1}{6}!%
2071     \else
2072       \9046\20\intcalcDec{#1}%
2073     \fi
2074   \fi
2075 \else
2076   .% Die faces are not part of PDFDocEncoding
2077 \fi
2078 }
```

\HyPsd@DieFaceLarge

```

2079 \def\HyPsd@DieFaceLarge#1!{%
2080   \ifnum#1>6 %
2081     \expandafter\ltx@firstoftwo
2082   \else
2083     \expandafter\ltx@secondoftwo
2084   \fi
2085   {%
2086     \9046\205%
2087     \expandafter\expandafter\expandafter
2088     \HyPsd@DieFaceLarge\IntCalcSub#1!6!!%
2089   }{%
```

```

2090 \9046\20\IntCalcDec#1!%
2091 }%
2092 }

```

6.6.11 Support for moon phases of package china2e

```

2093 \def\HyPsd@MoonPha#1{%
2094 \ifcase\intcalcNum{#1} %
2095 \HyPsd@UnicodeReplacementCharacter
2096 \or % 1
2097 % U+1F31A NEW MOON WITH FACE; \MoonPha{1} (china2e)
2098 \9330\074\9337\032%
2099 \or % 2
2100 \HyPsd@UnicodeReplacementCharacter
2101 \or % 3
2102 % U+1F31D FULL MOON WITH FACE; \MoonPha{3} (china2e)
2103 \9330\074\9337\035%
2104 \or % 4
2105 % U+1F31C LAST QUARTER MOON WITH FACE; \MoonPha{4} (china2e)
2106 \9330\074\9337\034%
2107 \else
2108 \HyPsd@UnicodeReplacementCharacter
2109 \fi
2110 }
2111 %* \HyPsd@MoonPha -> \MoonPha

```

6.6.12 Support for package pifont

\HyPsd@ding

```

2112 \def\HyPsd@ding#1{%
2113 \ifHy@unicode
2114 \ifnum#1<32 %
2115 \HyPsd@UnicodeReplacementCharacter
2116 \else
2117 \ifnum#1>254 %
2118 \HyPsd@UnicodeReplacementCharacter
2119 \else
2120 \ifnum#1<127 %
2121 \expandafter\expandafter\expandafter
2122 \HyPsd@@@ding\intcalcNum{#1}!%
2123 \else
2124 \ifnum#1>160 %
2125 \expandafter\expandafter\expandafter
2126 \HyPsd@@@ding\intcalcNum{#1}!%
2127 \else
2128 \HyPsd@UnicodeReplacementCharacter
2129 \fi
2130 \fi
2131 \fi
2132 \fi
2133 \else
2134 .% Dingbats are not part of PDFDocEncoding
2135 \fi
2136 }

```

\HyPsd@@ding

```
2137 \def\HyPsd@@ding#1!{%
2138 \ltx@ifundefined{HyPsd@ding@#1}{%
2139 \ifnum#1<127 %
2140 \9047%
2141 \HyPsd@DecimalToOctalSecond{\IntCalcSub#1!32!}%
2142 \else
2143 \ifnum#1<168 %
2144 \9047\14\IntCalcSub#1!160!%
2145 \else
2146 \ifnum#1>181 %
2147 \9047\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!64!}%
2148 \else
2149 % 172..181 -> U+2460..U+2469
2150 \9044\HyPsd@DecimalToOctalSecond{\IntCalcSub#1!76!}%
2151 \fi
2152 \fi
2153 \fi
2154 }{%
2155 \csname HyPsd@ding@#1\endcsname
2156 }%
2157 }

2158 \@namedef{HyPsd@ding@32}{\space}
2159 % U+260E BLACK TELEPHONE
2160 \@namedef{HyPsd@ding@37}{\9046\016}% U+260E
2161 % U+261B BLACK RIGHT POINTING INDEX
2162 \@namedef{HyPsd@ding@42}{\9046\033}% U+261B
2163 % U+261E WHITE RIGHT POINTING INDEX
2164 \@namedef{HyPsd@ding@43}{\9046\036}% U+261E
2165 % U+2605 BLACK STAR
2166 \@namedef{HyPsd@ding@72}{\9046\005}% U+2605
2167 % U+25CF BLACK CIRCLE
2168 \@namedef{HyPsd@ding@108}{\9045\317}% U+25CF
2169 % U+25A0 BLACK SQUARE
2170 \@namedef{HyPsd@ding@110}{\9045\240}% U+25A0
2171 % U+25B2 BLACK UP-POINTING TRIANGLE
2172 \@namedef{HyPsd@ding@115}{\9045\262}% U+25B2
2173 % U+25BC BLACK DOWN-POINTING TRIANGLE
2174 \@namedef{HyPsd@ding@116}{\9045\274}% U+25BC
2175 % U+25C6 BLACK DIAMOND
2176 \@namedef{HyPsd@ding@117}{\9045\306}% U+25C6
2177 % U+25D7 RIGHT HALF BLACK CIRCLE
2178 \@namedef{HyPsd@ding@119}{\9045\327}% U+25D7
2179 \@namedef{HyPsd@ding@168}{\textclubsuitblack}%
2180 \@namedef{HyPsd@ding@169}{\textdiamondsuitblack}%
2181 \@namedef{HyPsd@ding@170}{\textheartsuitblack}%
2182 \@namedef{HyPsd@ding@171}{\textspadesuitblack}%
2183 \@namedef{HyPsd@ding@213}{\textrightarrow}%
2184 \@namedef{HyPsd@ding@214}{\textleftarrow}%
2185 \@namedef{HyPsd@ding@215}{\textupdownarrow}%
2186 \@namedef{HyPsd@ding@240}{\HyPsd@UnicodeReplacementCharacter}
```

7 Support of other packages

7.1 Package subfigure

Added fix for version 2.1. Here `\expandafter \cmd@to@cs \string \sub @label` is defined.

```
2187 \@ifpackageloaded{subfigure}{%
2188   \ltx@ifundefined{sub@label}{%
2189     \Hy@hypertextnamesfalse
2190   }{%
2191     \renewcommand*{\sub@label}[1]{%
2192       \@bsphack
2193       \subfig@oldlabel{#1}%
2194       \if@filesw
2195         \begingroup
2196         \edef\@currentlabstr{%
2197           \expandafter\strip@prefix\meaning\@currentlabelname
2198         }%
2199         \protected@write\@auxout{}{%
2200           \string\newlabel{sub@#1}{%
2201             {\@nameuse{@@thesub\@capttype}}%
2202             {\thepage}%
2203             {%
2204               \expandafter\strip@period\@currentlabstr
2205               \relax.\relax\@@@%
2206             }%
2207             {\@currentHref}%
2208             {}%
2209           }%
2210         }%
2211         \endgroup
2212       \fi
2213       \@esphack
2214     }%
2215   }%
2216 }
```

7.2 Package xr and xr-hyper

The beta version of xr that supports `\expandafter \cmd@to@cs \string \XR@addURL` is called **xr-hyper**. Therefore we test for the macro itself and not for the package name:

```
2217 \ltx@ifundefined{XR@addURL}{%
2218 }
```

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.

```
2219 \def\xr@addURL#1{\xr@@dURL#1{}{}{}\\}%
2220 \def\xr@@dURL#1#2#3#4#5\\{%
2221   {#1}{#2}%
2222   \if!#4!%
2223     \else
2224       {#3}{#4}{\xr@URL}%
2225   \fi
```

```

2226 }%
2227 }

2228 \def\Hy@true{true}
2229 \def\Hy@false{false}

    Providing dummy definitions.

2230 \let\literalps@out\@gobble
2231 \newcommand\pdfbookmark[3][]{ }
2232 \def\Acrobatmenu#1#2{\leavevmode#2}
2233 \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

```

2234 \let\HyperRaiseLinkHook\@empty
2235 \def\HyperRaiseLinkDefault{\baselineskip}

```

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

```

2236 \newcount\Hy@SavedSpaceFactor
2237 \def\Hy@SaveSpaceFactor{%
2238   \global\Hy@SavedSpaceFactor=\ifhmode\spacefactor\else\z@\fi
2239 }
2240 \def\Hy@RestoreSpaceFactor{%
2241   \relax
2242   \ifhmode
2243     \ifnum\Hy@SavedSpaceFactor>\z@
2244       \spacefactor=\Hy@SavedSpaceFactor
2245     \fi
2246   \fi
2247 }
2248 \def\Hy@SaveSavedSpaceFactor{%
2249   \edef\Hy@RestoreSavedSpaceFactor{%
2250     \global\Hy@SavedSpaceFactor=\the\Hy@SavedSpaceFactor\relax
2251   }%
2252 }
2253 \def\Hy@raisedlink#1{%
2254   \ifvmode
2255     #1%
2256   \else
2257     \Hy@SaveSpaceFactor
2258     \penalty\@M

```

```

2259 \smash{%
2260 \begingroup
2261 \let\HyperRaiseLinkLength\@tempdima
2262 \setlength\HyperRaiseLinkLength\HyperRaiseLinkDefault
2263 \HyperRaiseLinkHook
2264 \expandafter\endgroup
2265 \expandafter\raise\the\HyperRaiseLinkLength\hbox{%
2266 \Hy@RestoreSpaceFactor
2267 #1%
2268 \Hy@SaveSpaceFactor
2269 }%
2270 }%
2271 \Hy@RestoreSpaceFactor
2272 \fi
2273 }

```

\Hy@SaveLastskip Inserting a `\expandafter \cmd@to@cs \string \special` command to set a destination destroys the `\expandafter \cmd@to@cs \string \lastskip` value.

```

2274 \def\Hy@SaveLastskip{%
2275 \let\Hy@RestoreLastskip\relax
2276 \ifvmode
2277 \ifdim\lastskip=\z@
2278 \ifnum\lastnodetype=1 %
2279 \let\Hy@RestoreLastskip\relax
2280 \else
2281 \let\Hy@RestoreLastskip\nobreak
2282 \fi
2283 \else
2284 \begingroup
2285 \skip@=-\lastskip
2286 \edef\x{%
2287 \endgroup
2288 \def\noexpand\Hy@RestoreLastskip{%
2289 \noexpand\ifvmode
2290 \noexpand\nobreak
2291 \vskip\the\skip@
2292 \vskip\the\lastskip\relax
2293 \noexpand\fi
2294 }%
2295 }%
2296 \x
2297 \fi
2298 \else
2299 \ifhmode
2300 \ifdim\lastskip=\z@
2301 \let\Hy@RestoreLastskip\nobreak
2302 \else
2303 \begingroup
2304 \skip@=-\lastskip
2305 \edef\x{%
2306 \endgroup
2307 \def\noexpand\Hy@RestoreLastskip{%
2308 \noexpand\ifhmode
2309 \noexpand\nobreak

```

```

2310         \hskip\the\skip@
2311         \hskip\the\lastskip\relax
2312     \noexpand\fi
2313 }%
2314 }%
2315 \x
2316 \fi
2317 \fi
2318 \fi
2319 }%

```

9 Options

```

2320 \SetupKeyvalOptions{%
2321   family=Hyp,%
2322   prefix=HyOpt%
2323 }

```

9.1 Help macros

\IfHyperBooleanExists

```

2324 \def\IfHyperBooleanExists#1{%
2325   \ltx@ifundefined{Hy@#1false}\ltx@secondoftwo{%
2326     \ltx@ifundefined{KV@Hyp@#1@default}\ltx@secondoftwo\ltx@firstoftwo
2327   }%
2328 }

2329 \@namedef{KV@Hyp@stoppeearly@default}{ }

```

\IfHyperBoolean

```

2330 \def\IfHyperBoolean#1{%
2331   \IfHyperBooleanExists{#1}{%
2332     \csname ifHy@#1\endcsname
2333     \expandafter\ltx@firstoftwo
2334   \else
2335     \expandafter\ltx@secondoftwo
2336   \fi
2337 }\ltx@secondoftwo
2338 }

```

\Hy@boolkey

```

2339 \def\Hy@boolkey#1#2{%
2340   \edef\Hy@tempa{#2}%
2341   \lowercase\expandafter{%
2342     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2343   }%
2344   \ifx\Hy@tempa\@empty
2345     \let\Hy@tempa\Hy@true
2346   \fi
2347   \ifx\Hy@tempa\Hy@true
2348   \else
2349     \ifx\Hy@tempa\Hy@false
2350     \else
2351       \let\Hy@tempa\relax

```

```

2352 \fi
2353 \fi
2354 \ifx\Hy@tempa\relax
2355 \Hy@WarnOptionValue{#2}{#1}{`true' or `false'}%
2356 \else
2357 \Hy@Info{Option `#1' set ``\Hy@tempa'}%
2358 \csname Hy@#1\Hy@tempa\endcsname
2359 \fi
2360 }

```

\Hy@WarnOptionValue

```

2361 \def\Hy@WarnOptionValue#1#2#3{%
2362 \Hy@Warning{%
2363 Unexpected value `#1'\MessageBreak
2364 of option `#2' instead of\MessageBreak
2365 #3%
2366 }%
2367 }

```

\Hy@DisableOption

```

2368 \def\Hy@DisableOption#1{%
2369 \ltx@ifundefined{KV@Hyp@#1@default}{%
2370 \define@key{Hyp}{#1}%
2371 }{%
2372 \define@key{Hyp}{#1}[]%
2373 }%
2374 {\Hy@WarnOptionDisabled{#1}}%
2375 }
2376

```

\Hy@WarnOptionDisabled

```

2377 \def\Hy@WarnOptionDisabled#1{%
2378 \Hy@Warning{%
2379 Option `#1' has already been used,\MessageBreak
2380 setting the option has no effect%
2381 }%
2382 }

```

\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.

```

2383 \def\Hy@CheckOptionValue#1#2#3{%
2384 \begingroup
2385 \edef\x{#1}%
2386 \@onelevel@sanitize\x
2387 \let\y=y%
2388 \def\do##1##2{%
2389 \def\z{##1}%
2390 \@onelevel@sanitize\z
2391 \ifx\x\z
2392 \let\y=n%
2393 \let\do\@gobbletwo
2394 \fi

```

```

2395 }%
2396 #3%
2397 \ifx\y y%
2398 \def\do##1##2{%
2399 * `##1'%
2400 \ifx\##2\\\else\space(##2)\fi
2401 \MessageBreak
2402 }%
2403 \Hy@Warning{%
2404 Values of option `#2':\MessageBreak
2405 #3%
2406 * An empty value disables the option.\MessageBreak
2407 Unknown value `\'x'%
2408 }%
2409 \fi
2410 \endgroup
2411 }

```

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

```

2412 \def\Hy@DefNameKey#1{%
2413 \expandafter\Hy@@DefNameKey\csname @#1\endcsname{#1}%
2414 }

```

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

```

2415 \def\Hy@@DefNameKey#1#2#3{%
2416 \define@key{Hyp}{#2}{%
2417 \edef#1{##1}%
2418 \ifx#1\@empty
2419 \else
2420 \Hy@CheckOptionValue{##1}{#2}{#3}%
2421 \fi
2422 }%
2423 \let#1\@empty
2424 }

```

\Hy@UseNameKey

```

2425 \def\Hy@UseNameKey#1#2{%
2426 \ifx#2\@empty
2427 \else
2428 /#1/#2%
2429 \fi
2430 }

```

9.2 Defining the options

```

2431 \define@key{Hyp}{implicit}[true]{%
2432 \Hy@boolkey{implicit}{#1}%
2433 }
2434 \define@key{Hyp}{draft}[true]{%

```

```

2435 \Hy@boolkey{draft}{#1}%
2436 }
2437 \define@key{Hyp}{final}[true]{%
2438 \Hy@boolkey{final}{#1}%
2439 }
2440 \let\KV@Hyp@nolinks\KV@Hyp@draft
2441 \def\Hy@ObsoletePaperOption#1{%
2442 \Hy@WarningNoLine{%
2443 Option `#1' is no longer used%
2444 }%
2445 \define@key{Hyp}{#1}[true]{}%
2446 }
2447 \def\Hy@temp#1{%
2448 \define@key{Hyp}{#1}[true]{%
2449 \Hy@ObsoletePaperOption{#1}%
2450 }%
2451 }
2452 \Hy@temp{a4paper}
2453 \Hy@temp{a5paper}
2454 \Hy@temp{b5paper}
2455 \Hy@temp{letterpaper}
2456 \Hy@temp{legalpaper}
2457 \Hy@temp{executivepaper}
2458 \define@key{Hyp}{setpagesize}[true]{%
2459 \Hy@boolkey{setpagesize}{#1}%
2460 }
2461 \define@key{Hyp}{debug}[true]{%
2462 \Hy@boolkey{debug}{#1}%
2463 }
2464 \define@key{Hyp}{linktocpage}[true]{%
2465 \Hy@boolkey{linktocpage}{#1}%
2466 \ifHy@linktocpage
2467 \let\Hy@linktoc\Hy@linktoc@page
2468 \else
2469 \let\Hy@linktoc\Hy@linktoc@section
2470 \fi
2471 }
2472 \chardef\Hy@linktoc@none=0 %
2473 \chardef\Hy@linktoc@section=1 %
2474 \chardef\Hy@linktoc@page=2 %
2475 \chardef\Hy@linktoc@all=3 %
2476 \ifHy@linktocpage
2477 \let\Hy@linktoc\Hy@linktoc@page
2478 \else
2479 \let\Hy@linktoc\Hy@linktoc@section
2480 \fi
2481 \define@key{Hyp}{linktoc}{%
2482 \@ifundefined{Hy@linktoc@#1}{%
2483 \Hy@Warning{%
2484 Unexpected value `#1' of\MessageBreak
2485 option `linktoc' instead of `none',\MessageBreak
2486 `section', `page' or `all'%
2487 }%

```

```

2488 }{%
2489   \expandafter\let\expandafter\Hy@linktoc
2490   \csname Hy@linktoc@#1\endcsname
2491 }%
2492 }
2493 \define@key{Hyp}{extension}{\def\XR@ext{#1}}
2494 \let\XR@ext\relax
2495 \define@key{Hyp}{verbose}[true]{%
2496   \Hy@boolkey{verbose}{#1}%
2497 }

```

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.

```

2498 \define@key{Hyp}{raiselinks}[true]{%
2499   \Hy@boolkey{raiselinks}{#1}%
2500 }

```

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

```

2501 \def\Hy@setbreaklinks#1{%
2502   \csname breaklinks#1\endcsname
2503 }
2504 \def\Hy@breaklinks@unsupported{%
2505   \ifx\Hy@setbreaklinks\@gobble
2506     \ifHy@breaklinks
2507       \Hy@WarningNoLine{%
2508         You have enabled option `breaklinks'.\MessageBreak
2509         But driver ``\Hy@driver.def' does not support this.\MessageBreak
2510         Expect trouble with the link areas of broken links%
2511       }%
2512     \fi
2513   \fi
2514 }
2515 \define@key{Hyp}{breaklinks}[true]{%
2516   \Hy@boolkey{breaklinks}{#1}%
2517   \let\Hy@setbreaklinks\@gobble
2518 }
2519 \define@key{Hyp}{localanchorname}[true]{%
2520   \Hy@WarningNoLine{%
2521     Option `localanchorname' is deprecated%
2522   }%
2523   \Hy@boolkey{localanchorname}{#1}%
2524 }

```

Determines whether an automatic anchor is put on each page

```

2525 \define@key{Hyp}{pageanchor}[true]{%
2526   \Hy@boolkey{pageanchor}{#1}%
2527 }

```

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.

```

2528 \define@key{Hyp}{plainpages}[true]{%
2529   \Hy@boolkey{plainpages}{#1}%
2530 }

```

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

```
2531 \define@key{Hyp}{naturalnames}[true]{%
2532   \Hy@boolkey{naturalnames}{#1}%
2533 }
```

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

```
2534 \define@key{Hyp}{hypertextnames}[true]{%
2535   \Hy@boolkey{hypertextnames}{#1}%
2536 }
```

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

```
2537 \define@key{Hyp}{nesting}[true]{%
2538   \Hy@boolkey{nesting}{#1}%
2539 }
```

```
2540 \define@key{Hyp}{destlabel}[true]{%
2541   \Hy@boolkey{destlabel}{#1}%
2542 }
```

```
2543 \define@key{Hyp}{unicode}[true]{%
2544   \Hy@boolkey{unicode}{#1}%
2545   \ifHy@unicode
2546     \def\HyPsd@pdfencoding{unicode}%
2547     \HyPsd@LoadUnicode
2548   \else
2549     \def\HyPsd@pdfencoding{pdfdoc}%
2550   \fi
2551 }
```

```
2552 \Hy@AtBeginDocument{%
2553   \ifx\HyPsd@LoadUnicode\relax
2554   \else
2555     \def\HyPsd@LoadUnicode{%
2556       \Hy@Error{%
2557         Unicode support for bookmarks is not available.\MessageBreak
2558         Activate unicode support by using one of the options\MessageBreak
2559         `unicode', `pdfencoding=unicode', `pdfencoding=auto'\MessageBreak
2560         in the preamble%
2561       }\@ehc
2562       \global\let\HyPsd@LoadUnicode\relax
2563       \global\Hy@unicodedefalse
2564       \global\let\Hy@unicodetrue\Hy@unicodedefalse
2565     }%
2566   \fi
2567 }
```

```
2568 \define@key{Hyp}{pdfencoding}{%
2569   \edef\HyPsd@temp{#1}%
2570   \ifx\HyPsd@temp\HyPsd@pdfencoding@pdfdoc
2571     \let\HyPsd@pdfencoding\HyPsd@temp
2572     \Hy@unicodedefalse
2573   \else
2574     \ifcase\ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
2575       \z@
2576     \else
```

```

2577         \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
2578         \z@
2579         \else
2580         \@ne
2581         \fi
2582     \fi
2583     \let\HyPsd@pdfencoding\HyPsd@temp
2584     \hypersetup{unicode}%
2585     \ifHy@unicode
2586     \def\HyPsd@pdfencoding{#1}%
2587     \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
2588     \HyPsd@LoadStringEncoding
2589     \fi
2590     \else
2591     \Hy@Warning{Cannot switch to unicode bookmarks}%
2592     \let\HyPsd@pdfencoding\HyPsd@pdfencoding@pdfdoc
2593     \fi
2594     \else
2595     \@onelevel@sanitize\HyPsd@temp
2596     \Hy@Warning{%
2597         Values of option `pdfencoding':\MessageBreak
2598         `pdfdoc', `unicode', `auto'.\MessageBreak
2599         Ignoring unknown value `\HyPsd@temp'%
2600     }%
2601     \fi
2602 \fi
2603 }
2604 \def\HyPsd@pdfencoding@auto{auto}
2605 \def\HyPsd@pdfencoding@pdfdoc{pdfdoc}
2606 \def\HyPsd@pdfencoding@unicode{unicode}

```

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

```

2607 \let\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
2608 \HyPsd@LoadUnicode
2609 \def\HyPsd@LoadStringEncoding{%
2610     \RequirePackage{stringenc}[2009/12/15]%
2611     \let\HyPsd@LoadStringEncoding\relax
2612 }
2613 \Hy@AtBeginDocument{%
2614     \@ifpackageloaded{stringenc}{%
2615         \let\HyPsd@LoadStringEncoding\relax
2616     }{%
2617         \def\HyPsd@LoadStringEncoding{%
2618             \Hy@WarningNoLine{%
2619                 Missing package `stringenc'. Use `pdfencoding=auto'\MessageBreak
2620                 in the preamble or load the package there%
2621             }%
2622         }%
2623     }%
2624 }
2625 \define@key{Hyp}{psdextra}[true]{%
2626     \Hy@boolkey{psdextra}{#1}%
2627     \HyPsd@LoadExtra
2628 }

```

```

2629 \def\hypersetup{\kvsetkeys{Hyp}}
2630 \newif\ifHy@setpdfversion
2631 \define@key{Hyp}{pdfversion}{%
2632   \@ifundefined{Hy@pdfversion@#1}{%
2633     \PackageWarning{hyperref}{%
2634       Unsupported PDF version `#1'.\MessageBreak
2635       Valid values: 1.2-1.7, 2.0%
2636     }%
2637   }%
2638   \Hy@setpdfversiontrue
2639   \@nameuse{Hy@pdfversion@#1}%
2640 }%
2641 }

\Hy@pdfminorversion already used elsewhere to denote \pdfminorversion or
\pdfvariable majorversion} so introduce new names here.
2642 \@namedef{Hy@pdfversion@1.2}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
  norversion{2}}%
2643 \@namedef{Hy@pdfversion@1.3}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
  norversion{3}}%
2644 \@namedef{Hy@pdfversion@1.4}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
  norversion{4}}%
2645 \@namedef{Hy@pdfversion@1.5}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
  norversion{5}}%
2646 \@namedef{Hy@pdfversion@1.6}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
  norversion{6}}%
2647 \@namedef{Hy@pdfversion@1.7}{\def\Hy@pdf@majorversion{1}\def\Hy@pdf@mi-
  norversion{7}}%
2648 \@namedef{Hy@pdfversion@2.0}{\def\Hy@pdf@majorversion{2}\def\Hy@pdf@mi-
  norversion{0}}%
2649 \def\Hy@pdf@majorversion{1}\def\Hy@pdf@minorversion{5}

Legacy name, earlier releases assumed 1.x
2650 \let\Hy@pdfversion\Hy@pdf@minorversion
2651 \def\Hy@pdf@majorminor@version{\numexpr100*\Hy@pdf@majorversion+\Hy@pdf@mi-
  norversion\relax}
2652 \def\Hy@pdfmajorminor@version{\numexpr100*\Hy@pdfmajorversion+\Hy@pdfmi-
  norversion\relax}

if pdfminorversion is defined, make sure pdfmajorversion is too.
2653 \@ifundefined{pdfminorversion}{}{%
2654   \@ifundefined{pdfmajorversion}{}%
2655   \newcount\pdfmajorversion
2656   \pdfmajorversion=1
2657 }{}%
2658 }
2659 \ifx\pdfmajorversion\undefined\else
2660 \def\Hy@pdfmajorversion{\pdfmajorversion}
2661 \fi

```

10 Options for different drivers

```

2662 \newif\ifHy@DviMode
2663 \let\Hy@DviErrMsg\ltx@empty
2664 \ifpdf
2665   \def\Hy@DviErrMsg{pdfTeX or LuaTeX is running in PDF mode}%

```

```

2666 \else
2667 \ifxetex
2668 \def\Hy@DviErrMsg{XeTeX is running}%
2669 \else
2670 \ifvtex
2671 \ifnum\OpMode=\z@
2672 \Hy@DviModetrue
2673 \else
2674 \def\Hy@DviErrMsg{VTeX is running, but not in DVI mode}%
2675 \fi
2676 \else
2677 \Hy@DviModetrue
2678 \fi
2679 \fi
2680 \fi
2681 \def\HyOpt@CheckDvi#1{%
2682 \ifHy@DviMode
2683 \expandafter\ltx@firstofone
2684 \else
2685 \Hy@Error{%
2686 Wrong DVI mode driver option `#1',\MessageBreak
2687 because \Hy@DviErrMsg
2688 }\@ehc
2689 \expandafter\ltx@gobble
2690 \fi
2691 }
2692 \DeclareVoidOption{tex4ht}{%
2693 \Hy@texhttrue
2694 \kvsetkeys{Hyp}{colorlinks=true}%
2695 \def\BeforeTeXIVht{\RequirePackage{color}}}%
2696 \def\Hy@driver{htex4ht}%
2697 \def\MaybeStopEarly{%
2698 \Hy@Message{Stopped early}}%
2699 \Hy@AtBeginDocument{%
2700 \PDF@FinishDoc
2701 \gdef\PDF@FinishDoc{}}%
2702 }%
2703 \endinput
2704 }%
2705 }
2706 \DeclareVoidOption{pdftex}{%
2707 \ifpdf
2708 \def\Hy@driver{hpdftex}%
2709 \PassOptionsToPackage{pdftex}{color}%
2710 \else
2711 \Hy@Error{%
2712 Wrong driver option `pdftex',\MessageBreak
2713 because pdfTeX in PDF mode is not detected%
2714 }\@ehc
2715 \fi
2716 }
2717 \DeclareVoidOption{luatex}{%
2718 \ifpdf
2719 \ifx\pdfextension\@undefined

```

```

2720 \def\Hy@driver{hpdfTeX}%
2721 \PassOptionsToPackage{pdfTeX}{color}%
2722 \else
2723 \def\Hy@driver{hluatex}%
2724 \PassOptionsToPackage{luatex}{color}%
2725 \fi
2726 \else
2727 \Hy@Error{%
2728   Wrong driver option `luatex',\MessageBreak
2729   because luaTeX in PDF mode is not detected%
2730 } \@ehc
2731 \fi
2732 }
2733 \DeclareVoidOption{nativepdf}{%
2734 \HyOpt@CheckDvi{nativepdf}{%
2735 \def\Hy@driver{hdvips}%
2736 \PassOptionsToPackage{dvips}{color}%
2737 }%
2738 }
2739 \DeclareVoidOption{dvipdfm}{%
2740 \HyOpt@CheckDvi{dvipdfm}{%
2741 \def\Hy@driver{hdvipdfm}%
2742 }%
2743 }
2744 \DeclareVoidOption{dvipdfmx}{%
2745 \HyOpt@CheckDvi{dvipdfmx}{%
2746 \def\Hy@driver{hdvipdfm}%
2747 \PassOptionsToPackage{dvipdfmx}{color}%
2748 }%
2749 }
2750 \define@key{Hyp}{dvipdfmx-outline-open}[true]{%
2751 \expandafter\ifx\csname if#1\expandafter\endcsname
2752 \csname iftrue\endcsname
2753 \chardef\SpecialDvipdfmxOutlineOpen\@ne
2754 \else
2755 \chardef\SpecialDvipdfmxOutlineOpen\z@
2756 \fi
2757 }
2758 \DeclareVoidOption{xetex}{%
2759 \ifxetex
2760 \def\Hy@driver{hxetex}%
2761 \else
2762 \Hy@Error{%
2763   Wrong driver option `xetex',\MessageBreak
2764   because XeTeX is not detected%
2765 } \@ehc
2766 \fi
2767 }
2768 \DeclareVoidOption{pdfmark}{%
2769 \HyOpt@CheckDvi{pdfmark}{%
2770 \def\Hy@driver{hdvips}%
2771 }%
2772 }
2773 \DeclareVoidOption{dvips}{%

```

```

2774 \HyOpt@CheckDvi{dvips}{%
2775   \def\Hy@driver{hdvips}%
2776   \PassOptionsToPackage{dvips}{color}%
2777 }%
2778 }
2779 \DeclareVoidOption{hypertex}{%
2780   \HyOpt@CheckDvi{hypertex}{%
2781     \def\Hy@driver{hypertex}%
2782   }%
2783 }
2784 \let\Hy@MaybeStopNow\relax
2785 \DeclareVoidOption{vtex}{%
2786   \ifvtex
2787     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2788     \def\Hy@driver{hvtex}%
2789   \else
2790     \ifnum\OpMode=10\relax
2791     \def\Hy@driver{hvtexhtm}%
2792     \def\MaybeStopEarly{%
2793       \Hy@Message{Stopped early}%
2794       \Hy@AtBeginDocument{%
2795         \PDF@FinishDoc
2796         \gdef\PDF@FinishDoc{}%
2797       }%
2798     \endinput
2799   }%
2800   \else
2801     \Hy@Error{%
2802       Wrong driver option `vtex',\MessageBreak
2803       because of wrong OpMode (\the\OpMode)%
2804     }\@ehc
2805   \fi
2806   \fi
2807 \else
2808   \Hy@Error{%
2809     Wrong driver option `vtex',\MessageBreak
2810     because VTeX is not running%
2811   }\@ehc
2812 \fi
2813 }
2814 \DeclareVoidOption{vtexpdfmark}{%
2815   \ifvtex
2816     \ifnum 0\ifnum\OpMode<1 1\fi \ifnum\OpMode>3 1\fi =0 %
2817     \def\Hy@driver{hvtexmrk}%
2818   \else
2819     \Hy@Error{%
2820       Wrong driver option `vtexpdfmark',\MessageBreak
2821       because of wrong OpMode (\the\OpMode)%
2822     }\@ehc
2823   \fi
2824   \else
2825     \Hy@Error{%
2826       Wrong driver option `vtexpdfmark',\MessageBreak
2827       because VTeX is not running%

```

```

2828   }\@ehc
2829   \fi
2830 }
2831 \DeclareVoidOption{dviwindo}{}%
2832 \HyOpt@CheckDvi{dviwindo}{}%
2833   \def\Hy@driver{hdvwind}%
2834   \kvsetkeys{Hyp}{colorlinks}%
2835   \PassOptionsToPackage{dviwindo}{color}%
2836 }%
2837 }
2838 \DeclareVoidOption{dvipsone}{}%
2839 \HyOpt@CheckDvi{dvipsone}{}%
2840   \def\Hy@driver{hdvipson}%
2841   \PassOptionsToPackage{dvipsone}{color}%
2842 }%
2843 }
2844 \DeclareVoidOption{textures}{}%
2845 \HyOpt@CheckDvi{textures}{}%
2846   \def\Hy@driver{htexture}%
2847 }%
2848 }
2849 \DeclareVoidOption{latex2html}{}%
2850 \Hy@Warning{Option `latex2html` is obsolete. \MessageBreak
2851   A current html.sty will do all necessary (re)definitions%
2852 }%
2853 }

```

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

```

2854 \DeclareVoidOption{ps2pdf}{}%
2855 \HyOpt@CheckDvi{ps2pdf}{}%
2856   \def\Hy@driver{hdvips}%
2857   \PassOptionsToPackage{dvips}{color}%
2858 }%
2859 }
2860 \let\HyOpt@DriverFallback\ltx@empty
2861 \define@key{Hyp}{driverfallback}{}%
2862   \ifHy@DviMode
2863     \def\HyOpt@DriverFallback{#1}%
2864     \Hy@Match\HyOpt@DriverFallback{}{
2865       ~(|dvipdfm|dvipdfmx|dvips|dvipsone|dviwindo|hypertex|ps2pdf|
2866         latex2html|tex4ht)$%
2867     }{}{
2868       \Hy@Warning{
2869         Invalid driver `#1' for option\MessageBreak
2870         `driverfallback'%
2871       }%
2872       \let\HyOpt@DriverFallback\ltx@empty
2873     }%
2874   \fi
2875 }
2876 \let\HyOpt@CustomDriver\ltx@empty
2877 \define@key{Hyp}{customdriver}{}%
2878 \IfFileExists{#1.def}{%
2879   \def\HyOpt@CustomDriver{#1}%

```

```

2880 }{%
2881   \Hy@Warning{%
2882     Missing driver file `#1.def',\MessageBreak
2883     ignoring custom driver%
2884   }%
2885 }%
2886 }

```

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.

```

2887 \define@key{Hyp}{hyperfigures}[true]{%
2888   \Hy@boolkey{hyperfigures}{#1}%
2889 }

```

The automatic footnote linking can be disabled by option hyperfootnotes.

```

2890 \define@key{Hyp}{hyperfootnotes}[true]{%
2891   \Hy@boolkey{hyperfootnotes}{#1}%
2892 }

```

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

```

2893 \def\back@none{none}
2894 \def\back@section{section}
2895 \def\back@page{page}
2896 \def\back@slide{slide}
2897 \define@key{Hyp}{backref}[section]{%
2898   \lowercase{\def\Hy@tempa{#1}}%
2899   \ifx\Hy@tempa\@empty
2900     \let\Hy@tempa\back@section
2901   \fi
2902   \ifx\Hy@tempa\Hy@false
2903     \let\Hy@tempa\back@none
2904   \fi
2905   \ifx\Hy@tempa\back@slide
2906     \let\Hy@tempa\back@section
2907   \fi
2908   \ifx\Hy@tempa\back@page
2909     \PassOptionsToPackage{hyperpageref}{backref}%
2910     \Hy@backreftrue
2911   \else
2912     \ifx\Hy@tempa\back@section
2913       \PassOptionsToPackage{hyperref}{backref}%
2914       \Hy@backreftrue
2915     \else
2916       \ifx\Hy@tempa\back@none
2917         \Hy@backreffalse
2918       \else
2919         \Hy@WarnOptionValue{#1}{backref}{%
2920           `section', `slide', `page', `none',\MessageBreak
2921           or `false'}%
2922       \fi
2923     \fi
2924   \fi
2925 }

```

```

2926 \define@key{Hyp}{pagebackref}[true]{%
2927   \edef\Hy@tempa{#1}%
2928   \lowercase\expandafter{%
2929     \expandafter\def\expandafter\Hy@tempa\expandafter{\Hy@tempa}%
2930   }%
2931   \ifx\Hy@tempa\@empty
2932     \let\Hy@tempa\Hy@true
2933   \fi
2934   \ifx\Hy@tempa\Hy@true
2935     \PassOptionsToPackage{hyperpageref}{backref}%
2936     \Hy@backreftrue
2937   \else
2938     \ifx\Hy@tempa\Hy@false
2939       \Hy@backreffalse
2940     \else
2941       \Hy@WarnOptionValue{#1}{pagebackref}{`true' or `false'}%
2942     \fi
2943   \fi
2944 }

```

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

```

2945 \define@key{Hyp}{hyperindex}[true]{%
2946   \Hy@boolkey{hyperindex}{#1}%
2947 }

```

Configuration of encap char.

```

2948 \define@key{Hyp}{encap}[|]{%
2949   \def\HyInd@EncapChar{#1}%
2950 }

```

12 Language options

The `\expandafter \cmd@to@cs \string \autoref` feature depends on the language.

```

2951 \def\HyLang@afrikaans{%
2952   \def\equationautorefname{Vergelyking}%
2953   \def\footnoteautorefname{Voetnota}%
2954   \def\itemautorefname{Item}%
2955   \def\figureautorefname{Figuur}%
2956   \def\tableautorefname{Tabel}%
2957   \def\partautorefname{Deel}%
2958   \def\appendixautorefname{Bylae}%
2959   \def\chapterautorefname{Hoofstuk}%
2960   \def\sectionautorefname{Afdeling}%
2961   \def\subsectionautorefname{Subafdeling}%
2962   \def\subsubsectionautorefname{Subsubafdeling}%
2963   \def\paragraphautorefname{Paragraaf}%
2964   \def\subparagraphautorefname{Subparagraaf}%
2965   \def\FancyVerbLineautorefname{Lyn}%
2966   \def\theoremautorefname{Teorema}%
2967   \def\pageautorefname{Bladsy}%
2968 }

```

```

2969 \def\HyLang@english{%
2970   \def\equationautorefname{Equation}%
2971   \def\footnoteautorefname{footnote}%
2972   \def\itemautorefname{item}%
2973   \def\figureautorefname{Figure}%
2974   \def\tableautorefname{Table}%
2975   \def\partautorefname{Part}%
2976   \def\appendixautorefname{Appendix}%
2977   \def\chapterautorefname{chapter}%
2978   \def\sectionautorefname{section}%
2979   \def\subsectionautorefname{subsection}%
2980   \def\subsubsectionautorefname{subsubsection}%
2981   \def\paragraphautorefname{paragraph}%
2982   \def\subparagraphautorefname{subparagraph}%
2983   \def\FancyVerbLineautorefname{line}%
2984   \def\theoremautorefname{Theorem}%
2985   \def\pageautorefname{page}%
2986 }
2987 \def\HyLang@french{%
2988   \def\equationautorefname{'equation}%
2989   \def\footnoteautorefname{note}%
2990   \def\itemautorefname{item}%
2991   \def\figureautorefname{figure}%
2992   \def\tableautorefname{tableau}%
2993   \def\partautorefname{partie}%
2994   \def\appendixautorefname{annexe}%
2995   \def\chapterautorefname{chapitre}%
2996   \def\sectionautorefname{section}%
2997   \def\subsectionautorefname{sous-section}%
2998   \def\subsubsectionautorefname{sous-sous-section}%
2999   \def\paragraphautorefname{paragraphe}%
3000   \def\subparagraphautorefname{sous-paragraphe}%
3001   \def\FancyVerbLineautorefname{ligne}%
3002   \def\theoremautorefname{th\'eor\`eme}%
3003   \def\pageautorefname{page}%
3004 }
3005 \def\HyLang@german{%
3006   \def\equationautorefname{Gleichung}%
3007   \def\footnoteautorefname{Fu\ss note}%
3008   \def\itemautorefname{Punkt}%
3009   \def\figureautorefname{Abbildung}%
3010   \def\tableautorefname{Tabelle}%
3011   \def\partautorefname{Teil}%
3012   \def\appendixautorefname{Anhang}%
3013   \def\chapterautorefname{Kapitel}%
3014   \def\sectionautorefname{Abschnitt}%
3015   \def\subsectionautorefname{Unterabschnitt}%
3016   \def\subsubsectionautorefname{Unterunterabschnitt}%
3017   \def\paragraphautorefname{Absatz}%
3018   \def\subparagraphautorefname{Unterabsatz}%
3019   \def\FancyVerbLineautorefname{Zeile}%
3020   \def\theoremautorefname{Theorem}%
3021   \def\pageautorefname{Seite}%
3022 }

```

```

3023 \def\HyLang@italian{%
3024   \def\equationautorefname{Equazione}%
3025   \def\footnoteautorefname{nota}%
3026   \def\itemautorefname{punto}%
3027   \def\figureautorefname{Figura}%
3028   \def\tableautorefname{Tabella}%
3029   \def\partautorefname{Parte}%
3030   \def\appendixautorefname{Appendice}%
3031   \def\chapterautorefname{Capitolo}%
3032   \def\sectionautorefname{sezione}%
3033   \def\subsectionautorefname{sottosezione}%
3034   \def\subsubsectionautorefname{sottosottosezione}%
3035   \def\paragraphautorefname{paragrafo}%
3036   \def\subparagraphautorefname{sottoparagrafo}%
3037   \def\FancyVerbLineautorefname{linea}%
3038   \def\theoremautorefname{Teorema}%
3039   \def\pageautorefname{Pag.\@}%
3040 }
3041 \def\HyLang@magyar{%
3042   \def\equationautorefname{Egyenlet}%
3043   \def\footnoteautorefname{\'l\'abjegyzet}%
3044   \def\itemautorefname{Elem}%
3045   \def\figureautorefname{\'Abra}%
3046   \def\tableautorefname{T\'abl\'azat}%
3047   \def\partautorefname{R\'esz}%
3048   \def\appendixautorefname{F\'uggel\'ek}%
3049   \def\chapterautorefname{fejezet}%
3050   \def\sectionautorefname{szakasz}%
3051   \def\subsectionautorefname{alszakasz}%
3052   \def\subsubsectionautorefname{alalszakasz}%
3053   \def\paragraphautorefname{bekezd\'es}%
3054   \def\subparagraphautorefname{albekezd\'es}%
3055   \def\FancyVerbLineautorefname{sor}%
3056   \def\theoremautorefname{T\'etel}%
3057   \def\pageautorefname{oldal}%
3058 }
3059 \def\HyLang@portuges{%
3060   \def\equationautorefname{Equa\c c\~ao}%
3061   \def\footnoteautorefname{Nota de rodap\'e}%
3062   \def\itemautorefname{Item}%
3063   \def\figureautorefname{Figura}%
3064   \def\tableautorefname{Tabela}%
3065   \def\partautorefname{Parte}%
3066   \def\appendixautorefname{Ap\~endice}%
3067   \def\chapterautorefname{Cap\'itulo}%
3068   \def\sectionautorefname{Se\c c\~ao}%
3069   \def\subsectionautorefname{Subse\c c\~ao}%
3070   \def\subsubsectionautorefname{Subsubse\c c\~ao}%
3071   \def\paragraphautorefname{par\'agrafo}%
3072   \def\subparagraphautorefname{subpar\'agrafo}%
3073   \def\FancyVerbLineautorefname{linha}%
3074   \def\theoremautorefname{Teorema}%
3075   \def\pageautorefname{P\'agina}%
3076 }

```

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`.

```
3077 \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`?

```
3078 \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`.

```
3079 % \def\equationautorefname{%
```

```
3080 % \cyr\cyrv\cyrry\cyrr\cyra\cyrrh\cyre\cyrn\cyri\cyre
```

```
3081 % }%
```

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

```
3082 \def\footnoteautorefname{%
```

```
3083 \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr.\ \cyrp\cyrr\cyri\cyrm.%
```

```
3084 }%
```

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}`”

```
3085 % \def\footnoteautorefname{%
```

```
3086 % \cyr\cyrp\cyro\cyrd\cyrs\cyrt\cyrr\cyro\cyrch\cyrn\cyro\cyre\ %
```

```
3087 % \cyrp\cyrr\cyri\cyrm\cyre\cyrch\cyra\cyrn\cyri\cyre
```

```
3088 % }%
```

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

```
3089 % \def\Nomfootnoteautorefname{\cyr\cyrs\cyrn\cyro\cyrs\cyrk\cyra}%
```

```
3090 % \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.

```
3091 \def\itemautorefname{\cyr\cyrp.}%
```

```
3092 % \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.

```
3093 \def\figureautorefname{\cyr\cyrr\cyri\cyrs.}%
```

```
3094 \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.

```
3095 \def\partautorefname{\cyr\cyrch.}%
```

```

3096 \def\chapterautorefname{\cyr\cyrg\cyr1.}%
3097 \def\sectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%

```

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

```

3098 \def\appendixautorefname{\cyr\cyrp\cyrr\cyri\cyr1.}%
3099 % \def\appendixautorefname{%
3100 %   \cyr\cyrp\cyrr\cyri\cyr1\cyro\cyrrzh\cyre\cyrn\cyri\cyre
3101 % }%

```

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.

```

3102 \def\subsectionautorefname{\cyr\cyrr\cyra\cyrz\cyrd.}%
3103 \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.

```

3104 \def\paragraphautorefname{\cyr\cyrp.}%
3105 \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.

```

3106 % \def\paragraphautorefname{\cyr\cyrp\cyru\cyrn\cyrk\cyrt}%
3107 % \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.

```

3108 \def\FancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr.}%

```

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

```

3109 % \def\NomFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyra}%
3110 % \def\AccFancyVerbLineautorefname{\cyr\cyrs\cyrt\cyrr\cyro\cyrk\cyru}%

```

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

```

3111 % \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 ...

```

3112 \def\theoremautorefname{\cyr\cyrt\cyre\cyro\cyrr.}%

```

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

```

3113 % \def\Nomtheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyra}%
3114 % \def\Acctheoremautorefname{\cyr\cyrt\cyre\cyro\cyrr\cyre\cyrm\cyru}%

```

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

```

3115 \def\pageautorefname{\cyr\cyrs.}%
3116 }

```

```

3117 \def\HyLang@spanish{%
3118   \def\equationautorefname{Ecuaci\`on}%
3119   \def\footnoteautorefname{Nota a pie de p\`agina}%
3120   \def\itemautorefname{Elemento}%
3121   \def\figureautorefname{Figura}%
3122   \def\tableautorefname{Tabla}%
3123   \def\partautorefname{Parte}%
3124   \def\appendixautorefname{Ap\`endice}%
3125   \def\chapterautorefname{Cap\`itulo}%
3126   \def\sectionautorefname{Secci\`on}%
3127   \def\subsectionautorefname{Subsecci\`on}%
3128   \def\subsubsectionautorefname{Subsubsecci\`on}%
3129   \def\paragraphautorefname{P\`arrafo}%
3130   \def\subparagraphautorefname{Subp\`arrafo}%
3131   \def\FancyVerbLineautorefname{L\`inea}%
3132   \def\theoremautorefname{Teorema}%
3133   \def\pageautorefname{P\`agina}%
3134 }

3135 \def\HyLang@catalan{%
3136   \def\equationautorefname{Equaci\`o}%
3137   \def\footnoteautorefname{Nota al peu de p\`agina}%
3138   \def\itemautorefname{Element}%
3139   \def\figureautorefname{Figura}%
3140   \def\tableautorefname{Taula}%
3141   \def\partautorefname{Part}%
3142   \def\appendixautorefname{Ap\`endix}%
3143   \def\chapterautorefname{Cap\`itol}%
3144   \def\sectionautorefname{Secci\`o}%
3145   \def\subsectionautorefname{Subsecci\`o}%
3146   \def\subsubsectionautorefname{Subsubsecci\`o}%
3147   \def\paragraphautorefname{Par\`agraf}%
3148   \def\subparagraphautorefname{Subpar\`agraf}%
3149   \def\FancyVerbLineautorefname{L\`inia}%
3150   \def\theoremautorefname{Teorema}%
3151   \def\pageautorefname{P\`agina}%
3152 }

3153 \def\HyLang@vietnamese{%
3154   \def\equationautorefname{Ph\`uhorn\`}\`ohorn\`ng tr\`inh}%
3155   \def\footnoteautorefname{Ch\`u th\`ich}%
3156   \def\itemautorefname{m\`d\`u\`c}%
3157   \def\figureautorefname{H\`inh}%
3158   \def\tableautorefname{B\`h\`a\`ng}%
3159   \def\partautorefname{Ph\`acircumflex\`n}%
3160   \def\appendixautorefname{Ph\`d\`u\`l\`d\`u\`c}%
3161   \def\chapterautorefname{ch\`uhorn\`}\`ohorn\`ng}%
3162   \def\sectionautorefname{m\`d\`u\`c}%
3163   \def\subsectionautorefname{m\`d\`u\`c}%
3164   \def\subsubsectionautorefname{m\`d\`u\`c}%
3165   \def\paragraphautorefname{\`dj\`o\`d\`a\`n}%
3166   \def\subparagraphautorefname{\`dj\`o\`d\`a\`n}%
3167   \def\FancyVerbLineautorefname{d\`ong}%
3168   \def\theoremautorefname{D\`J\`d\`i\`nh l\`y}%
3169   \def\pageautorefname{Trang}%

```



```

3206 }
3207 \def\HyLang@norsk{%
3208   \def\equationautorefname{Ligning}%
3209   \def\footnoteautorefname{fotnote}%
3210   \def\itemautorefname{element}%
3211   \def\figureautorefname{Figur}%
3212   \def\tableautorefname{Tabell}%
3213   \def\partautorefname{Del}%
3214   \def\appendixautorefname{Tillegg}%
3215   \def\chapterautorefname{kapittel}%
3216   \def\sectionautorefname{seksjon}%
3217   \def\subsectionautorefname{underseksjon}%
3218   \def\subsubsectionautorefname{under-underseksjon}%
3219   \def\paragraphautorefname{avsnitt}%
3220   \def\subparagraphautorefname{underavsnitt}%
3221   \def\FancyVerbLineautorefname{Linje}%
3222   \def\theoremautorefname{Teorem}%
3223   \def\pageautorefname{side}%
3224 }
3225 \def\HyLang@danish{%
3226   \def\equationautorefname{Ligning}%
3227   \def\footnoteautorefname{fodnote}%
3228   \def\itemautorefname{element}%
3229   \def\figureautorefname{Figur}%
3230   \def\tableautorefname{Tabel}%
3231   \def\partautorefname{Del}%
3232   \def\appendixautorefname{Bilag}%
3233   \def\chapterautorefname{kapitel}%
3234   \def\sectionautorefname{sektion}%
3235   \def\subsectionautorefname{under-sektion}%
3236   \def\subsubsectionautorefname{under-under-sektion}%
3237   \def\paragraphautorefname{afsnit}%
3238   \def\subparagraphautorefname{underafsnit}%
3239   \def\FancyVerbLineautorefname{linje}%
3240   \def\theoremautorefname{Teorem}%
3241   \def\pageautorefname{side}%
3242 }

```

Instead of package babel's definition of `\expandafter \cmd@to@cs \string \addto` the implementation of package `varioref` is used. Additionally argument `#1` is checked for `\expandafter \cmd@to@cs \string \relax`.

```

3243 \def\HyLang@addto#1#2{%
3244   #2%
3245   \@temptokena{#2}%
3246   \ifx#1\relax
3247     \let#1\@empty
3248   \fi
3249   \ifx#1\@undefined
3250     \edef#1{\the\@temptokena}%
3251   \else
3252     \toks@{\expandafter{#1}}%
3253     \edef#1{\the\toks@\the\@temptokena}%
3254   \fi
3255   \@temptokena{}\toks@\@temptokena

```

```

3256 }

3257 \def\HyLang@DeclareLang#1#2#3{%
3258   \@ifpackagewith{babel}{#1}{%
3259     \expandafter\HyLang@addto
3260     \csname extras#1\expandafter\endcsname
3261     \csname HyLang@#2\endcsname
3262     \begingroup
3263     \edef\x{\endgroup
3264       #3%
3265     }%
3266     \x
3267     \@namedef{HyLang@#1@done}{}%
3268   }{%
3269     \begingroup
3270     \edef\x##1##2{%
3271       \noexpand\ifx##2\relax
3272         \errmessage{No definitions for language #2' found!}%
3273       \noexpand\fi
3274     \endgroup
3275     \noexpand\define@key{Hyp}{#1}[]{%
3276       \noexpand\@ifundefined{HyLang@#1@done}{%
3277         \noexpand\HyLang@addto{\noexpand##1}{\noexpand##2}%
3278         #3%
3279         \noexpand\@namedef{HyLang@#1@done}{}%
3280       }{%
3281       }%
3282     }%
3283     \expandafter\x\csname extras#1\expandafter\endcsname
3284     \csname HyLang@#2\endcsname
3285   }

3286 \HyLang@DeclareLang{english}{english}{%
3287 \HyLang@DeclareLang{UKenglish}{english}{%
3288 \HyLang@DeclareLang{british}{english}{%
3289 \HyLang@DeclareLang{USenglish}{english}{%
3290 \HyLang@DeclareLang{american}{english}{%
3291 \HyLang@DeclareLang{german}{german}{%
3292 \HyLang@DeclareLang{austrian}{german}{%
3293 \HyLang@DeclareLang{ngerman}{german}{%
3294 \HyLang@DeclareLang{naustrian}{german}{%
3295 \HyLang@DeclareLang{russian}{russian}{\noexpand\hypersetup{unicode}}
3296 \HyLang@DeclareLang{brazil}{portuges}{%
3297 \HyLang@DeclareLang{brazilian}{portuges}{%
3298 \HyLang@DeclareLang{portuguese}{portuges}{%
3299 \HyLang@DeclareLang{spanish}{spanish}{%
3300 \HyLang@DeclareLang{catalan}{catalan}{%
3301 \HyLang@DeclareLang{afrikaans}{afrikaans}{%
3302 \HyLang@DeclareLang{french}{french}{%
3303 \HyLang@DeclareLang{frenchb}{french}{%
3304 \HyLang@DeclareLang{francais}{french}{%
3305 \HyLang@DeclareLang{acadian}{french}{%
3306 \HyLang@DeclareLang{canadien}{french}{%
3307 \HyLang@DeclareLang{italian}{italian}{%
3308 \HyLang@DeclareLang{magyar}{magyar}{%
3309 \HyLang@DeclareLang{hungarian}{magyar}{%

```

```

3310 \HyLang@DeclareLang{greek}{greek}{}
3311 \HyLang@DeclareLang{dutch}{dutch}{}
3312 \HyLang@DeclareLang{norsk}{norsk}{}
3313 \HyLang@DeclareLang{norwegian}{norsk}{}
3314 \HyLang@DeclareLang{danish}{danish}{}

```

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

```

3315 \DeclareVoidOption{vietnamese}{%
3316   \HyLang@addto\extrasvietnamese\HyLang@vietnamese
3317   \Hy@AtEndOfPackage{%
3318     \@ifundefined{T@PU}{}{}%
3319     \input{puvnenc.def}%
3320   }%
3321 }%
3322 }
3323 \DeclareVoidOption{vietnam}{%
3324   \HyLang@addto\extravietnam\HyLang@vietnamese
3325   \Hy@AtEndOfPackage{%
3326     \@ifundefined{T@PU}{}{}%
3327     \input{puvnenc.def}%
3328   }%
3329 }%
3330 }

```

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

```

3331 \DeclareVoidOption{arabic}{%
3332   \Hy@AtEndOfPackage{%
3333     \@ifundefined{T@PU}{}{}%
3334     \input{puarenc.def}%
3335   }%
3336 }%
3337 }

```

13 Options to change appearance of links

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

```

3338 \define@key{Hyp}{colorlinks}[true]{%
3339   \Hy@boolkey{colorlinks}{#1}%
3340 }
3341 \DeclareVoidOption{hidelinks}{%
3342   \Hy@colorlinksfalse
3343   \Hy@ocgcolorlinksfalse
3344   \Hy@frenchlinksfalse
3345   \def\Hy@colorlink##1{\begingroup}%
3346   \def\Hy@endcolorlink{\endgroup}%
3347   \def\@pdfborder{0 0 0}%
3348   \let\@pdfborderstyle\ltx@empty
3349 }
3350 \define@key{Hyp}{ocgcolorlinks}[true]{%
3351   \Hy@boolkey{ocgcolorlinks}{#1}%
3352 }
3353 \Hy@AtBeginDocument{%
3354   \begingroup

```

```

3355 \ifundefined{OBJ@OCG@view}{%
3356 \ifHy@ocgcolorlinks
3357 \Hy@Warning{%
3358     Driver does not support `ocgcolorlinks',\MessageBreak
3359     using `colorlinks' instead%
3360 }%
3361 \fi
3362 }{}%
3363 \endgroup
3364 }
3365 \define@key{Hyp}{frenchlinks}[true]{%
3366 \Hy@boolkey{frenchlinks}{#1}%
3367 }

```

14 Bookmarking

```

3368 \begingroup\expandafter\expandafter\expandafter\endgroup
3369 \expandafter\ifx\csname chapter\endcsname\relax
3370 \def\toclevel@part{0}%
3371 \else
3372 \def\toclevel@part{-1}%
3373 \fi
3374 \def\toclevel@chapter{0}
3375 \def\toclevel@section{1}
3376 \def\toclevel@subsection{2}
3377 \def\toclevel@subsubsection{3}
3378 \def\toclevel@paragraph{4}
3379 \def\toclevel@subparagraph{5}
3380 \def\toclevel@figure{0}
3381 \def\toclevel@table{0}

3382 \define@key{Hyp}{bookmarks}[true]{%
3383 \Hy@boolkey{bookmarks}{#1}%
3384 }

3385 \define@key{Hyp}{bookmarksopen}[true]{%
3386 \Hy@boolkey{bookmarksopen}{#1}%
3387 }

```

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.

```

3388 \let\Hy@bookmarksdepth\c@tocdepth
3389 \define@key{Hyp}{bookmarksdepth}[]{}%
3390 \begingroup
3391 \edef\x{#1}%
3392 \ifx\x\empty

```

```

3393 \global\let\Hy@bookmarksdepth\c@tocdepth
3394 \else
3395 \ifundefined{toclevel@x}{%
3396 \onelevel@sanitize\x
3397 \edef\y{\expandafter\car\x\@nil}%
3398 \ifcase 0\expandafter\ifx\y-1\fi
3399 \expandafter\ifnum\expandafter\y>47 %
3400 \expandafter\ifnum\expandafter\y<58 1\fi\fi\relax
3401 \Hy@Warning{Unknown document division name (\x)}%
3402 \else
3403 \setbox\z@=\hbox{%
3404 \count@=\x
3405 \xdef\Hy@bookmarksdepth{\the\count@}%
3406 }%
3407 \fi
3408 }{%
3409 \setbox\z@=\hbox{%
3410 \count@=\csname toclevel@x\endcsname
3411 \xdef\Hy@bookmarksdepth{\the\count@}%
3412 }%
3413 }%
3414 \fi
3415 \endgroup
3416 }

```

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

```

3417 \define@key{Hyp}{bookmarksopenlevel}{%
3418 \def\@bookmarksopenlevel{#1}%
3419 }
3420 \def\@bookmarksopenlevel{\maxdimen}
3421 % `bookmarkstype' to specify which `toc' file to mimic
3422 \define@key{Hyp}{bookmarkstype}{%
3423 \def\Hy@bookmarkstype{#1}%
3424 }
3425 \def\Hy@bookmarkstype{toc}

```

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

```

3426 \define@key{Hyp}{bookmarksnumbered}[true]{%
3427 \Hy@boolkey{bookmarksnumbered}{#1}%
3428 }

```

Option CJKbookmarks enables the patch for CJK bookmarks.

```

3429 \define@key{Hyp}{CJKbookmarks}[true]{%
3430 \Hy@boolkey{CJKbookmarks}{#1}%
3431 }
3432 \def\Hy@temp#1{%
3433 \expandafter\Hy@@temp\csname @#1color\endcsname{#1}%
3434 }
3435 \def\Hy@@temp#1#2#3{%
3436 \define@key{Hyp}{#2color}{%
3437 \HyColor@HyperrefColor{##1}#1%
3438 }%
3439 \def#1{#3}%
3440 }

```

```

3441 \Hy@temp{link}{red}
3442 \Hy@temp{anchor}{black}
3443 \Hy@temp{cite}{green}
3444 \Hy@temp{file}{cyan}
3445 \Hy@temp{url}{magenta}
3446 \Hy@temp{menu}{red}
3447 \Hy@temp{run}{\@filecolor}
3448 \define@key{Hyp}{pagecolor}{%
3449   \Hy@WarningPageColor
3450 }
3451 \def\Hy@WarningPageColor{%
3452   \Hy@WarningNoLine{Option `pagecolor' is not available anymore}%
3453   \global\let\Hy@WarningPageColor\relax
3454 }
3455 \define@key{Hyp}{allcolors}{%
3456   \HyColor@HyperrefColor{#1}\@linkcolor
3457   \HyColor@HyperrefColor{#1}\@anchorcolor
3458   \HyColor@HyperrefColor{#1}\@citecolor
3459   \HyColor@HyperrefColor{#1}\@filecolor
3460   \HyColor@HyperrefColor{#1}\@urlcolor
3461   \HyColor@HyperrefColor{#1}\@menucolor
3462   \HyColor@HyperrefColor{#1}\@runcolor
3463 }

3464 \def\hyperbaseurl#1{\def\@baseurl{#1}}
3465 \define@key{Hyp}{baseurl}{\hyperbaseurl{#1}}
3466 \let\@baseurl\@empty
3467 \def\hyperlinkfileprefix#1{\def\Hy@linkfileprefix{#1}}
3468 \define@key{Hyp}{linkfileprefix}{\hyperlinkfileprefix{#1}}
3469 \hyperlinkfileprefix{file:}

```

15 PDF-specific options

`\@pdfpagetransition` The value of option `pdfpagetransition` is stored in `\@pdfpagetransition`. Its initial value is set to `\@pdfpagetransition`. Its initial value is set to `\@pdfpagetransition` in order to be able to differentiate between a not used option and an option with an empty value.

```

3470 \let\@pdfpagetransition\relax
3471 \define@key{Hyp}{pdfpagetransition}{%
3472   \def\@pdfpagetransition{#1}%
3473 }

```

`\@pdfpageduration` The value of option `pdfpageduration` is stored in `\@pdfpageduration`. Its initial value is set to `\@pdfpageduration` in order to be able to differentiate between a not used option and an option with an empty value.

```

3474 \let\@pdfpageduration\relax
3475 \define@key{Hyp}{pdfpageduration}{%
3476   \def\@pdfpageduration{#1}%
3477   \Hy@Match\@pdfpageduration{}{}%
3478   ^{([0-9]+\.[0-9]*|[0-9]*\.[0-9]+)}$%
3479 }{}{}%
3480   \Hy@Warning{%

```

```

3481   Invalid value ` \@pdfpageduration'\MessageBreak
3482   of option `pdfpageduration'\MessageBreak
3483   is replaced by an empty value%
3484  }%
3485   \let\@pdfpageduration\ltx@empty
3486  }%
3487 }

```

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).

```

3488 \def\Hy@ColorList{cite,file,link,menu,run,url}
3489 \@for\Hy@temp:=\Hy@ColorList\do{%
3490   \edef\Hy@temp{%
3491     \noexpand\define@key{Hyp}{\Hy@temp bordercolor}{%
3492       \noexpand\HyColor@HyperrefBorderColor
3493       {##1}}%
3494     \expandafter\noexpand\csname @\Hy@temp bordercolor\endcsname
3495     {hyperref}%
3496     {\Hy@temp bordercolor}%
3497   }%
3498 }%
3499 \Hy@temp
3500 }
3501 \define@key{Hyp}{pagebordercolor}{%
3502   \Hy@WarningPageBorderColor
3503 }
3504 \def\Hy@WarningPageBorderColor{%
3505   \Hy@WarningNoLine{Option `pagebordercolor' is not available anymore}%
3506   \global\let\Hy@WarningPageBorderColor\relax
3507 }
3508 \define@key{Hyp}{allbordercolors}{%
3509   \def\Hy@temp##1##2{%
3510     \HyColor@HyperrefBorderColor{##1}##1{hyperref}{##2bordercolor}%
3511   }%
3512   \Hy@temp\@citebordercolor{cite}%
3513   \Hy@temp\@filebordercolor{file}%
3514   \Hy@temp\@linkbordercolor{link}%
3515   \Hy@temp\@menubordercolor{menu}%
3516   \Hy@temp\@runbordercolor{run}%
3517   \Hy@temp\@urlbordercolor{url}%
3518 }
3519 \define@key{Hyp}{pdfhighlight}{\def\@pdfhighlight{##1}}
3520 \Hy@DefNameKey{pdfhighlight}{%
3521   \do{/I}{Invert}%
3522   \do{/N}{None}%
3523   \do{/O}{Outline}%
3524   \do{/P}{Push}%

```

```

3525 }
3526 \def\Hy@setpdfhighlight{%
3527   \ifx\@pdfhighlight\@empty
3528   \else
3529     /H\@pdfhighlight
3530   \fi
3531 }
3532 \define@key{Hyp}{pdfborder}{%
3533   \let\Hy@temp\@pdfborder
3534   \def\@pdfborder{#1}%
3535   \Hy@Match\@pdfborder{}{%
3536     ^\HyPat@NonNegativeReal/ %
3537     \HyPat@NonNegativeReal/ %
3538     \HyPat@NonNegativeReal/%
3539     ( ?\[\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)*\])?$$%
3540   }{}{%
3541     \Hy@Warning{%
3542       Invalid value ` \@pdfborder'\MessageBreak
3543       for option `pdfborder'.\MessageBreak
3544       Option setting is ignored%
3545     }%
3546     \let\@pdfborder\Hy@temp
3547   }%
3548 }
3549 \define@key{Hyp}{pdfborderstyle}{%
3550   \let\Hy@temp\@pdfborderstyle
3551   \def\@pdfborderstyle{#1}%
3552   \Hy@Match\@pdfborderstyle{}{%
3553     ^%
3554     ( */Type */Border%
3555       | */W +\HyPat@NonNegativeReal/%
3556       | */S */[SDBIU]%
3557       | */D *\[ *(\HyPat@NonNegativeReal/( \HyPat@NonNegativeReal/)?)?)%
3558     )* *$%
3559   }{}{%
3560     \Hy@Warning{%
3561       Invalid value ` \@pdfborderstyle'\MessageBreak
3562       for option `pdfborderstyle'.\MessageBreak
3563       Option setting is ignored%
3564     }%
3565     \let\@pdfborderstyle\Hy@temp
3566   }%
3567 }
3568 \def\Hy@setpdfborder{%
3569   \ifx\@pdfborder\@empty
3570   \else
3571     /Border[\@pdfborder]%
3572   \fi
3573   \ifx\@pdfborderstyle\@empty
3574   \else
3575     /BS<<\@pdfborderstyle>>%
3576   \fi
3577 }
3578 \Hy@DefNameKey{pdfpagemode}{%

```

```

3579 \do{UseNone}{}%
3580 \do{UseOutlines}{}%
3581 \do{UseThumbs}{}%
3582 \do{FullScreen}{}%
3583 \do{UseOC}{PDF 1.5}%
3584 \do{UseAttachments}{PDF 1.6}%
3585 }
3586 \Hy@DefNameKey{pdfnonfullscreenpagemode}{%
3587 \do{UseNone}{}%
3588 \do{UseOutlines}{}%
3589 \do{UseThumbs}{}%
3590 \do{FullScreen}{}%
3591 \do{UseOC}{PDF 1.5}%
3592 \do{UseAttachments}{PDF 1.6}%
3593 }
3594 \Hy@DefNameKey{pdfdirection}{%
3595 \do{L2R}{Left to right}%
3596 \do{R2L}{Right to left}%
3597 }
3598 \Hy@DefNameKey{pdfviewarea}{%
3599 \do{MediaBox}{}%
3600 \do{CropBox}{}%
3601 \do{BleedBox}{}%
3602 \do{TrimBox}{}%
3603 \do{ArtBox}{}%
3604 }
3605 \Hy@DefNameKey{pdfviewclip}{%
3606 \do{MediaBox}{}%
3607 \do{CropBox}{}%
3608 \do{BleedBox}{}%
3609 \do{TrimBox}{}%
3610 \do{ArtBox}{}%
3611 }
3612 \Hy@DefNameKey{pdfprintarea}{%
3613 \do{MediaBox}{}%
3614 \do{CropBox}{}%
3615 \do{BleedBox}{}%
3616 \do{TrimBox}{}%
3617 \do{ArtBox}{}%
3618 }
3619 \Hy@DefNameKey{pdfprintclip}{%
3620 \do{MediaBox}{}%
3621 \do{CropBox}{}%
3622 \do{BleedBox}{}%
3623 \do{TrimBox}{}%
3624 \do{ArtBox}{}%
3625 }
3626 \Hy@DefNameKey{pdfprintscaling}{%
3627 \do{AppDefault}{}%
3628 \do{None}{}%
3629 }
3630 \Hy@DefNameKey{pdfduplex}{%
3631 \do{Simplex}{}%
3632 \do{DuplexFlipShortEdge}{}%

```

```

3633 \do{DuplexFlipLongEdge}{}%
3634 }
3635 \Hy@DefNameKey{pdfpicktraybypdfsize}{%
3636 \do{true}{}%
3637 \do{false}{}%
3638 }
3639 \define@key{Hyp}{pdfprintpagerange}{%
3640 \def\@pdfprintpagerange{#1}%
3641 }
3642 \Hy@DefNameKey{pdfnumcopies}{%
3643 \do{2}{two copies}%
3644 \do{3}{three copies}%
3645 \do{4}{four copies}%
3646 \do{5}{five copies}%
3647 }

3648 \define@key{Hyp}{pdfusetitle}[true]{%
3649 \Hy@boolkey{pdfusetitle}{#1}%
3650 }
3651 \def\HyXeTeX@CheckUnicode{%
3652 \ifxetex
3653 \ifHy@unicode
3654 \else
3655 \Hy@WarningNoLine{%
3656 XeTeX driver only supports unicode.\MessageBreak
3657 Enabling option `unicode'%
3658 }%
3659 \kvsetkeys{Hyp}{unicode}%
3660 \fi
3661 \else
3662 \let\HyXeTeX@CheckUnicode\relax
3663 \fi
3664 }
3665 \def\HyPsd@PrerenderUnicode#1{%
3666 \begingroup
3667 \expandafter\ifx\csname PrerenderUnicode\endcsname\relax
3668 \else
3669 \sbox0{%
3670 \let\GenericInfo\@gobbletwo
3671 \let\GenericWarning\@gobbletwo
3672 \let\GenericError\@gobblefour
3673 \PrerenderUnicode{#1}%
3674 }%
3675 \fi
3676 \endgroup
3677 }
3678 \define@key{Hyp}{pdftitle}{%
3679 \HyXeTeX@CheckUnicode
3680 \HyPsd@PrerenderUnicode{#1}%
3681 \pdfstringdef\@pdftitle{#1}%
3682 }
3683 \define@key{Hyp}{pdfauthor}{%
3684 \HyXeTeX@CheckUnicode
3685 \HyPsd@PrerenderUnicode{#1}%
3686 \pdfstringdef\@pdfauthor{#1}%

```

```

3687 }
3688 \define@key{Hyp}{pdfproducer}{%
3689   \HyXeTeX@CheckUnicode
3690   \HyPsd@PrerenderUnicode{#1}%
3691   \pdfstringdef\@pdfproducer{#1}%
3692 }
3693 \define@key{Hyp}{pdfcreator}{%
3694   \HyXeTeX@CheckUnicode
3695   \HyPsd@PrerenderUnicode{#1}%
3696   \pdfstringdef\@pdfcreator{#1}%
3697 }
3698 \define@key{Hyp}{addtopdfcreator}{%
3699   \HyXeTeX@CheckUnicode
3700   \HyPsd@PrerenderUnicode{#1}%
3701   \pdfstringdef\@pdfcreator{\@pdfcreator, #1}%
3702 }
3703 \define@key{Hyp}{pdfcreationdate}{%
3704   \begingroup
3705     \Hy@unicodedefalse
3706     \pdfstringdef\@pdfcreationdate{#1}%
3707   \endgroup
3708 }
3709 \define@key{Hyp}{pdfmoddate}{%
3710   \begingroup
3711     \Hy@unicodedefalse
3712     \pdfstringdef\@pdfmoddate{#1}%
3713   \endgroup
3714 }
3715 \define@key{Hyp}{pdfsubject}{%
3716   \HyXeTeX@CheckUnicode
3717   \HyPsd@PrerenderUnicode{#1}%
3718   \pdfstringdef\@pdfsubject{#1}%
3719 }
3720 \define@key{Hyp}{pdfkeywords}{%
3721   \HyXeTeX@CheckUnicode
3722   \HyPsd@PrerenderUnicode{#1}%
3723   \pdfstringdef\@pdfkeywords{#1}%
3724 }
3725 \define@key{Hyp}{pdftrapped}{%
3726   \lowercase{\edef\Hy@temp{#1}}%
3727   \ifx\Hy@temp\HyInfo@trapped@true
3728     \def\@pdftrapped{True}%
3729   \else
3730     \ifx\Hy@temp\HyInfo@trapped@false
3731       \def\@pdftrapped{False}%
3732     \else
3733       \ifx\Hy@temp\HyInfo@trapped@unknown
3734         \def\@pdftrapped{Unknown}%
3735       \else
3736         \ifx\Hy@temp\@empty
3737           \else
3738             \Hy@Warning{%
3739               Unsupported value `#1'\MessageBreak
3740               for option `pdftrapped'%

```

```

3741     }%
3742     \fi
3743     \def\@pdftrapped{}%
3744     \fi
3745     \fi
3746     \fi
3747 }
3748 \def\HyInfo@trapped@true{true}
3749 \def\HyInfo@trapped@false{false}
3750 \def\HyInfo@trapped@unknown{unknown}
3751 \def\HyInfo@TrappedUnsupported{%
3752   \ifx\@pdftrapped\@empty
3753   \else
3754     \Hy@WarningNoLine{'pdftrapped' is not supported by this driver}%
3755     \gdef\HyInfo@TrappedUnsupported{}%
3756   \fi
3757 }
3758 \define@key{Hyp}{pdfinfo}{%
3759   \kvsetkeys{pdfinfo}{#1}%
3760 }
3761 \def\Hy@temp#1{%
3762   \lowercase{\Hy@temp@A{#1}}{#1}%
3763 }
3764 \def\Hy@temp@A#1#2{%
3765   \define@key{pdfinfo}{#2}{%
3766     \hypersetup{pdf#1={##1}}%
3767   }%
3768 }
3769 \Hy@temp{Title}
3770 \Hy@temp{Author}
3771 \Hy@temp{Keywords}
3772 \Hy@temp{Subject}
3773 \Hy@temp{Creator}
3774 \Hy@temp{Producer}
3775 \Hy@temp{CreationDate}
3776 \Hy@temp{ModDate}
3777 \Hy@temp{Trapped}
3778 \newif\ifHyInfo@AddonUnsupported
3779 \kv@set@family@handler{pdfinfo}{%
3780   \HyInfo@AddonHandler{#1}{#2}%
3781 }
3782 \let\HyInfo@do\relax
3783 \def\HyInfo@AddonHandler#1#2{%
3784   \ifx\kv@value\relax
3785     \Hy@Warning{%
3786       Option 'pdfinfo': ignoring key '\kv@key' without value%
3787     }%
3788   \else
3789     \EdefEscapeName\HyInfo@KeyEscaped{\kv@key}%
3790     \EdefUnescapeName\HyInfo@Key{\HyInfo@KeyEscaped}%
3791     \expandafter\ifx\csname KV@pdfinfo@\HyInfo@Key\endcsname\relax
3792     \ifHyInfo@AddonUnsupported
3793       \Hy@Warning{%
3794         This driver does not support additional\MessageBreak

```

```

3795     information entries, therefore\MessageBreak
3796     `kv@key' is ignored%
3797 }%
3798 \else
3799 \def\HyInfo@tmp###1{%
3800 \kv@define@key{pdfinfo}{###1}{%
3801 \HyXeTeX@CheckUnicode
3802 \HyPsd@PrerenderUnicode{####1}%
3803 \pdfstringdef\HyInfo@Value{####1}%
3804 \global\expandafter
3805 \let\csname HyInfo@Value@###1\endcsname
3806 \HyInfo@Value
3807 }%
3808 }%
3809 \expandafter\HyInfo@tmp\expandafter{\HyInfo@Key}%
3810 \global\expandafter
3811 \let\csname KV@pdfinfo@\HyInfo@Key\expandafter\endcsname
3812 \csname KV@pdfinfo@\HyInfo@Key\endcsname
3813 \xdef\HyInfo@AddonList{%
3814 \HyInfo@AddonList
3815 \HyInfo@do{\HyInfo@Key}%
3816 }%
3817 \kv@parse@normalized{%
3818 \HyInfo@Key={#2}%
3819 }{%
3820 \kv@processor@default{pdfinfo}%
3821 }%
3822 \fi
3823 \else
3824 \kv@parse@normalized{%
3825 \HyInfo@Key={#2}%
3826 }{%
3827 \kv@processor@default{pdfinfo}%
3828 }%
3829 \fi
3830 \fi
3831 }
3832 \def\HyInfo@GenerateAddons{%
3833 \ifHyInfo@AddonUnsupported
3834 \def\HyInfo@Addons{}%
3835 \else
3836 \begingroup
3837 \toks@{}%
3838 \def\HyInfo@do###1{%
3839 \EdefEscapeName\HyInfo@Key{###1}%
3840 \edef\x{%
3841 \toks@{}%
3842 \the\toks@
3843 /\HyInfo@Key(\csname HyInfo@Value@###1\endcsname)%
3844 }%
3845 }%
3846 \x
3847 }%
3848 \HyInfo@AddonList

```

```

3849 \edef\x{\endgroup
3850 \def\noexpand\HyInfo@Addons{\the\toks@}%
3851 }%
3852 \x
3853 \fi
3854 }
3855 \global\let\HyInfo@AddonList\ltx@empty
3856 \define@key{Hyp}{pdfview}{\calculate@pdfview#1 \\\}
3857 \define@key{Hyp}{pdfinkmargin}{\setpdfinkmargin{#1}}
3858 \let\setpdfinkmargin\@gobble
3859 \def\calculate@pdfview#1 #2\{ \%
3860 \def\@pdfview{#1}%
3861 \ifx\#2\%
3862 \def\@pdfviewparams{ -32768}%
3863 \else
3864 \def\@pdfviewparams{ #2}%
3865 \fi
3866 }
3867 \def\Hy@number#1{ \%
3868 \the\numexpr#1\relax
3869 }%
3870 \define@key{Hyp}{pdfstartpage}{ \%
3871 \ifx\#1\%
3872 \let\@pdfstartpage\ltx@empty
3873 \else
3874 \edef\@pdfstartpage{\Hy@number{#1}}%
3875 \fi
3876 }%
3877 \define@key{Hyp}{pdfstartview}{ \%
3878 \ifx\#1\%
3879 \let\@pdfstartview\ltx@empty
3880 \else
3881 \def\@pdfstartview{/#1}%
3882 \fi
3883 }
3884 \def\HyPat@NonNegativeReal/{ \%
3885 \ *([0-9]+\.[0-9]*| [0-9]*\.[0-9]+) *%
3886 }
3887 \define@key{Hyp}{pdfremotestartview}{ \%
3888 \ifx\#1\%
3889 \def\@pdfremotestartview{/Fit}%
3890 \else
3891 \edef\@pdfremotestartview{#1}%
3892 \Hy@Match\@pdfremotestartview{}{ \%
3893 ^{XYZ( %
3894 )| %
3895 (null|-?\HyPat@NonNegativeReal/) %
3896 (null|-?\HyPat@NonNegativeReal/) %
3897 (null|\HyPat@NonNegativeReal/) %
3898 )| % end of "XYZ"
3899 Fit( %
3900 )| %
3901 B| %
3902 (H|V|BH|BV)( %

```

```

3903         ()| %
3904         (null|\HyPat@NonNegativeReal/)%
3905     )| %
3906     R %
3907         \HyPat@NonNegativeReal/ %
3908         \HyPat@NonNegativeReal/ %
3909         \HyPat@NonNegativeReal/ %
3910         \HyPat@NonNegativeReal/%
3911     )% end of "Fit"
3912 )$%
3913 }{}{%
3914     \Hy@Warning{%
3915         Invalid value ` \@pdfremotestartview'\MessageBreak
3916         of `pdfremotestartview'\MessageBreak
3917         is replaced by `Fit'%
3918     }%
3919     \let\@pdfremotestartview\@empty
3920 }%
3921 \ifx\@pdfremotestartview\@empty
3922     \def\@pdfremotestartview{/Fit}%
3923 \else
3924     \edef\@pdfremotestartview{/ \@pdfremotestartview}%
3925 \fi
3926 \fi
3927 }
3928 \define@key{Hyp}{pdfpagescrop}{\edef\@pdfpagescrop{#1}}
3929 \define@key{Hyp}{pdftoolbar}[true]{%
3930     \Hy@boolkey{pdftoolbar}{#1}%
3931 }
3932 \define@key{Hyp}{pdfmenubar}[true]{%
3933     \Hy@boolkey{pdfmenubar}{#1}%
3934 }
3935 \define@key{Hyp}{pdfwindowui}[true]{%
3936     \Hy@boolkey{pdfwindowui}{#1}%
3937 }
3938 \define@key{Hyp}{pdffitwindow}[true]{%
3939     \Hy@boolkey{pdffitwindow}{#1}%
3940 }
3941 \define@key{Hyp}{pdfcenterwindow}[true]{%
3942     \Hy@boolkey{pdfcenterwindow}{#1}%
3943 }
3944 \define@key{Hyp}{pdfdisplaydoctitle}[true]{%
3945     \Hy@boolkey{pdfdisplaydoctitle}{#1}%
3946 }
3947 \define@key{Hyp}{pdfa}[true]{%
3948     \Hy@boolkey{pdfa}{#1}%
3949 }
3950 \define@key{Hyp}{pdfnewwindow}[true]{%
3951     \def\Hy@temp{#1}%
3952     \ifx\Hy@temp\@empty
3953         \Hy@pdfnewwindowsetfalse
3954     \else
3955         \Hy@pdfnewwindowsettrue
3956         \Hy@boolkey{pdfnewwindow}{#1}%

```

```

3957 \fi
3958 }
3959 \def\Hy@SetNewWindow{%
3960 \ifHy@pdfnewwindowset
3961 /NewWindow %
3962 \ifHy@pdfnewwindow true\else false\fi
3963 \fi
3964 }
3965 \Hy@DefNameKey{pdfpagelayout}{%
3966 \do{SinglePage}{}%
3967 \do{OneColumn}{}%
3968 \do{TwoColumnLeft}{}%
3969 \do{TwoColumnRight}{}%
3970 \do{TwoPageLeft}{PDF 1.5}%
3971 \do{TwoPageRight}{PDF 1.5}%
3972 }
3973 \define@key{Hyp}{pdflang}{%
3974 \edef\@pdflang{#1}%
3975 \def\Hy@temp{\relax}%
3976 \ifx\@pdflang\Hy@temp
3977 \let\@pdflang\relax
3978 \fi
3979 \ifx\@pdflang\relax
3980 \else
3981 \ifx\@pdflang\ltx@empty
3982 \else

```

Test according to ABNF of RFC 3066.

```

3983 \Hy@Match\@pdflang{icase}{%
3984 ^%
3985 [a-z]{1,8}%
3986 (-[a-z0-9]{1,8})*%
3987 $%
3988 }{%

```

Test according to ABNF of RFC 5646.

```

3989 \Hy@Match\@pdflang{icase}{%
3990 ^%
3991 (%
3992 % langtag
3993 (% language
3994 [a-z]{2,3}%
3995 ([a-z]{3}(-[a-z]{3}){0,2})?% extlang
3996 |[a-z]{4}% reserved for future use
3997 |[a-z]{5,8}% registered language subtag
3998 )%
3999 (-[a-z]{4})?% script
4000 (-([a-z]{2}|[0-9]{3}))?% region
4001 (-([a-z]{5,8}|[0-9][a-z0-9]{3}))?% variant
4002 (-[0-9a-wyz](-[a-z0-9]{2,8})+)% extension
4003 (-x(-[a-z0-9]{1,8})+)% privateuse
4004 % privateuse
4005 |x-([a-z0-9]{1,8})+%
4006 % grandfathered/irregular
4007 |en-GB-oed%

```

```

4008         |i-(ami|bnn|default|enochian|hak|klinton|lux|%
4009             mingo|navajo|pwn|tao|tay|tsu)%
4010         |sgn-(BE-FR|BE-NL|CH-DE)%
4011     % grandfathered/regular
4012         |art-lojban%
4013         |cel-gaulish%
4014         |no-(bok|nyn)%
4015         |zh-(guoyu|hakka|min|min-nan|xiang)%
4016     )%
4017     $%
4018     }{%

```

Test for unique extensions.

```

4019     \Hy@Match{-\@pdfang}{icase}{-[a-wyz0-9]-}{%
4020     \Hy@Match\@pdfang{icase}{~x-}{%
4021     % remove privateuse
4022     \edef\Hy@temp{-\@pdfang}%
4023     \Hy@Match\Hy@temp{icase}{%
4024     ~%
4025     (%
4026     (-[a-wyz0-9]|-[a-z0-9]{2,8})*%
4027     )%
4028     -x-%
4029     }{%
4030     \edef\Hy@temp{%
4031     \expandafter\strip@prefix\pdfastmatch1%
4032     }%
4033     }{}%
4034     \Hy@Match\Hy@temp{icase}{%
4035     (-[a-wyz0-9]-).*\ltx@backslashchar1%
4036     }{%
4037     \Hy@Warning{%
4038     Invalid language identifier `#1'\MessageBreak
4039     for option `pdfang', because it violates\MessageBreak
4040     well-formedness defined in RFC 4646\MessageBreak
4041     by duplicate singleton subtags%
4042     }%
4043     \let\@pdfang\relax
4044     }{}%
4045     }%
4046     }{}%

```

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

```

4047     \ifx\@pdfang\relax
4048     \else
4049     \Hy@Match\@pdfang{icase}{%
4050     ~%
4051     [a-zA-Z]{2}-%
4052     (%
4053     aa|AA|%
4054     [qQ][m-zA-Z]|%
4055     [xX][a-zA-Z]|%
4056     zz|ZZ%
4057     )%
4058     (-|%)%

```

```

4059     }{%
4060     \Hy@Warning{%
4061       Invalid language identifier `#1'\MessageBreak
4062       for option `pdflang' because of invalid country code%
4063       \MessageBreak
4064       in second subtag (RFC 3066)%
4065     }%
4066     \let\@pdflang\relax
4067   }{%}%
4068   \fi
4069 }{%%
4070 \Hy@Warning{%
4071   Invalid language identifier `#1'\MessageBreak
4072   for option `pdflang', because it violates\MessageBreak
4073   well-formedness defined in RFC 5646%
4074 }%
4075 \let\@pdflang\relax
4076 }%
4077 }{%%
4078 \Hy@Warning{%
4079   Invalid language identifier `#1'\MessageBreak
4080   for option `pdflang' (RFC 3066)%
4081 }%
4082 \let\@pdflang\relax
4083 }%
4084 \fi
4085 \fi
4086 }
4087 \define@key{Hyp}{pdfpagelabels}[true]{%
4088   \Hy@boolkey{pdfpagelabels}{#1}%
4089 }
4090 \define@key{Hyp}{pdfescapeform}[true]{%
4091   \Hy@boolkey{pdfescapeform}{#1}%
4092 }

```

Default values:

```

4093 \def\@linkbordercolor{1 0 0}
4094 \def\@urlbordercolor{0 1 1}
4095 \def\@menubordercolor{1 0 0}
4096 \def\@filebordercolor{0 .5 .5}
4097 \def\@runbordercolor{0 .7 .7}
4098 \def\@citebordercolor{0 1 0}
4099 \def\@pdfhighlight{/I}
4100 \let\@pdftitle\ltx@empty
4101 \let\@pdfauthor\ltx@empty
4102 \let\@pdfproducer\relax
4103 \def\@pdfcreator{LaTeX with hyperref}
4104 \let\@pdfcreationdate\ltx@empty
4105 \let\@pdfmoddate\ltx@empty
4106 \let\@pdfsubject\ltx@empty
4107 \let\@pdfkeywords\ltx@empty
4108 \let\@pdftrapped\ltx@empty
4109 \let\@pdfpagescrop\ltx@empty
4110 \def\@pdfstartview{/Fit}
4111 \def\@pdfremotestartview{/Fit}

```

```

4112 \def\@pdfstartpage{1}
4113 \let\@pdfprintpagerange\ltx@empty
4114 \let\@pdflang\relax
4115 \let\PDF@SetupDoc\@empty
4116 \let\PDF@FinishDoc\@empty
4117 \let\phantomsection\@empty
4118 \let\special@paper\@empty
4119 \def\HyperDestNameFilter#1{#1}
4120 \Hy@AtBeginDocument{%
4121   \begingroup
4122     \edef\x{\@ifundefined{stockheight}\paperheight\stockheight}%
4123     \dimen@=\x\relax
4124     \ifdim\dimen@>\z@
4125       \else
4126         \dimen@=11in\relax
4127         \Hy@WarningNoLine{%
4128           Height of page (\expandafter\string\x) %
4129           is invalid (\the\x),\MessageBreak
4130           using 11in%
4131         }%
4132       \fi
4133       \dimen@=0.99626401\dimen@
4134       \xdef\Hy@pageheight{\strip@pt\dimen@}%
4135     \endgroup
4136 }
4137 \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.

```

4138 \let\hyper@normalise\ExecuteOptions
4139 \let\ExecuteOptions\hypersetup
4140 \Hy@RestoreCatcodes
4141 \InputIfFileExists{hyperref.cfg}{-}{-}
4142 \Hy@SetCatcodes
4143 \let\ExecuteOptions\hyper@normalise
4144 \ifx\Hy@MaybeStopNow\relax
4145 \else
4146   \Hy@stoppedearlytrue
4147   \expandafter\Hy@MaybeStopNow
4148 \fi
4149 \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.

```

4150 \SetupKeyvalOptions{family=Hyp}
4151 \DeclareLocalOptions{%
4152   a4paper,a5paper,b5paper,letterpaper,legalpaper,executivepaper%
4153 }

```

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

```

4154 \@ifpackagewith{hyperref}{tex4ht}{%
4155 }{%
4156   \@ifpackageloaded{tex4ht}{%
4157     \PassOptionsToPackage{tex4ht}{hyperref}%

```

```

4158 }{%
4159 \ltx@ifundefined{HCode}{%
4160 }{%
4161 \begingroup
4162 \def\Hy@pkg{tex4ht}%
4163 \def\Hy@temp@A#1\RequirePackage[#2]#3#4\Hy@NIL{%
4164 \def\Hy@param{#2#3}%
4165 \ifx\Hy@param\ltx@empty
4166 \expandafter\ltx@gobble
4167 \else
4168 \def\Hy@param{#3}%
4169 \ifx\Hy@param\Hy@pkg
4170 \PassOptionsToPackage{#2}{tex4ht}%
4171 \expandafter\expandafter\expandafter\@gobble
4172 \else
4173 \expandafter\expandafter\expandafter\ltx@firstofone
4174 \fi
4175 \fi
4176 {\Hy@temp@A#4\Hy@NIL}%
4177 }%
4178 \expandafter
4179 \Hy@temp@A\@documentclasshook\RequirePackage[]{}\Hy@NIL
4180 \endgroup
4181 \PassOptionsToPackage{tex4ht}{hyperref}%
4182 }%
4183 }%
4184 }

4185 \let\ReadBookmarks\relax
4186 \ProcessKeyvalOptions{Hyp}

```

After processing options.

15.1 Package xspace support

```

4187 \def\Hy@xspace@end{}
4188 \ltx@ifundefined{xspaceaddexceptions}{%
4189 \Hy@AtBeginDocument{%
4190 \ltx@ifundefined{xspaceaddexceptions}{%
4191 }{%
4192 \def\Hy@xspace@end{%
4193 \ltx@gobble{end for xspace}%
4194 }%
4195 \xspaceaddexceptions{%
4196 \Hy@xspace@end,\hyper@linkend,\hyper@anchorend
4197 }%
4198 }%
4199 }%
4200 }{%
4201 \def\Hy@xspace@end{%
4202 \ltx@gobble{end for xspace}%
4203 }%
4204 \xspaceaddexceptions{\Hy@xspace@end,\hyper@linkend,\hyper@anchorend}%
4205 }

```

15.2 Option draft

```

4206 \Hy@AtBeginDocument{%
4207   \ifHy@draft
4208     \let\hyper@@anchor\@gobble
4209     \gdef\hyper@link#1#2#3{#3\Hy@xspace@end}%
4210     \def\hyper@anchorstart#1#2{#2\Hy@xspace@end}%
4211     \def\hyper@anchorend{\Hy@xspace@end}%
4212     \let\hyper@linkstart\@gobbletwo
4213     \def\hyper@linkend{\Hy@xspace@end}%
4214     \def\hyper@linkurl#1#2{#1\Hy@xspace@end}%
4215     \def\hyper@linkfile#1#2#3{#1\Hy@xspace@end}%
4216     \def\hyper@link@[#1]#2#3#4{#4\Hy@xspace@end}%
4217     \def\Acrobatmenu#1#2{\leavevmode#2\Hy@xspace@end}%
4218     \let\PDF@SetupDoc\@empty
4219     \let\PDF@FinishDoc\@empty
4220     \let\@fifthoffive\@secondoftwo
4221     \let\@secondoffive\@secondoftwo
4222     \let\ReadBookmarks\relax
4223     \let\WriteBookmarks\relax
4224     \Hy@WarningNoLine{Draft mode on}%
4225   \fi
4226   \Hy@DisableOption{draft}%
4227   \Hy@DisableOption{nolinks}%
4228   \Hy@DisableOption{final}%
4229 }

```

15.3 PDF/A

```

4230 \Hy@DisableOption{pdfa}
4231 \ifHy@pdfa
4232   \ifnum \Hy@pdf@majorminor@version < 104
4233     \kvsetkeys{Hyp}{pdfversion=1.4}%
4234   \fi
4235   \Hy@DisableOption{pdfversion}%
4236   \def\Hy@Acrobatmenu#1#2{%
4237     \leavevmode
4238     \begingroup
4239       \edef\x{#1}%
4240       \@onelevel@sanitize\x
4241       \ifx\x\Hy@NextPage
4242         \let\y=Y%
4243       \else
4244         \ifx\x\Hy@PrevPage
4245           \let\y=Y%
4246         \else
4247           \ifx\x\Hy@FirstPage
4248             \let\y=Y%
4249           \else
4250             \ifx\x\Hy@LastPage
4251               \let\y=Y%
4252             \else
4253               \let\y=N%
4254             \fi
4255           \fi

```

```

4256     \fi
4257     \fi
4258     \expandafter\endgroup
4259     \ifx\y Y%
4260     \else
4261     \Hy@Error{%
4262       PDF/A: Named action `#1' is not permitted%
4263     }\@ehc
4264     {#2}%
4265     \expandafter\@gobble
4266     \fi
4267   }%
4268   \def\Hy@temp#1{%
4269     \expandafter\def\csname Hy@#1\endcsname{#1}%
4270     \expandafter\@onelevel@sanitize\csname Hy@#1\endcsname
4271   }%
4272   \Hy@temp{NextPage}%
4273   \Hy@temp{PrevPage}%
4274   \Hy@temp{FirstPage}%
4275   \Hy@temp{LastPage}%
4276 \else
4277   \def\Hy@Acrobatmenu#1#2{\leavevmode}%
4278 \fi

```

15.4 Patch for babel's \texttilde

Babel does not define `\expandafter \cmd@to@cs \string \texttilde` in NFSS2 manner, so the NFSS2 definitions of PD1 or PU encoding is not compatible. To fix this, `\expandafter \cmd@to@cs \string \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.

```

4279 \def\Hy@wrapper@babel#1#2{%
4280   \begingroup
4281     \Hy@safe@activestrue
4282     \set@display@protect
4283     \edef\x{#2}%
4284     \@onelevel@sanitize\x
4285     \toks@{#1}%
4286     \edef\x{\endgroup\the\toks@{\x}}%
4287     \x
4288   }
4289 \def\Hy@WrapperDef#1{%
4290   \begingroup
4291     \escapechar=\m@ne
4292     \xdef\Hy@gtemp{%
4293       \expandafter\noexpand\csname HyWrap@\string#1\endcsname
4294     }%
4295   \endgroup
4296   \edef#1{%
4297     \noexpand\Hy@wrapper@babel
4298     \expandafter\noexpand\Hy@gtemp
4299   }%
4300   \expandafter\def\Hy@gtemp
4301 }

```

```

4302 \ifHy@hyperfigures
4303   \Hy@Info{Hyper figures ON}%
4304 \else
4305   \Hy@Info{Hyper figures OFF}%
4306 \fi
4307 \ifHy@nesting
4308   \Hy@Info{Link nesting ON}%
4309 \else
4310   \Hy@Info{Link nesting OFF}%
4311 \fi
4312 \ifHy@hyperindex
4313   \Hy@Info{Hyper index ON}%
4314 \else
4315   \Hy@Info{Hyper index OFF}%
4316 \fi
4317 \ifHy@plainpages
4318   \Hy@Info{Plain pages ON}%
4319 \else
4320   \Hy@Info{Plain pages OFF}%
4321 \fi
4322 \ifHy@backref
4323   \Hy@Info{Backreferencing ON}%
4324 \else
4325   \Hy@Info{Backreferencing OFF}%
4326 \fi
4327 \ifHy@implicit
4328   \Hy@InfoNoLine{Implicit mode ON; LaTeX internals redefined}%
4329 \else
4330   \Hy@InfoNoLine{Implicit mode OFF; no redefinition of LaTeX internals}%
4331   \def\MaybeStopEarly{%
4332     \Hy@Message{Stopped early}%
4333     \Hy@AtBeginDocument{%
4334       \PDF@FinishDoc
4335       \gdef\PDF@FinishDoc{}}%
4336   }%
4337   \endinput
4338 }%
4339 \Hy@AtBeginDocument{%
4340   \let\autoref\ref
4341   \let\autopageref\pageref
4342   \ifx\@pdfpagemode\@empty
4343     \gdef\@pdfpagemode{UseNone}%
4344   \fi
4345   \global\Hy@backreffalse
4346 }%
4347 \Hy@AtEndOfPackage{%
4348   \global\let\ReadBookmarks\relax
4349   \global\let\WriteBookmarks\relax
4350 }%
4351 \fi
4352 \Hy@DisableOption{implicit}

```

15.4.1 Driver loading

```

4353 \Hy@AtEndOfPackage{%
4354   \@ifpackageloaded{tex4ht}{%
4355     \def\Hy@driver{htex4ht}%
4356     \Hy@texhttrue
4357   }{}%

```

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.

```

4358 \ifx\Hy@driver\@empty
4359   \else
4360     \ifx\pdfextension\@undefined
4361       \def\Hy@temp{hpdfTeX}%
4362     \else
4363       \def\Hy@temp{hluatex}%
4364     \fi
4365   \ifpdf
4366     \ifx\Hy@driver\Hy@temp
4367     \else
4368       \Hy@WarningNoLine{%
4369         Wrong driver ``\Hy@driver.def';\MessageBreak
4370         pdfTeX is running in PDF mode.\MessageBreak
4371         Forcing driver ``\Hy@temp.def'%
4372       }%
4373       \let\Hy@driver\Hy@temp
4374     \fi
4375   \else
4376     \ifx\Hy@driver\Hy@temp
4377     \Hy@WarningNoLine{%
4378       Wrong driver ``\Hy@driver.def';\MessageBreak
4379       pdfTeX is not running in PDF mode.\MessageBreak
4380       Using default driver%
4381     }%
4382     \let\Hy@driver\@empty
4383   \fi
4384 \fi
4385 \fi
4386 \ifHy@texht
4387 \else
4388   \ifx\Hy@driver\@empty
4389   \else
4390     \def\Hy@temp{hxetex}%
4391   \ifxetex
4392     \ifx\Hy@driver\Hy@temp
4393     \else
4394       \Hy@WarningNoLine{%
4395         Wrong driver ``\Hy@driver.def';\MessageBreak
4396         XeTeX is running.\MessageBreak
4397         Forcing driver ``\Hy@temp.def' for XeTeX%
4398       }%
4399       \let\Hy@driver\Hy@temp
4400     \fi
4401   \fi
4402 \fi
4403 \fi
4404 \ifx\Hy@driver\@empty

```

```

4405 \else
4406   \def\Hy@temp{hvtexhtm}%
4407   \ifnum\ifvtex\OpMode\else\m@ne\fi=10 %
4408     \ifx\Hy@driver\Hy@temp
4409       \else
4410         \Hy@WarningNoLine{%
4411           Wrong driver ``\Hy@driver.def';\MessageBreak
4412           VTeX is running in HTML mode.\MessageBreak
4413           Forcing driver ``\Hy@temp.def'%
4414         }%
4415         \let\Hy@driver\Hy@temp
4416       \fi
4417     \else
4418       \ifx\Hy@driver\Hy@temp
4419         \Hy@WarningNoLine{%
4420           Wrong driver ``\Hy@driver.def';\MessageBreak
4421           VTeX is not running in HTML mode.\MessageBreak
4422           Using default driver%
4423         }%
4424         \let\Hy@driver\@empty
4425       \fi
4426     \fi
4427   \fi

```

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

```

4428 \let\HyOpt@DriverType\ltx@empty
4429 \ifx\HyOpt@CustomDriver\ltx@empty
4430   \ifx\Hy@driver\@empty
4431     \def\HyOpt@DriverType{ (autodetected)}%
4432     \providecommand*{\Hy@defaultdriver}{hdvips}%
4433     \ifpdf
4434       \ifx\pdfextension\@undefined
4435         \def\Hy@driver{hpdfTEX}%
4436       \else
4437         \def\Hy@driver{hLUAteX}%
4438       \fi
4439     \else
4440       \ifxetex
4441         \def\Hy@driver{hxetex}%
4442       \else
4443         \ifnum\ifvtex\OpMode\else\m@ne\fi=10 %
4444           \def\Hy@driver{hvtexhtm}%
4445           \def\MaybeStopEarly{%
4446             \Hy@Message{Stopped early}%
4447             \Hy@AtBeginDocument{%
4448               \PDF@FinishDoc
4449               \gdef\PDF@FinishDoc{}}%
4450           }%
4451           \endinput
4452         }%
4453       \else
4454         \ifnum\ifvtex\OpMode\else\m@ne\fi=\@ne
4455           \def\Hy@driver{hvtex}%
4456         \else
4457           \ifnum\ifvtex\OpMode\else\m@ne\fi=\tw@

```

```

4458         \def\Hy@driver{hvtex}%
4459     \else
4460         \ifx\HyOpt@DriverFallback\ltx@empty
4461             \let\Hy@driver\Hy@defaultdriver
4462             \def\HyOpt@DriverType{ (default)}%
4463         \else
4464             \begingroup
4465                 \toks@\expandafter{\HyOpt@DriverFallback}%
4466                 \edef\x{\endgroup
4467                     \noexpand\kvsetkeys{Hyp}{\the\toks@}%
4468                 }%
4469             \x
4470             \ifx\Hy@driver\ltx@empty
4471                 \let\Hy@driver\Hy@defaultdriver
4472                 \def\HyOpt@DriverType{ (default)}%
4473             \else
4474                 \def\HyOpt@DriverType{ (fallback)}%
4475             \fi
4476         \fi
4477     \fi
4478 \fi
4479 \fi
4480 \fi
4481 \fi
4482 \ifx\Hy@driver\Hy@defaultdriver
4483     \def\Hy@temp{hdvwind}%
4484     \ifx\Hy@temp\Hy@driver
4485         \kvsetkeys{Hyp}{colorlinks}%
4486         \PassOptionsToPackage{dviwindo}{color}%
4487     \fi
4488 \fi
4489 \fi
4490 \else
4491     \def\HyOpt@DriverType{ (custom)}%
4492     \let\Hy@driver\HyOpt@CustomDriver
4493 \fi
4494 \Hy@InfoNoLine{Driver\HyOpt@DriverType: \Hy@driver}%
4495 \chardef\Hy@VersionChecked=0 %
4496 \input{\Hy@driver.def}%
4497 \ifcase\Hy@VersionChecked
4498     \Hy@VersionCheck{\Hy@driver.def}%
4499 \fi
4500 \let\@unprocessedoptions\relax
4501 \Hy@RestoreCatcodes
4502 \Hy@DisableOption{tex4ht}%
4503 \Hy@DisableOption{pdftex}%
4504 \Hy@DisableOption{nativepdf}%
4505 \Hy@DisableOption{dvipdfm}%
4506 \Hy@DisableOption{dvipdfmx}%
4507 \Hy@DisableOption{dvipdfmx-outline-open}%
4508 \Hy@DisableOption{pdfmark}%
4509 \Hy@DisableOption{dvips}%
4510 \Hy@DisableOption{hypertex}%
4511 \Hy@DisableOption{vtex}%

```

```

4512 \Hy@DisableOption{vtxpdfmark}%
4513 \Hy@DisableOption{dviwindo}%
4514 \Hy@DisableOption{dvipsone}%
4515 \Hy@DisableOption{textures}%
4516 \Hy@DisableOption{latex2html}%
4517 \Hy@DisableOption{ps2pdf}%
4518 \Hy@DisableOption{xetex}%
4519 \Hy@DisableOption{driverfallback}%
4520 \Hy@DisableOption{customdriver}%
4521 \Hy@DisableOption{pdfversion}%
4522 }

```

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.

```

4523 \newif\ifHy@DvipdfmxOutlineOpen
4524 \ifxetex
4525   \ifdim\number\XeTeXversion\XeTeXrevision in<0.9995in %
4526   \else
4527     \chardef\SpecialDvipdfmxOutlineOpen\@ne
4528     \Hy@DvipdfmxOutlineOpenttrue
4529   \fi
4530 \fi
4531 \begingroup\expandafter\expandafter\expandafter\endgroup
4532 \expandafter\ifx\csname SpecialDvipdfmxOutlineOpen\endcsname\relax
4533 \else
4534   \ifnum\SpecialDvipdfmxOutlineOpen>\z@
4535     \Hy@DvipdfmxOutlineOpenttrue
4536   \fi
4537 \fi

```

15.4.2 Bookmarks

```

4538 \def\WriteBookmarks{0}
4539 \def\@bookmarkopenstatus#1{%
4540   \ifHy@bookmarksopen

```

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

```

4541   \ifnum#1<\expandafter\@firstofone\expandafter
4542     {\number\@bookmarkopenlevel} % explicit space
4543   \else
4544     -%
4545   \fi
4546 \else
4547   -%
4548 \fi
4549 }
4550 \ifHy@bookmarks
4551   \Hy@Info{Bookmarks ON}%
4552   \ifx\@pdfpagemode\@empty
4553     \def\@pdfpagemode{UseOutlines}%
4554   \fi
4555 \else
4556   \let\@bookmarkopenstatus\ltx@gobble
4557   \Hy@Info{Bookmarks OFF}%

```

```

4558 \Hy@AtEndOfPackage{%
4559   \global\let\ReadBookmarks\relax
4560   \global\let\WriteBookmarks\relax
4561 }%
4562 \ifx\@pdfpagemode\@empty
4563   \def\@pdfpagemode{UseNone}%
4564 \fi
4565 \fi
4566 \Hy@DisableOption{bookmarks}

  Add wrapper for setting standard catcodes (babel's shorthands).
4567 \def\Hy@CatcodeWrapper#1{%
4568   \let\Hy@endWrap\ltx@empty
4569   \def\TMP@EnsureCode##1##2{%
4570     \edef\Hy@endWrap{%
4571       \Hy@endWrap
4572       \catcode##1 \the\catcode##1\relax
4573     }%
4574     \catcode##1 ##2\relax
4575   }%
4576   \TMP@EnsureCode{10}{12}% ^^J
4577   \TMP@EnsureCode{33}{12}% !
4578   \TMP@EnsureCode{34}{12}% "
4579   \TMP@EnsureCode{36}{3}% $ (math)
4580   \TMP@EnsureCode{38}{4}% & (alignment)
4581   \TMP@EnsureCode{39}{12}% '
4582   \TMP@EnsureCode{40}{12}% (
4583   \TMP@EnsureCode{41}{12}% )
4584   \TMP@EnsureCode{42}{12}% *
4585   \TMP@EnsureCode{43}{12}% +
4586   \TMP@EnsureCode{44}{12}% ,
4587   \TMP@EnsureCode{45}{12}% -
4588   \TMP@EnsureCode{46}{12}% .
4589   \TMP@EnsureCode{47}{12}% /
4590   \TMP@EnsureCode{58}{12}% :
4591   \TMP@EnsureCode{59}{12}% ;
4592   \TMP@EnsureCode{60}{12}% <
4593   \TMP@EnsureCode{61}{12}% =
4594   \TMP@EnsureCode{62}{12}% >
4595   \TMP@EnsureCode{63}{12}% ?
4596   \TMP@EnsureCode{91}{12}% [
4597   \TMP@EnsureCode{93}{12}% ]
4598   \TMP@EnsureCode{94}{7}% ^ (superscript)
4599   \TMP@EnsureCode{95}{8}% _ (subscript)
4600   \TMP@EnsureCode{96}{12}% `
4601   \TMP@EnsureCode{124}{12}% |
4602   \TMP@EnsureCode{126}{13}% ~ (active)
4603   ##1\relax
4604   \Hy@endWrap
4605 }

```

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

```

4606 \Hy@AtBeginDocument{%
4607   \ifHy@ocgcolorlinks

```

```

4608 \kvsetkeys{Hyp}{colorlinks}%
4609 \ifHy@pdfa
4610 \Hy@Warning{%
4611     PDF/A: Optional Content Groups are prohibited,\MessageBreak
4612     using `colorlinks' instead of `ocgcolorlinks'%
4613 }%
4614 \Hy@ocgcolorlinksfalse
4615 \fi
4616 \fi
4617 \ifHy@ocgcolorlinks
4618 \else
4619 \Hy@DisableOption{ocgcolorlinks}%
4620 \fi
4621 \ifHy@colorlinks
4622 \def\@pdfborder{0 0 0}%
4623 \let\@pdfborderstyle\@empty
4624 \Hy@CatcodeWrapper{%
4625 \RequirePackage{color}%
4626 }%
4627 \def\Hy@colorlink#1{%
4628 \begingroup
4629 \HyColor@UseColor#1%
4630 }%
4631 \def\Hy@endcolorlink{\endgroup}%
4632 \Hy@Info{Link coloring ON}%
4633 \else
4634 \ifHy@frenchlinks
4635 \def\Hy@colorlink#1{\begingroup\fontshape{\scdefault}\selectfont}%
4636 \def\Hy@endcolorlink{\endgroup}%
4637 \Hy@Info{French linking ON}%
4638 \else
for grouping consistency:
4639 \def\Hy@colorlink#1{\begingroup}%
4640 \def\Hy@endcolorlink{\endgroup}%
4641 \Hy@Info{Link coloring OFF}%
4642 \fi
4643 \fi
4644 \Hy@DisableOption{colorlinks}%
4645 \Hy@DisableOption{frenchlinks}%
4646 \ifHy@texht
4647 \else

```

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

```

4648 \ifHy@implicit
4649 \let \T@Ref\HyRef@Ref
4650 \def\@refstar#1{%
4651 \NR@ref@showkeys{#1}%
4652 \HyRef@StarSetRef{#1}\@firstoffive
4653 }
4654 \def\@pagerefstar#1{%
4655 \NR@ref@showkeys{#1}%
4656 \HyRef@StarSetRef{#1}\@secondoffive
4657 }

```

```

4658 \def\@namerefstar#1{%
4659 \NR@ref@showkeys{#1}%
4660 \HyRef@StarSetRef{#1}\@thirdoffive
4661 }
4662 \def\@Refstar#1{%
4663 \NR@ref@showkeys{#1}%
4664 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
4665 }%
4666 \else
4667 \fi
4668 \fi
4669 }
4670 \Hy@AtBeginDocument{%
4671 \ifx\ReadBookmarks\relax
4672 \else
4673 \Hy@CatcodeWrapper\ReadBookmarks
4674 \fi
4675 }
4676 \ifHy@backref
4677 \RequirePackage{backref}%
4678 \else
4679 \let\Hy@backout\@gobble
4680 \fi
4681 \Hy@DisableOption{backref}
4682 \Hy@DisableOption{pagebackref}
4683 \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`.

```

4684 \begingroup
4685 \endlinechar=-1 %
4686 \catcode`\^^A=14 %
4687 \catcode`\^^M\active
4688 \catcode`\%\active
4689 \catcode`\#\active
4690 \catcode`\_\active
4691 \catcode`\$\active
4692 \catcode`\&\active
4693 \gdef\hyper@normalise{^^A
4694 \begingroup
4695 \catcode`\^^M\active
4696 \def^^M{ }^^A
4697 \catcode`\%\active
4698 \let%\@percentchar
4699 \let%\@percentchar
4700 \catcode`\#\active

```

```

4701 \def#{\hyper@hash}^^A
4702 \def\#{\hyper@hash}^^A
4703 \@makeother\&^^A
4704 \edef&{\string&}^^A
4705 \edef\&{\string&}^^A
4706 \edef\textunderscore{\string_}^^A
4707 \let\_ \textunderscore
4708 \catcode\_ \active
4709 \let\_ \textunderscore
4710 \let~\hyper@tilde
4711 \let~\hyper@tilde
4712 \let\textasciitilde\hyper@tilde
4713 \let\\\@backslashchar
4714 \edef$\string$^^A
4715 \Hy@safe@activetrue
4716 \hyper@n@rmalise
4717 }^^A
4718 \catcode\_ \#6 ^^A
4719 \gdef\Hy@ActiveCarriageReturn{^^M}^^A
4720 \gdef\hyper@n@rmalise#1#2{^^A
4721 \def\Hy@tempa{#2}^^A
4722 \ifx\Hy@tempa\Hy@ActiveCarriageReturn
4723 \ltx@ReturnAfterElseFi{^^A
4724 \hyper@@normalise{#1}^^A
4725 }^^A
4726 \else
4727 \ltx@ReturnAfterFi{^^A
4728 \hyper@@normalise{#1}{#2}^^A
4729 }^^A
4730 \fi
4731 }^^A
4732 \gdef\hyper@@normalise#1#2{^^A
4733 \edef\Hy@tempa{^^A
4734 \endgroup
4735 \noexpand#1{\Hy@RemovePercentCr#2%^^M\@nil}^^A
4736 }^^A
4737 \Hy@tempa
4738 }^^A
4739 \gdef\Hy@RemovePercentCr#1%^^M#2\@nil{^^A
4740 #1^^A
4741 \ifx\limits#2\limits
4742 \else
4743 \ltx@ReturnAfterFi{^^A
4744 \Hy@RemovePercentCr #2\@nil
4745 }^^A
4746 \fi
4747 }^^A
4748 \endgroup
4749 \providecommand*\hyper@chars{%
4750 \let\#\hyper@hash
4751 \let\%\@percentchar
4752 \Hy@safe@activetrue
4753 }
4754 \def\hyperlink#1#2{%

```

```

4755 \hyper@@link{}{#1}{#2}%
4756 }

4757 \def\Hy@VerboseLinkStart#1#2{%
4758 \ifHy@verbose
4759 \begingroup
4760 \Hy@safe@activetrue
4761 \xdef\Hy@VerboseGlobalTemp{(#1) `#2'}%
4762 \Hy@Info{Reference \Hy@VerboseGlobalTemp}%
4763 \xdef\Hy@VerboseGlobalTemp{%
4764 \Hy@VerboseGlobalTemp, %
4765 line \the\inputlineno
4766 }%
4767 \endgroup
4768 \let\Hy@VerboseLinkInfo\Hy@VerboseGlobalTemp
4769 \@onelevel@sanitize\Hy@VerboseLinkInfo
4770 \fi
4771 }

4772 \def\Hy@VerboseLinkInfo{<VerboseLinkInfo>}
4773 \def\Hy@VerboseLinkStop{%
4774 \ifHy@verbose
4775 \begingroup
4776 \edef\x{\endgroup
4777 \write\m@ne{%
4778 Package `hyperref' Info: %
4779 End of reference \Hy@VerboseLinkInfo.%
4780 }%
4781 }%
4782 \x
4783 \fi
4784 }

4785 \def\Hy@VerboseAnchor#1{%
4786 \ifHy@verbose
4787 \begingroup
4788 \Hy@safe@activetrue
4789 \Hy@Info{Anchor ``HyperDestNameFilter{#1}'}%
4790 \endgroup
4791 \fi
4792 }

4793 \def\Hy@AllowHyphens{%
4794 \relax
4795 \ifhmode
4796 \penalty\@M
4797 \hskip\z@skip
4798 \fi
4799 }

4800 \DeclareRobustCommand*\href[1][]{%
4801 \begingroup
4802 \setkeys{href}{#1}%
4803 \@ifnextchar\bgroup\Hy@href{\hyper@normalise\href@}%
4804 }
4805 \def\Hy@href#1{%
4806 \hyper@normalise\href@

```

```

4807 }
4808 \begingroup
4809 \catcode`\$=6 %
4810 \catcode`\#=12 %
4811 \gdef\href@1{\expandafter\href@split$1##\}%
4812 \gdef\href@split$1#$2#$3\\$4{%
4813   \hyper@@link{$1}{$2}{$3}{$4}%
4814   \endgroup
4815 }%
4816 \endgroup

```

Option ‘page’.

```

4817 \define@key{href}{page}{%
4818   \def\Hy@href@page{#1}%
4819 }
4820 \let\Hy@href@page\@empty
4821 \newcount\c@Hy@tempcnt
4822 \def\theHy@tempcnt{\the\c@Hy@tempcnt}
4823 \def\Hy@MakeRemoteAction{%
4824   \ifx\Hy@href@page\@empty
4825     \def\Hy@href@page{0}%
4826   \else
4827     \setcounter{Hy@tempcnt}{\Hy@href@page}%
4828     \ifnum\c@Hy@tempcnt<\@ne
4829       \Hy@Warning{%
4830         Invalid page number (\theHy@tempcnt)\MessageBreak
4831         for remote PDF file.\MessageBreak
4832         Using page 1%
4833       }%
4834       \def\Hy@href@page{0}%
4835     \else
4836       \global\advance\c@Hy@tempcnt\m@ne
4837       \edef\Hy@href@page{\theHy@tempcnt}%
4838     \fi
4839   \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.

```

4840   \ifx\Hy@href@nextactionraw\@empty
4841   \else
4842     \Hy@pdfnewwindowsettrue
4843     \Hy@pdfnewwindowtrue
4844   \fi
4845 }

```

Option ‘pdfremotestartview’.

```

4846 \define@key{href}{pdfremotestartview}{%
4847   \setkeys{Hyp}{pdfremotestartview={#1}}%
4848 }

```

Option ‘pdfnewwindow’.

```

4849 \let\KV@href@pdfnewwindow\KV@Hyp@pdfnewwindow
4850 \let\KV@href@pdfnewwindow@default\KV@Hyp@pdfnewwindow@default

```

Option ‘ismap’.

```

4851 \newif\ifHy@href@ismap

```

```

4852 \define@key{href}{ismap}[true]{%
4853 \ltx@ifundefined{Hy@href@ismap#1}{%
4854 \Hy@Error{%
4855   Invalid value (#1) for key `ismap'.\MessageBreak
4856   Permitted values are `true' or `false'.\MessageBreak
4857   Ignoring `ismap'%
4858 } \@ehc
4859 }{%
4860 \csname Hy@href@ismap#1\endcsname
4861 }%
4862 }

```

Option ‘nextactionraw’.

```

4863 \let\Hy@href@nextactionraw\@empty
4864 \define@key{href}{nextactionraw}{%
4865 \edef\Hy@href@nextactionraw{#1}%
4866 \ifx\Hy@href@nextactionraw\@empty
4867 \else
4868 \Hy@Match\Hy@href@nextactionraw{%
4869   ~(\HyPat@ObjRef/|<<.*[/S[/].+>>|
4870   \[( ?\HyPat@ObjRef/|<<.*[/S[/].+>>)+ ?])$%
4871 }{%
4872 \Hy@Warning{Invalid value for `nextactionraw':\MessageBreak
4873 \Hy@href@nextactionraw\MessageBreak
4874 The action is discarded%
4875 }%
4876 }%
4877 \ifx\Hy@href@nextactionraw\@empty
4878 \else
4879 \edef\Hy@href@nextactionraw{/Next \Hy@href@nextactionraw}%
4880 \fi
4881 \fi
4882 }
4883 \def\HyPat@ObjRef/{.+}

```

Load package `url.sty` and save the meaning of the original `\expandafter`
`\cmd@to@cs \string \url` in `\expandafter \cmd@to@cs \string \nolinkurl`.

```

4884 \RequirePackage{url}
4885 \let\HyOrg@url\url
4886 \def\Hurl{\begingroup \Url}
4887 \DeclareRobustCommand*\nolinkurl{\hyper@normalise\nolinkurl@}
4888 \def\nolinkurl@#1{\Hurl{#1}}
4889 \DeclareRobustCommand*\url{\hyper@normalise\url@}
4890 \def\url@#1{\hyper@linkurl{\Hurl{#1}}{#1}}
4891 \DeclareRobustCommand*\hyperimage{\hyper@normalise\hyper@image}
4892 \providecommand\hyper@image[2]{#2}
4893 \def\hypertarget#1#2{%
4894 \ifHy@nesting
4895 \hyper@@anchor{#1}{#2}%
4896 \else
4897 \hyper@@anchor{#1}{\relax}#2%
4898 \fi
4899 }

```

`\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.

```

4900 \DeclareRobustCommand*\hyperref{%
4901   \@ifnextchar{\Hy@babelnormalise\label@hyperref}\@hyperref
4902 }
4903 \def\Hy@babelnormalise#1[#2]{%
4904   \begingroup
4905     \Hy@safe@activetrue
4906     \let\protect\@unexpandable@protect
4907     \edef\Hy@tempa{%
4908       \endgroup
4909       \noexpand#1[#2]}%
4910   }%
4911   \Hy@tempa
4912 }
4913 \def\@hyperref{\hyper@normalise\@hyperref}
4914 \def\@hyperref#1#2#3{%
4915   \edef\ref@one{\ifx\#2\else#2.\fi#3}%
4916   \expandafter\tryhyper@link\ref@one\{#1}%
4917 }
4918 \def\tryhyper@link#1\#2{%
4919   \hyper@@link{#2}{#1}%
4920 }

4921 \def\hyperdef{\@ifnextchar{\label@hyperdef}\@hyperdef}
4922 \def\@hyperdef#1#2#3{%, category, name, text
4923   \ifx\#1\%
4924     \def\Hy@AnchorName{#2}%
4925   \else
4926     \def\Hy@AnchorName{#1.#2}%
4927   \fi
4928   \ifHy@nesting
4929     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#3}%
4930   \else
4931     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}#3%
4932   \fi
4933 }

```

We also have a need to give a \LaTeX *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.

```

4934 \let\hyperrefundefinedlink\@firstofone
4935 \def\label@hyperref#1{%
4936   \expandafter\label@\@hyperref\csname r@#1\endcsname{#1}%
4937 }%
4938 \def\label@\@hyperref#1#2#3{%
4939   \ifx#1\relax
4940     \protect\G@refundefinedtrue
4941     \@latex@warning{%

```

```

4942   Hyper reference `#2' on page \thepage \space undefined%
4943 }%
4944 \begingroup
4945   \hyperrefundefinedlink{#3}%
4946 \endgroup
4947 \else
4948   \hyper@@link{\expandafter\@fifthoffive#1}%
4949   {\expandafter\@fourthoffive#1\@empty\@empty}{#3}%
4950 \fi
4951 }
4952 \def\label@hyperdef[#1]#2#3#4{% label name, category, name,
4953                               % anchor text
4954   \@bsphack
4955   \ifx\#2\%
4956     \def\Hy@AnchorName{#3}%
4957   \else
4958     \def\Hy@AnchorName{#2.#3}%
4959   \fi
4960   \if@filesw
4961     \protected@write\@auxout{}{%
4962       \string\newlabel{#1}{\{ }\{ }\{\Hy@AnchorName\} }%
4963     }%
4964   \fi
4965   \@esphack
4966   \ifHy@nesting
4967     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{#4}%
4968   \else
4969     \expandafter\hyper@@anchor\expandafter{\Hy@AnchorName}{\relax}{#4}%
4970   \fi
4971 }

```

`\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`

```

4972 \ExplSyntaxOn
4973 \cs_new:Npn \hyperget #1 #2
4974 {
4975   \use:c { __hyp_get_#1:n } { #2}
4976 }
4977
4978 \cs_new:Npn \__hyp_get_anchor:n #1
4979 {
4980   \HyperDestNameFilter
4981   {
4982     \cs_if_exist:cTF {r@#1}
4983     {
4984       \tl_item:cn {r@#1}{4}
4985     }
4986     {
4987       Doc-Start

```

```

4988     }
4989   }
4990 }
4991 \cs_new:Npn \__hyp_get_pageanchor:n #1
4992 {
4993   \HyperDestNameFilter
4994   {
4995     \cs_if_exist:cTF {r@#1}
4996     {
4997       page. \tl_item:cn {r@#1}{2}
4998     }
4999     {
5000       Doc-Start
5001     }
5002   }
5003 }
5004 \cs_new:Npn \__hyp_get_currentanchor:n #1
5005 {
5006   \HyperDestNameFilter { \@currentHref }
5007 }
5008 \ExplSyntaxOff

```

16.1 Link box support for XeTeX

```

5009 \newdimen\XeTeXLinkMargin
5010 \setlength{\XeTeXLinkMargin}{2pt}
5011 \ifxetex
5012   \font\XeTeXLink@font=pzdr at 1sp\relax
5013   \newcommand*{\XeTeXLink@space}{%
5014     \begingroup
5015       \XeTeXLink@font
5016       \@xxxii
5017     \endgroup
5018   }%
5019   \newcommand{\XeTeXLinkBox}[1]{%
5020     \begingroup
5021       \leavevmode
5022       \sbox\z@{#1}%
5023       \begingroup
5024         \dimen@=\dp\z@
5025         \advance\dimen@\XeTeXLinkMargin
5026         \setbox\tw@=\llap{%
5027           \hb@xt@\XeTeXLinkMargin{%
5028             \lower\dimen@\hbox{\XeTeXLink@space}%
5029             \hss
5030           }%
5031         }%
5032         \dp\tw@=\dp\z@
5033         \ht\tw@=\ht\z@
5034         \copy\tw@
5035       \endgroup
5036       \copy\z@
5037       \dimen@=\ht\z@
5038       \advance\dimen@\XeTeXLinkMargin

```

```

5039 \setbox\tw@=\rlap{%
5040 \hb@xt@\XeTeXLinkMargin{%
5041 \hss
5042 \raise\dimen@\hbox{\XeTeXLink@space}%
5043 }%
5044 }%
5045 \dp\tw@=\dp\z@
5046 \ht\tw@=\ht\z@
5047 \copy\tw@
5048 \endgroup
5049 }%
5050 \else
5051 \newcommand*\XeTeXLinkBox[1]{%
5052 \begingroup
5053 \leavevmode
5054 \sbox\z@{#1}%
5055 \copy\z@
5056 \endgroup
5057 }%
5058 \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.

```

5059 \def\hyper@@link{\let\Hy@reserved@a\relax
5060 \@ifnextchar{\hyper@link@}{\hyper@link@[link]}}%
5061 }
5062 % #1: type
5063 % #2: URL
5064 % #3: destination name
5065 % #4: text
5066 \def\hyper@link@[#1]#2#3#4{%
5067 \ltx@ifempty{#4}{% link text
5068 \Hy@Warning{Suppressing empty link}%
5069 }{%
5070 \begingroup
5071 \protected@edef\Hy@tempa{#2}%
5072 \edef\Hy@tempb{#3}%
5073 \ifx\Hy@tempa\ltx@empty
5074 \ltx\Hy@tempb\ltx@empty
5075 \Hy@Warning{Suppressing link with empty target}%
5076 \toks@{%
5077 \endgroup
5078 \ltx@secondoftwo
5079 }%
5080 \else
5081 \toks@{%
5082 \endgroup
5083 \hyper@link{#1}%
5084 }%
5085 \fi

```

```

5086 \else
5087 \toks@{%
5088 \endgroup
5089 \expandafter\hyper@readexternallink#2\{\{#1\}%
5090 }%
5091 \fi
5092 \Hy@safe@activesfalse
5093 \toks@\expandafter{%
5094 \the\expandafter\toks@
5095 \expandafter{\Hy@tempb}\{#4}%
5096 }%
5097 \the\toks@
5098 }%
5099 }

```

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.

```

5100 \def\hyper@readexternallink#1\{#2#3#4{%
5101 \begingroup
5102 \let\\\relax
5103 \expandafter\endgroup
5104 \expandafter\@hyper@@readexternallink#1\{#2}\{#3}\{#4}%
5105 }
5106 \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.

```

5107 \@hyper@readexternallink{#2}\{#3}\{#4}#1::\{#1}%
5108 }

```

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

```

5109 \def\@pdftempwordfile{file}%
5110 \def\@pdftempwordrun{run}%
5111 \def\@hyper@readexternallink#1#2#3#4:#5:#6\{#7{%

```

If there are no colons at all (`#6` is blank), it's a local file; if the URL type (`#4`) is blank, it's probably a Mac filename, so treat it like a `file:` URL. The only flaw is if it's a relative Mac path, with several colon-separated elements — then we lose. Such names must be prefixed with an explicit `dvi:`

```

5112 \ifx\{#6\}%

```

```

5113 \@hyper@linkfile file:#7\{\#3}\{\#2}\{\#7}%
5114 \else
5115 \ifx\#4\%
5116 \@hyper@linkfile file:#7\{\#3}\{\#2}\{\#7}%
5117 \else

```

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

```

5118 \def\@pdftempa{\#4}%
5119 \ifx\@pdftempa\@pdftempwordfile
5120 \@hyper@linkfile#7\{\#3}\{\#2}\{\#7}%
5121 \else

```

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

```

5122 \ifx\@pdftempa\@pdftempwordrun
5123 \ifHy@pdfa
5124 \Hy@Error{%
5125 PDF/A: Launch action is prohibited%
5126 }\@ehc
5127 \begingroup
5128 \leavevmode
5129 \#2%
5130 \endgroup
5131 \else
5132 \@hyper@launch#7\{\#3}\{\#2}%
5133 \fi
5134 \else

```

otherwise its a URL

```

5135 \hyper@linkurl{\#3}\{\#7}\ifx\#2\else\hyper@hash#2\fi}%
5136 \fi
5137 \fi
5138 \fi
5139 \fi
5140 }

```

By default, turn run: into file:

```

5141 \def\@hyper@launch run:#1\#2#3{% filename, anchor text, linkname
5142 \hyper@linkurl{\#2}\%
5143 \Hy@linkfileprefix
5144 \#1%
5145 \ifx\#3\%
5146 \else
5147 \hyper@hash
5148 \#3%
5149 \fi
5150 }\%
5151 }

```

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

```

5152 \def\@hyper@linkfile file:#1\#2#3#4{%
5153 %file url,link string, name, original uri
5154 \filename@parse{\#1}%
5155 \ifx\filename@ext\relax
5156 \edef\filename@ext{\XR@ext}%
5157 \fi

```

```

5158 \def\use@file{\filename@area\filename@base.\filename@ext}%
5159 \Hy@ifStringEndsWith\filename@ext\XR@ext{%
5160   \hyper@linkfile{#2}{\use@file}{#3}%
5161 }{%
5162   \ifx\@baseurl\@empty
5163     \hyper@linkurl{#2}{%
5164       #4\ifx\\#3\\\else\hyper@hash#3\fi
5165     }%
5166   \else
5167     \hyper@linkurl{#2}{\use@file\ifx\\#3\\\else\hyper@hash#3\fi}%
5168   \fi
5169 }%
5170 }

5171 \def\Hy@ifStringEndsWith#1#2{%
5172   \begingroup
5173   \edef\x{#1}%
5174   \@onelevel@sanitize\x
5175   \edef\x{.\x}%
5176   \edef\y{#2}%
5177   \@onelevel@sanitize\y
5178   \edef\y{.\y}%
5179   \expandafter\def\expandafter\z\expandafter##\expandafter1\y##2\@nil{%
5180     \endgroup
5181     \ifx\relax##2\relax
5182       \expandafter\ltx@secondoftwo
5183     \else
5184       \expandafter\ltx@firstoftwo
5185     \fi
5186   }%
5187   \expandafter\expandafter\expandafter\z\expandafter\x\y\@nil
5188 }

5189 \def\Hy@StringLocalhost{localhost}
5190 \@onelevel@sanitize\Hy@StringLocalhost
5191 \def\Hy@CleanupFile#1{%
5192   \edef#1{#1}%
5193   \expandafter\Hy@@CleanupFile#1\hbox{///\hbox\@nil{#1}%
5194 }
5195 \def\Hy@@CleanupFile#1//#2/#3\hbox#4\@nil#5{%
5196   \begingroup
5197   \toks@{\endgroup}%
5198   \def\x{#1}%
5199   \ifx\x\@empty
5200     \def\x{#2}%
5201   \ifx\x\@empty
5202     \toks@{\endgroup\def#5{/#3}}%
5203   \else
5204     \@onelevel@sanitize\x
5205     \ifx\x\Hy@StringLocalhost
5206       \toks@{\endgroup\def#5{/#3}}%
5207     \fi
5208   \fi
5209   \fi
5210   \the\toks@

```

5211 }

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.

```

5212 \long\def\hyper@@anchor#1#2{\@hyper@@anchor#1\relax#2\relax}
5213 \long\def\@hyper@@anchor#1\relax#2#3\relax{%
5214   \ifx\#1\%
5215     #2\Hy@Warning{Ignoring empty anchor}%
5216   \else
5217     \def\anchor@spot{#2#3}%
5218     \let\put@me@back\@empty
5219     \ifx\relax#2\relax
5220     \else
5221       \ifHy@nesting
5222       \else
5223         \ifcat a\noexpand#2\relax
5224         \else
5225           \ifcat 0\noexpand#2 \relax
5226           \else
5227             % \typeout{Anchor start is not alphanumeric %
5228             % on input line\the\inputlineno%
5229             % }%
5230             \let\anchor@spot\@empty
5231             \def\put@me@back{#2#3}%
5232           \fi
5233         \fi
5234       \fi
5235     \fi
5236     \ifHy@activeanchor
5237       \anchor@spot
5238     \else
5239       \hyper@anchor{#1}%
5240     \fi
5241     \expandafter\put@me@back
5242   \fi
5243   \let\anchor@spot\@empty
5244 }
5245 \let\anchor@spot\tx@empty

```

18 Option ‘destlabel’

5246 \ifHy@destlabel

\hyper@newdestlabel

```

5247 \def\hyper@newdestlabel#1#2{%
5248   \begingroup
5249   \Hy@safe@activetrue
5250   \edef\x{\endgroup

```

```

5251 \noexpand\@newl@bel{HyDL}{#1}{#2}%
5252 }%
5253 \x
5254 }%

```

\hyper@destlabel@hook

```

5255 \providecommand*\hyper@destlabel@hook{}%

```

\Hy@DestRename

```

5256 \newcommand*\Hy@DestRename}[2]{%
5257 \ltx@ifundefined{HyDL!#1}{%
5258 \begingroup
5259 \Hy@safe@activetrue
5260 \edef\dest@name{#1}%
5261 \edef\label@name{#2}%
5262 \hyper@destlabel@hook
5263 \Hy@IsNotEmpty{dest@name}{%
5264 \Hy@IsNotEmpty{label@name}{%
5265 \global\expandafter
5266 \let\csname HyDL!#1\endcsname\ltx@empty
5267 \if@files
5268 \protected@write\@auxout{}{%
5269 \string\hyper@newdestlabel
5270 {#1}%
5271 {\label@name}%
5272 }%
5273 \fi
5274 }%
5275 }%
5276 \endgroup
5277 }{}%
5278 }%

```

\HyperDestRename

```

5279 \newcommand*\HyperDestRename}[2]{%
5280 \AtBeginDocument{%
5281 \Hy@DestRename{#1}{#2}%
5282 }%
5283 }%
5284 \AtBeginDocument{%
5285 \let\HyperDestRename\Hy@DestRename
5286 }%

```

\Hy@IsNotEmpty

```

5287 \def\Hy@IsNotEmpty#1{%
5288 \ltx@ifundefined{#1}\ltx@gobble{%
5289 \expandafter\ifx\csname#1\endcsname\ltx@empty
5290 \expandafter\ltx@gobble
5291 \else
5292 \expandafter\ltx@firstofone
5293 \fi
5294 }%
5295 }%

```

```

5296 \ltx@GlobalAppendToMacro\label@hook{%
5297   \HyperDestRename\@currentHref\label@name
5298 }%

\HyperDestLabelReplace
5299 \def\HyperDestLabelReplace#1{%
5300   \ltx@ifundefined{HyDL@#1}{%
5301     #1%
5302   }{%
5303     \csname HyDL@#1\endcsname
5304   }%
5305 }%

\HyperDestNameFilter
5306 \let\HyperDestNameFilter\HyperDestLabelReplace

5307 \else

\hyper@newdestlabel
5308 \let\hyper@newdestlabel\ltx@gobbletwo

\HyperDestLabelReplace
5309 \let\HyperDestLabelReplace\ltx@firstofone

\HyperDestRename
@gobbletwo

5310 \fi

5311 \Hy@DisableOption{destlabel}

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

5312 \AddLineBeginAux{%
5313   \string\providecommand\string\hyper@newdestlabel[2]{}%
5314 }

```

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.

```

5315 \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
5316 \def\HyField@NewFlag#1#2{%
5317   \lowercase{\HyField@NewOption{#2}}%
5318   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5319 }
```

```
\HyField@NewFlagOnly
5320 \def\HyField@NewFlagOnly#1#2{%
5321   \lowercase{\HyField@NewBitsetFlag{#2}}{#2}{#1}%
5322 }
```

```
\HyField@NewOption #1: option name
5323 \def\HyField@NewOption#1{%
5324   \expandafter\newif\csname ifFld@#1\endcsname
5325   \define@key{Field}{#1}[true]{%
5326     \lowercase{\Field@boolkey{##1}}{#1}%
5327   }%
5328 }
```

\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
5329 \def\HyField@NewBitsetFlag#1#2#3#4{%
5330   \begingroup
5331     \count@=#4\relax
5332     \advance\count@\m@ne
5333     \def\x##1{%
5334       \endgroup
5335       \expandafter\def\csname HyField@#3@#1\endcsname{##1}%
5336       \expandafter\ifx\csname HyField@#3@#1\endcsname\relax
5337         \expandafter\edef\csname HyField@#3@#1\endcsname{%
5338           (\number#4) #2%
5339         }%
5340       \else
5341         \expandafter\edef\csname HyField@#3@#1\endcsname{%
5342           \csname HyField@#3@#1\endcsname
5343           /#2%
5344         }%
5345       \fi
5346     }%
5347   \expandafter\x\expandafter{\the\count@}%
5348 }
```

```

\HyField@UseFlag The bit set is HyField@#1
5349 \def\HyField@UseFlag#1#2{%
5350 \lowercase{\HyField@@UseFlag{#2}}{#1}%
5351 }

```

```

\HyField@@UseFlag
5352 \def\HyField@@UseFlag#1#2{%
5353 \bitsetSetValue{HyField@#2}{%
5354 \csname HyField@#2@#1\endcsname
5355 }{%
5356 \csname ifFld@#1\endcsname 1\else 0\fi
5357 }%
5358 }

```

```

\HyField@SetFlag The bit set is HyField@#1
5359 \def\HyField@SetFlag#1#2{%
5360 \lowercase{\HyField@@SetFlag{#2}}{#1}%
5361 }

```

```

\HyField@@SetFlag
5362 \def\HyField@@SetFlag#1#2{%
5363 \bitsetSetValue{HyField@#2}{%
5364 \csname HyField@#2@#1\endcsname
5365 }{1}%
5366 }

```

```

\HyField@PrintFlags
5367 \def\HyField@PrintFlags#1#2{%
5368 \ifHy@verbose
5369 \begingroup
5370 \let\Hy@temp\@empty
5371 \let\MessageBreak\relax
5372 \expandafter\@for\expandafter\x\expandafter:\expandafter=%
5373 \bitsetGetSetBitList{HyField@#1}\do{%
5374 \edef\Hy@temp{%
5375 \Hy@temp
5376 \csname HyField@#1@\x\endcsname\MessageBreak
5377 }%
5378 }%
5379 \edef\x{\endgroup
5380 \noexpand\Hy@Info{%
5381 Field flags: %
5382 \expandafter\ifx\@car#1\@nil S\else/\fi
5383 #1 %
5384 \bitsetGetDec{HyField@#1} %
5385 (0x\bitsetGetHex{HyField@#1}{32})\MessageBreak
5386 \Hy@temp
5387 for #2%
5388 }%
5389 }\x
5390 \fi
5391 }

```

19.1.1 Declarations of field flags

“Table 8.70 Field flags common to all field types”

```
5392 \HyField@NewFlag{Ff}{ReadOnly}{1}
5393 \HyField@NewFlag{Ff}{Required}{2}
5394 \HyField@NewFlag{Ff}{NoExport}{3}
```

“Table 8.75 Field flags specific to button fields”

```
5395 \HyField@NewFlag{Ff}{NoToggleToOff}{15}
5396 \HyField@NewFlag{Ff}{Radio}{16}
5397 \HyField@NewFlag{Ff}{Pushbutton}{17}
5398 \HyField@NewFlag{Ff}{RadiosInUnison}{26}
```

“Table 8.77 Field flags specific to text fields”

```
5399 \HyField@NewFlag{Ff}{Multiline}{13}
5400 \HyField@NewFlag{Ff}{Password}{14}
5401 \HyField@NewFlag{Ff}{FileSelect}{21}% PDF 1.4
5402 \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5403 \HyField@NewFlag{Ff}{DoNotScroll}{24}% PDF 1.4
5404 \HyField@NewFlag{Ff}{Comb}{25}% PDF 1.4
5405 \HyField@NewFlag{Ff}{RichText}{26}% PDF 1.5
```

“Table 8.79 field flags specific to choice fields”

```
5406 \HyField@NewFlag{Ff}{Combo}{18}
5407 \HyField@NewFlag{Ff}{Edit}{19}
5408 \HyField@NewFlag{Ff}{Sort}{20}
5409 \HyField@NewFlag{Ff}{MultiSelect}{22}% PDF 1.4
5410 % \HyField@NewFlag{Ff}{DoNotSpellCheck}{23}% PDF 1.4
5411 \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.

```
5412 \newif\ifFld@popdown
5413 \define@key{Field}{popdown}[true]{%
5414   \lowercase{\Field@boolkey{#1}}{popdown}%
5415 }
```

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.

```
5416 \HyField@NewFlag{F}{Invisible}{1}
5417 \HyField@NewFlag{F}{Hidden}{2}% PDF 1.2
5418 \HyField@NewFlag{F}{Print}{3}% PDF 1.2
5419 \HyField@NewFlag{F}{NoZoom}{4}% PDF 1.2
5420 \HyField@NewFlag{F}{NoRotate}{5}% PDF 1.3
5421 \HyField@NewFlag{F}{NoView}{6}% PDF 1.3
5422 \HyField@NewFlag{F}{Locked}{8}% PDF 1.4
5423 \HyField@NewFlag{F}{ToggleNoView}{9}% PDF 1.5
5424 \HyField@NewFlag{F}{LockedContents}{10}% PDF 1.7

5425 \ifHy@pdfa
5426   \def\HyField@PDFAFldWarning#1#2{%
5427     \Hy@Warning{%
```

```

5428     PDF/A: Annotation flag `#1' must\MessageBreak
5429     be set to `#2'%
5430 }%
5431 }%
5432 \Fld@invisiblefalse
5433 \def\Fld@invisibletrue{%
5434   \HyField@PDFAFIWarning{invisible}{false}%
5435 }%
5436 \Fld@hiddenfalse
5437 \def\Fld@hiddentrue{%
5438   \HyField@PDFAFIWarning{hidden}{false}%
5439 }%
5440 \Fld@printtrue
5441 \def\Fld@printfalse{%
5442   \HyField@PDFAFIWarning{print}{true}%
5443 }%
5444 \Fld@nozoomtrue
5445 \def\Fld@nozoomfalse{%
5446   \HyField@PDFAFIWarning{nozoom}{true}%
5447 }%
5448 \Fld@norotatetrue
5449 \def\Fld@norotatefalse{%
5450   \HyField@PDFAFIWarning{norotate}{true}%
5451 }%
5452 \Fld@noviewfalse
5453 \def\Fld@noviewtrue{%
5454   \HyField@PDFAFIWarning{noview}{false}%
5455 }%
5456 \fi

```

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

```

5457 \HyField@NewFlag{Submit}{IncludeNoValueFields}{2}
5458 \HyField@NewFlagOnly{Submit}{ExportFormat}{3}
5459 \HyField@NewFlag{Submit}{GetMethod}{4}
5460 \HyField@NewFlag{Submit}{SubmitCoordinates}{5}
5461 \HyField@NewFlagOnly{Submit}{XFDF}{6}
5462 \HyField@NewFlag{Submit}{IncludeAppendSaves}{7}
5463 \HyField@NewFlag{Submit}{IncludeAnnotations}{8}
5464 \HyField@NewFlagOnly{Submit}{SubmitPDF}{9}
5465 \HyField@NewFlag{Submit}{CanonicalFormat}{10}
5466 \HyField@NewFlag{Submit}{ExclNonUserAnnots}{11}
5467 \HyField@NewFlag{Submit}{ExclFKey}{12}
5468 \HyField@NewFlag{Submit}{EmbedForm}{14}

5469 \define@key{Field}{export}{%
5470   \lowercase{\def\Hy@temp{#1}}%
5471   \@ifundefined{Fld@export@}\Hy@temp{%
5472     \@onelevel@sanitize\Hy@temp
5473     \Hy@Error{%
5474       Unknown export format `'\Hy@temp'.\MessageBreak
5475       Known formats are `FDF', `HTML', `XFDF', and `PDF'%
5476     }\@ehc
5477   }%
5478   \let\Fld@export\Hy@temp

```

```

5479 }%
5480 }
5481 \def\Fld@export{fdf}
5482 \@namedef{Fld@export@fdf}{0}%
5483 \@namedef{Fld@export@html}{1}%
5484 \@namedef{Fld@export@xpdf}{2}%
5485 \@namedef{Fld@export@pdf}{3}%

```

19.1.2 Set submit flags

\HyField@FlagsSubmit

```

5486 \def\HyField@FlagsSubmit{%
5487   \bitsetReset{HyField@Submit}%
5488   \ifcase\@nameuse{Fld@export@\Fld@export} %
5489     % FDF
5490     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5491     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5492     \HyField@UseFlag{Submit}{IncludeAppendSaves}%
5493     \HyField@UseFlag{Submit}{IncludeAnnotations}%
5494     \HyField@UseFlag{Submit}{CanonicalFormat}%
5495     \HyField@UseFlag{Submit}{ExclNonUserAnnots}%
5496     \HyField@UseFlag{Submit}{ExclFKey}%
5497     \HyField@UseFlag{Submit}{EmbedForm}%
5498   \or % HTML
5499     \HyField@SetFlag{Submit}{ExportFormat}%
5500     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5501     \HyField@UseFlag{Submit}{GetMethod}%
5502     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5503     \HyField@UseFlag{Submit}{CanonicalFormat}%
5504   \or % XFDF
5505     \HyField@SetFlag{Submit}{XFDF}%
5506     \HyField@UseFlag{Submit}{IncludeNoValueFields}%
5507     \HyField@UseFlag{Submit}{SubmitCoordinates}%
5508     \HyField@UseFlag{Submit}{CanonicalFormat}%
5509   \or % PDF
5510     \HyField@SetFlag{Submit}{SubmitPDF}%
5511     \HyField@UseFlag{Submit}{GetMethod}%
5512   \fi
5513   \HyField@PrintFlags{Submit}{submit button field}%
5514   \bitsetIsEmpty{HyField@Submit}{%
5515     \let\Fld@submitflags\tx@empty
5516   }{%
5517     \edef\Fld@submitflags{/Flags \bitsetGetDec{HyField@Submit}}%
5518   }%
5519 }

```

19.1.3 Set annot flags in fields

\HyField@FlagsAnnot

```

5520 \def\HyField@FlagsAnnot#1{%
5521   \bitsetReset{HyField@F}%
5522   \HyField@UseFlag{F}{Invisible}%
5523   \HyField@UseFlag{F}{Hidden}%

```

```

5524 \HyField@UseFlag{F}{Print}%
5525 \HyField@UseFlag{F}{NoZoom}%
5526 \HyField@UseFlag{F}{NoRotate}%
5527 \HyField@UseFlag{F}{NoView}%
5528 \HyField@UseFlag{F}{Locked}%
5529 \HyField@UseFlag{F}{ToggleNoView}%
5530 \HyField@UseFlag{F}{LockedContents}%
5531 \HyField@PrintFlags{F}{#1}%
5532 \bitsetIsEmpty{HyField@F}{%
5533   \let\Fld@annotflags\ltx@empty
5534 }{%
5535   \edef\Fld@annotflags{/F \bitsetGetDec{HyField@F}}%
5536 }%
5537 }

```

19.1.4 Pushbutton field

\HyField@FlagsPushButton

```

5538 \def\HyField@FlagsPushButton{%
5539   \HyField@FlagsAnnot{push button field}%
5540   \bitsetReset{HyField@Ff}%
5541   \HyField@UseFlag{Ff}{ReadOnly}%
5542   \HyField@UseFlag{Ff}{Required}%
5543   \HyField@UseFlag{Ff}{NoExport}%
5544   \HyField@SetFlag{Ff}{Pushbutton}%
5545   \HyField@PrintFlags{Ff}{push button field}%
5546   \bitsetIsEmpty{HyField@Ff}{%
5547     \let\Fld@flags\ltx@empty
5548   }{%
5549     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5550   }%
5551 }

```

19.1.5 Check box field

\HyField@FlagsCheckBox

```

5552 \def\HyField@FlagsCheckBox{%
5553   \HyField@FlagsAnnot{check box field}%
5554   \bitsetReset{HyField@Ff}%
5555   \HyField@UseFlag{Ff}{ReadOnly}%
5556   \HyField@UseFlag{Ff}{Required}%
5557   \HyField@UseFlag{Ff}{NoExport}%
5558   \HyField@PrintFlags{Ff}{check box field}%
5559   \bitsetIsEmpty{HyField@Ff}{%
5560     \let\Fld@flags\ltx@empty
5561   }{%
5562     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5563   }%
5564 }

```

19.1.6 Radio button field

\HyField@FlagsRadioButton

```

5565 \def\HyField@FlagsRadioButton{%
5566   \HyField@FlagsAnnot{radio button field}%
5567   \bitsetReset{HyField@Ff}%
5568   \HyField@UseFlag{Ff}{ReadOnly}%
5569   \HyField@UseFlag{Ff}{Required}%
5570   \HyField@UseFlag{Ff}{NoExport}%
5571   \HyField@UseFlag{Ff}{NoToggleToOff}%
5572   \HyField@SetFlag{Ff}{Radio}%
5573   \HyField@UseFlag{Ff}{RadiosInUnison}%
5574   \HyField@PrintFlags{Ff}{radio button field}%
5575   \bitsetIsEmpty{HyField@Ff}{%
5576     \let\Fld@flags\ltx@empty
5577   }{%
5578     \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5579   }%
5580 }

```

19.1.7 Text fields

\HyField@FlagsText

```

5581 \def\HyField@FlagsText{%
5582   \HyField@FlagsAnnot{text field}%
5583   \bitsetReset{HyField@Ff}%
5584   \HyField@UseFlag{Ff}{ReadOnly}%
5585   \HyField@UseFlag{Ff}{Required}%
5586   \HyField@UseFlag{Ff}{NoExport}%
5587   \HyField@UseFlag{Ff}{Multiline}%
5588   \HyField@UseFlag{Ff}{Password}%
5589   \HyField@UseFlag{Ff}{FileSelect}%
5590   \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5591   \HyField@UseFlag{Ff}{DoNotScroll}%
5592   \ifFld@comb
5593     \ifcase0\ifFld@multiline
5594       \else\ifFld@password
5595       \else\ifFld@fileselect
5596       \else 1\fi\fi\fi\relax
5597     \Hy@Error{%
5598       Field option `comb' cannot used together with\MessageBreak
5599       `multiline', `password', or `fileselect'%
5600     }\@ehc
5601   \else
5602     \HyField@UseFlag{Ff}{Comb}%
5603   \fi
5604 \fi
5605 \HyField@UseFlag{Ff}{RichText}%
5606 \HyField@PrintFlags{Ff}{text field}%
5607 \bitsetIsEmpty{HyField@Ff}{%
5608   \let\Fld@flags\ltx@empty
5609 }{%
5610   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5611 }%
5612 }

```

19.1.8 Choice fields

\HyField@FlagsChoice

```

5613 \def\HyField@FlagsChoice{%
5614   \HyField@FlagsAnnot{choice field}%
5615   \bitsetReset{HyField@Ff}%
5616   \HyField@UseFlag{Ff}{ReadOnly}%
5617   \HyField@UseFlag{Ff}{Required}%
5618   \HyField@UseFlag{Ff}{NoExport}%
5619   \HyField@UseFlag{Ff}{Combo}%
5620   \ifFld@combo
5621     \HyField@UseFlag{Ff}{Edit}%
5622   \fi
5623   \HyField@UseFlag{Ff}{Sort}%
5624   \HyField@UseFlag{Ff}{MultiSelect}%
5625   \ifFld@combo
5626     \ifFld@edit
5627       \HyField@UseFlag{Ff}{DoNotSpellCheck}%
5628     \fi
5629   \fi
5630   \HyField@UseFlag{Ff}{CommitOnSelChange}%
5631   \HyField@PrintFlags{Ff}{choice field}%
5632   \bitsetIsEmpty{HyField@Ff}%
5633   \let\Fld@flags\ltx@empty
5634 }{%
5635   \edef\Fld@flags{/Ff \bitsetGetDec{HyField@Ff}}%
5636 }%
5637 }
```

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.

```

5638 \def\HyField@PDFChoices#1{%
5639   \begingroup
5640   \global\let\Fld@choices\ltx@empty
5641   \let\HyTmp@optlist\ltx@empty
5642   \let\HyTmp@optitem\relax
5643   \count@=0 %
5644   \kv@parse{#1}{%
5645     \Hy@pdfstringdef\kv@key\kv@key
5646     \ifx\kv@value\relax
5647       \ifnum\Hy@pdf@majorminor@version<103 % implementation note 122, PDF spec 1.7
5648         \xdef\Fld@choices{\Fld@choices[(\kv@key)(\kv@key)]}%
5649       \else
5650         \xdef\Fld@choices{\Fld@choices(\kv@key)}%
5651       \fi
5652     \else
5653       \Hy@pdfstringdef\kv@value\kv@value
5654       \xdef\Fld@choices{\Fld@choices[(\kv@value)(\kv@key)]}%
5655     \fi
5656   }
```

```

5656 \edef\HyTmp@optlist{%
5657   \HyTmp@optlist
5658   \HyTmp@optitem{\the\count@}{\kv@key}0%
5659 }%
5660 \advance\count@ by 1 %
5661 \@gobbletwo
5662 }%
5663 \xdef\Fld@choices{/Opt[\Fld@choices]]}%
5664 \ifFld@multiselect
5665   \HyField@@PDFChoices{DV}\Fld@default
5666   \HyField@@PDFChoices{V}\Fld@value
5667 \else
5668   \ifx\Fld@default\relax
5669   \else
5670     \pdfstringdef\Hy@gtemp\Fld@default
5671     \xdef\Fld@choices{\Fld@choices/DV(\Hy@gtemp)}%
5672   \fi
5673   \ifx\Fld@value\relax
5674   \else
5675     \pdfstringdef\Hy@gtemp\Fld@value
5676     \xdef\Fld@choices{\Fld@choices/V(\Hy@gtemp)}%
5677   \fi
5678 \fi
5679 \endgroup
5680 }

```

\HyField@@PDFChoices

```

5681 \def\HyField@@PDFChoices#1#2{%
5682   \ifx#2\relax
5683   \else
5684     \count@=0 %
5685     \def\HyTmp@optitem##1##2##3{%
5686       \def\HyTmp@key{##2}%
5687       \ifx\HyTmp@key\Hy@gtemp
5688         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5689           \HyTmp@optlist
5690           \HyTmp@optitem{##1}{##2}1%
5691         }%
5692         \let\HyTmp@found=Y%
5693       \else
5694         \expandafter\def\expandafter\HyTmp@optlist\expandafter{%
5695           \HyTmp@optlist
5696           \HyTmp@optitem{##1}{##2}##3%
5697         }%
5698       \fi
5699     }%
5700     \expandafter\comma@parse\expandafter{#2}{%
5701       \pdfstringdef\Hy@gtemp\comma@entry
5702       \let\HyTmp@found=N %
5703       \expandafter\let\expandafter\HyTmp@optlist\expandafter\@empty
5704       \HyTmp@optlist
5705       \ifx\HyTmp@found Y%
5706         \advance\count@ by 1 %
5707       \else

```

```

5708 \@onelevel@sanitize\comma@entry
5709 \PackageWarning{hyperref}{%
5710 \string\ChoiceBox: Ignoring value `\'comma@entry',%
5711 \MessageBreak
5712 it cannot be found in the choices%
5713 }%
5714 \fi
5715 \@gobble
5716 }%
5717 \def\HyTmp@optitem##1##2##3{%
5718 \ifnum##3=1 %
5719 (##2)%
5720 \fi
5721 }%
5722 \ifcase\count@
5723 \or
5724 \xdef\Fld@choices{\Fld@choices/#1\HyTmp@optlist}%
5725 \else
5726 \xdef\Fld@choices{\Fld@choices/#1[\HyTmp@optlist]}%
5727 \ifx#1V%
5728 \def\HyTmp@optitem##1##2##3{%
5729 \ifnum##3=1 %
5730 \@firstofone{ ##1}%
5731 \fi
5732 }%
5733 \edef\HyTmp@optlist{\HyTmp@optlist}%
5734 \xdef\Fld@choices{%
5735 \Fld@choices
5736 /I[\expandafter\@firstofone\HyTmp@optlist]%
5737 }%
5738 \fi
5739 \fi
5740 \fi
5741 }

```

19.3 Forms

\HyField@SetKeys

```

5742 \def\HyField@SetKeys{%
5743 \kvsetkeys{Field}%
5744 }

5745 \newif\ifFld@checked
5746 \newif\ifFld@disabled
5747 \Fld@checkedfalse
5748 \Fld@disabledfalse
5749 \newcount\Fld@menulength
5750 \newdimen\Fld@Width
5751 \newdimen\Fld@charsize
5752 \Fld@charsize=10\p@
5753 \def\Fld@maxlen{0}
5754 \def\Fld@align{0}
5755 \def\Fld@color{0 0 0 rg}
5756 \def\Fld@bcolor{1 1 1}

```

```

5757 \def\Fld@bordercolor{1 0 0}
5758 \def\Fld@bordersep{1\p@}
5759 \def\Fld@borderwidth{1}
5760 \def\Fld@borderstyle{S}
5761 \def\Fld@cbsymbol{4}
5762 \def\Fld@radiosymbol{H}
5763 \def\Fld@rotation{0}
5764 \def\Form{\@ifnextchar[{\@Form}{\@Form[]}}
5765 \def\endForm{\@endForm}
5766 \newif\ifForm@html
5767 \Form@htmlfalse
5768 \def\Form@boolkey#1#2{%
5769   \csname Form@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5770 }
5771 \define@key{Form}{action}{%
5772   \hyper@normalise\Hy@DefFormAction{#1}%
5773 }
5774 \def\Hy@DefFormAction{\def\Form@action}
5775 \def\enc@@html{html}
5776 \define@key{Form}{encoding}{%
5777   \def\Hy@tempa{#1}%
5778   \ifx\Hy@tempa\enc@@html
5779     \Form@htmltrue
5780     \def\Fld@export{html}%
5781   \else
5782     \Hy@Warning{%
5783       Form `encoding' key with \MessageBreak
5784       unknown value `#1'%
5785     }%
5786     \Form@htmlfalse
5787   \fi
5788 }
5789 \define@key{Form}{method}{%
5790   \lowercase{\def\Hy@temp{#1}}%
5791   \@ifundefined{Form@method@\Hy@temp}{%
5792     \@onelevel@sanitize\Hy@temp
5793     \Hy@Error{%
5794       Unknown method `'\Hy@temp'.\MessageBreak
5795       Known values are `post' and `get'%
5796     } \@ehc
5797   }{%
5798     \let\Form@method\Hy@temp
5799     \ifcase\@nameuse{Form@method@\Hy@temp} %
5800       \Fld@getmethodfalse
5801     \else
5802       \Fld@getmethodtrue
5803     \fi
5804   }%
5805 }
5806 \def\Form@method{}
5807 \@namedef{Form@method@post}{0}
5808 \@namedef{Form@method@get}{1}
5809 \newif\ifHyField@NeedAppearances
5810 \def\HyField@NeedAppearancesfalse{%

```

```

5811 \global\let\ifHyField@NeedAppearances\iffalse
5812 }
5813 \def\HyField@NeedAppearancetrue{%
5814 \global\let\ifHyField@NeedAppearances\iftrue
5815 }
5816 \HyField@NeedAppearancetrue
5817 \define@key{Form}{NeedAppearances}[true]{%
5818 \edef\Hy@tempa{#1}%
5819 \ifx\Hy@tempa\Hy@true
5820 \HyField@NeedAppearancetrue
5821 \else
5822 \ifx\Hy@tempa\Hy@false
5823 \HyField@NeedAppearancesfalse
5824 \else
5825 \Hy@Error{%
5826 Unexpected value ``\Hy@tempa'\MessageBreak
5827 of option `NeedAppearances' instead of\MessageBreak
5828 `true' or `false'%
5829 }\@ehc
5830 \fi
5831 \fi
5832 }
5833 \def\Field@boolkey#1#2{%
5834 \csname Fld@#2\ifx\relax#1\relax true\else#1\fi\endcsname
5835 }
5836 \ifHy@texht
5837 \newtoks\Field@toks
5838 \Field@toks={ }%
5839 \def\Field@addtoks#1#2{%
5840 \edef\@processme{\Field@toks{\the\Field@toks\space #1="#2"}}%
5841 \@processme
5842 }%
5843 \else
5844 \def\Hy@WarnHTMLFieldOption#1{%
5845 \Hy@Warning{%
5846 HTML field option `#1'\MessageBreak
5847 is ignored%
5848 }%
5849 }%
5850 \fi
5851 \def\Fld@checkequals#1=#2=#3\\{%
5852 \def\@currDisplay{#1}%
5853 \ifx\\#2\\%
5854 \def\@currValue{#1}%
5855 \else
5856 \def\@currValue{#2}%
5857 \fi
5858 \expandafter\Hy@pdfstringdef\expandafter\@currValue\expandafter{\@currValue}%
5859 }
5860 \define@key{Field}{loc}{%
5861 \def\Fld@loc{#1}%
5862 }
5863 \define@key{Field}{checked}[true]{%
5864 \lowercase{\Field@boolkey{#1}}{checked}%

```

```

5865 }
5866 \define@key{Field}{disabled}[true]{%
5867   \lowercase{\Field@boolkey{#1}}{disabled}%
5868 }
5869 \ifHy@texht
5870   \define@key{Field}{accesskey}{%
5871     \Field@addtoks{accesskey}{#1}%
5872   }%
5873   \define@key{Field}{tabkey}{%
5874     \Field@addtoks{tabkey}{#1}%
5875   }%
5876 \else
5877   \define@key{Field}{accesskey}{%
5878     \Hy@WarnHTMLFieldOption{accesskey}%
5879   }%
5880   \define@key{Field}{tabkey}{%
5881     \Hy@WarnHTMLFieldOption{tabkey}%
5882   }%
5883 \fi
5884 \define@key{Field}{name}{%
5885   \def\Fld@name{#1}%
5886 }
5887 \let\Fld@altname\relax
5888 \define@key{Field}{altname}{%
5889   \def\Fld@altname{#1}%
5890 }
5891 \let\Fld@mappingname\relax
5892 \define@key{Field}{mappingname}{%
5893   \def\Fld@mappingname{#1}%
5894 }
5895 \define@key{Field}{width}{%
5896   \def\Fld@width{#1}%
5897   \Field@Width#1\setbox0=\hbox{m}%
5898 }
5899 \define@key{Field}{maxlen}{%
5900   \def\Fld@maxlen{#1}%
5901 }
5902 \define@key{Field}{menulength}{%
5903   \Fld@menulength=#1\relax
5904 }
5905 \define@key{Field}{height}{%
5906   \def\Fld@height{#1}%
5907 }
5908 \define@key{Field}{charsize}{%
5909   \setlength{\Fld@charsize}{#1}%
5910 }
5911 \define@key{Field}{borderwidth}{%
5912   \Hy@defaultbp\Fld@borderwidth{#1}%
5913 }
5914 \def\Hy@defaultbp#1#2{%
5915   \begingroup
5916   \afterassignment\Hy@defaultbpAux
5917   \dimen@=#2bp\relax{#1}{#2}%
5918 }

```

```

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

```

```

5973   #1%
5974 }%
5975 \ifx\|#3\%
5976   \expandafter\@gobble
5977 \else
5978   \begingroup
5979     \lccode`0=#2\relax
5980   \lowercase{\endgroup
5981     \expandafter\def\expandafter\Fld@temp\expandafter{%
5982       \Fld@temp
5983       0%
5984     }%
5985   }%
5986   \expandafter\@firstofone
5987 \fi
5988 {%
5989   \Fld@@DingDef#3\@nil
5990 }%
5991 }

5992 \define@key{Field}{rotation}{%
5993   \def\Fld@rotation{#1}%
5994 }

5995 \define@key{Field}{backgroundcolor}{%
5996   \HyColor@FieldBColor{#1}\Fld@bcolor{hyperref}{backgroundcolor}%
5997 }
5998 \define@key{Field}{bordercolor}{%
5999   \HyColor@FieldBColor{#1}\Fld@bordercolor{hyperref}{bordercolor}%
6000 }
6001 \define@key{Field}{color}{%
6002   \HyColor@FieldColor{#1}\Fld@color{hyperref}{color}%
6003 }

6004 \let\Fld@onclick@code\ltx@empty
6005 \let\Fld@format@code\ltx@empty
6006 \let\Fld@validate@code\ltx@empty
6007 \let\Fld@calculate@code\ltx@empty
6008 \let\Fld@keystroke@code\ltx@empty
6009 \let\Fld@onfocus@code\ltx@empty
6010 \let\Fld@onblur@code\ltx@empty
6011 \let\Fld@onmousedown@code\ltx@empty
6012 \let\Fld@onmouseup@code\ltx@empty
6013 \let\Fld@onenter@code\ltx@empty
6014 \let\Fld@onexit@code\ltx@empty
6015 \def\Hy@temp#1{%
6016   \expandafter\Hy@@temp\csname Fld@#1@code\endcsname{#1}%
6017 }
6018 \def\Hy@@temp#1#2{%
6019   \ifHy@pdfa
6020     \define@key{Field}{#2}{%
6021       \Hy@Error{%
6022         PDF/A: Additional action `#2' is prohibited%
6023       }\@ehc
6024     }%
6025   \else

```

```

6026 \define@key{Field}{#2}{%
6027 \def#1{##1}%
6028 }%
6029 \fi
6030 }
6031 \Hy@temp{keystroke}
6032 \Hy@temp{format}
6033 \Hy@temp{validate}
6034 \Hy@temp{calculate}
6035 \Hy@temp{onfocus}
6036 \Hy@temp{onblur}
6037 \Hy@temp{onenter}
6038 \Hy@temp{onexit}

6039 \let\Fld@calculate@sortkey\ltx@empty
6040 \define@key{Field}{calculatesortkey}[1]{%
6041 \def\Fld@calculate@sortkey{#1}%
6042 }

6043 \ifHy@texht
6044 \def\Hy@temp#1{%
6045 \define@key{Field}{#1}{%
6046 \Field@addtoks{#1}{##1}%
6047 }%
6048 }%
6049 \else
6050 \def\Hy@temp#1{%
6051 \define@key{Field}{#1}{%
6052 \Hy@WarnHTMLFieldOption{#1}%
6053 }%
6054 }%
6055 \fi
6056 \Hy@temp{ondblclick}
6057 \Hy@temp{onmousedown}
6058 \Hy@temp{onmouseup}
6059 \Hy@temp{onmouseover}
6060 \Hy@temp{onmousemove}
6061 \Hy@temp{onmouseout}
6062 \Hy@temp{onkeydown}
6063 \Hy@temp{onkeyup}
6064 \Hy@temp{onselect}
6065 \Hy@temp{onchange}
6066 \Hy@temp{onkeypress}
6067 \ifHy@texht
6068 \define@key{Field}{onclick}{%
6069 \Field@addtoks{onclick}{#1}%
6070 }%
6071 \else
6072 \ifHy@pdfa
6073 \define@key{Field}{onclick}{%
6074 \Hy@Error{%
6075 PDF/A: Action `onclick' is prohibited%
6076 }\@ehc
6077 }%
6078 \else

```

```

6079 \define@key{Field}{onclick}{%
6080 \def\Fld@onclick@code{#1}%
6081 }%
6082 \fi
6083 \fi

6084 \DeclareRobustCommand\TextField{%
6085 \@ifnextchar[{\@TextField}{\@TextField[]}%
6086 }
6087 \DeclareRobustCommand\ChoiceMenu{%
6088 \@ifnextchar[{\@ChoiceMenu}{\@ChoiceMenu[]}%
6089 }
6090 \DeclareRobustCommand\CheckBox{%
6091 \@ifnextchar[{\@CheckBox}{\@CheckBox[]}%
6092 }
6093 \DeclareRobustCommand\PushButton{%
6094 \@ifnextchar[{\@PushButton}{\@PushButton[]}%
6095 }
6096 \DeclareRobustCommand\Gauge{%
6097 \@ifnextchar[{\@Gauge}{\@Gauge[]}%
6098 }
6099 \DeclareRobustCommand\Submit{%
6100 \@ifnextchar[{\@Submit}{\@Submit[]}%
6101 }
6102 \DeclareRobustCommand\Reset{%
6103 \@ifnextchar[{\@Reset}{\@Reset[]}%
6104 }
6105 \def\LayoutTextField#1#2{% label, field
6106 \def\Hy@temp{#1}%
6107 \ifx\Hy@temp\@empty
6108 #2%
6109 \else
6110 #1 #2%
6111 \fi
6112 }
6113 \def\LayoutChoiceField#1#2{% label, field
6114 \def\Hy@temp{#1}%
6115 \ifx\Hy@temp\@empty
6116 #2%
6117 \else
6118 #1 #2%
6119 \fi
6120 }
6121 \def\LayoutCheckField#1#2{% label, field
6122 \def\Hy@temp{#1}%
6123 \ifx\Hy@temp\@empty
6124 #2%
6125 \else
6126 #1 #2%
6127 \fi
6128 }
6129 \def\LayoutPushButtonField#1{% button
6130 #1%
6131 }
6132 \def\MakeRadioField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}

```

```

6133 \def\MakeCheckField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6134 \def\MakeTextField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6135 \def\MakeChoiceField#1#2{\vbox to #2{\hbox to #1{\hfill}\vfill}}
6136 \def\MakeButtonField#1{%
6137   \sbox0{%
6138     \hskip\Fld@borderwidth bp#1\hskip\Fld@borderwidth bp%
6139   }%
6140   \@tempdima\ht0 %
6141   \advance\@tempdima by \Fld@borderwidth bp %
6142   \advance\@tempdima by \Fld@borderwidth bp %
6143   \ht0\@tempdima
6144   \@tempdima\dp0 %
6145   \advance\@tempdima by \Fld@borderwidth bp %
6146   \advance\@tempdima by \Fld@borderwidth bp %
6147   \dp0\@tempdima
6148   \box0\relax
6149 }
6150 \def\DefaultHeightofSubmit{14pt}
6151 \def\DefaultWidthofSubmit{2cm}
6152 \def\DefaultHeightofReset{14pt}
6153 \def\DefaultWidthofReset{2cm}
6154 \def\DefaultHeightofCheckBox{\normalbaselineskip}
6155 \def\DefaultWidthofCheckBox{\normalbaselineskip}
6156 \def\DefaultHeightofChoiceMenu{\normalbaselineskip}
6157 \def\DefaultWidthofChoiceMenu{\normalbaselineskip}
6158 \def\DefaultHeightofText{\normalbaselineskip}
6159 \def\DefaultHeightofTextMultiline{4\normalbaselineskip}
6160 \def\DefaultWidthofText{3cm}
6161 \def\DefaultOptionsofSubmit{print,name=Submit,noexport}
6162 \def\DefaultOptionsofReset{print,name=Reset,noexport}
6163 \def\DefaultOptionsofPushButton{print}
6164 \def\DefaultOptionsofCheckBox{print}
6165 \def\DefaultOptionsofText{print}

```

Default options for the types of \ChoiceMenu.

```

6166 \def\DefaultOptionsofListBox{print}
6167 \def\DefaultOptionsofComboBox{print,edit,sort}
6168 \def\DefaultOptionsofPopdownBox{print}
6169 \def\DefaultOptionsofRadio{print,notoggletooff}

```

20 Setup

```

6170 \ifHy@hyperfigures
6171   \Hy@Info{Hyper figures ON}%
6172 \else
6173   \Hy@Info{Hyper figures OFF}%
6174 \fi
6175 \ifHy@nesting
6176   \Hy@Info{Link nesting ON}%
6177 \else
6178   \Hy@Info{Link nesting OFF}%
6179 \fi
6180 \ifHy@hyperindex

```

```

6181 \Hy@Info{Hyper index ON}%
6182 \else
6183 \Hy@Info{Hyper index OFF}%
6184 \fi
6185 \ifHy@backref
6186 \Hy@Info{backreferencing ON}%
6187 \else
6188 \Hy@Info{backreferencing OFF}%
6189 \fi
6190 \ifHy@colorlinks
6191 \Hy@Info{Link coloring ON}%
6192 \else
6193 \Hy@Info{Link coloring OFF}%
6194 \fi
6195 \ifHy@ocgcolorlinks
6196 \Hy@Info{Link coloring with OCG ON}%
6197 \else
6198 \Hy@Info{Link coloring with OCG OFF}%
6199 \fi
6200 \ifHy@pdfa
6201 \Hy@Info{PDF/A mode ON}%
6202 \else
6203 \Hy@Info{PDF/A mode OFF}%
6204 \fi

```

21 Low-level utility macros

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

```

6205 \edef\hyper@hash{\string#}
6206 \edef\hyper@tilde{\string~}
6207 \edef\hyper@quote{\string"}

```

Support \label before \begin{document}.

```

6208 \def\@currentHref{Doc-Start}
6209 \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.

```

6210 \Hy@AtBeginDocument{%
6211 \Hy@pdfstringtrue
6212 \PDF@SetupDoc
6213 \let\PDF@SetupDoc\@empty
6214 \Hy@DisableOption{pdfpagescrop}%
6215 \Hy@DisableOption{pdfpagemode}%
6216 \Hy@DisableOption{pdfnonfullscreenpagemode}%
6217 \Hy@DisableOption{pdfdirection}%
6218 \Hy@DisableOption{pdfviewarea}%
6219 \Hy@DisableOption{pdfviewclip}%
6220 \Hy@DisableOption{pdfprintarea}%
6221 \Hy@DisableOption{pdfprintclip}%
6222 \Hy@DisableOption{pdfprintscaling}%
6223 \Hy@DisableOption{pdfduplex}%
6224 \Hy@DisableOption{pdfpicktraybypdfsize}%

```

```

6225 \Hy@DisableOption{pdfprintpagerange}%
6226 \Hy@DisableOption{pdfnumcopies}%
6227 \Hy@DisableOption{pdfstartview}%
6228 \Hy@DisableOption{pdfstartpage}%
6229 \Hy@DisableOption{pdftoolbar}%
6230 \Hy@DisableOption{pdfmenubar}%
6231 \Hy@DisableOption{pdfwindowui}%
6232 \Hy@DisableOption{pdffitwindow}%
6233 \Hy@DisableOption{pdfcenterwindow}%
6234 \Hy@DisableOption{pdfdisplaydoctitle}%
6235 \Hy@DisableOption{pdfpagelayout}%
6236 \Hy@DisableOption{pdflang}%
6237 \Hy@DisableOption{baseurl}%
6238 \ifHy@texht\else\hyper@anchorstart{Doc-Start}\hyper@anchorend\fi
6239 \Hy@pdfstringfalse
6240 }

```

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

```

6241 \@ifundefined{@kernel@ref}
6242 {\LetLtxMacro\NoHy@OrgRef\ref
6243 \DeclareRobustCommand*{\ref}{%
6244 \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6245 }
6246 \LetLtxMacro\NoHy@OrgPageRef\pageref
6247 \DeclareRobustCommand*{\pageref}{%
6248 \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6249 }{}

```

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.

```

6250 \def\NoHyper{%
6251 \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6252 \def\hyper@@anchor##1##2{##2\Hy@xspace@end}%
6253 \global\let\hyper@livelink\hyper@link
6254 \gdef\hyper@link##1##2##3{##3\Hy@xspace@end}%
6255 \let\hyper@anchor\ltx@gobble
6256 \let\hyper@anchorstart\ltx@gobble
6257 \def\hyper@anchorend{\Hy@xspace@end}%
6258 \let\hyper@linkstart\ltx@gobbletwo
6259 \def\hyper@linkend{\Hy@xspace@end}%
6260 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6261 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6262 \let\Hy@backout\@gobble
6263 }
6264 \def\stop@hyper{%
6265 \def\hyper@link@[##1]##2##3##4{##4\Hy@xspace@end}%
6266 \let\Hy@backout\@gobble
6267 \let\hyper@@anchor\ltx@gobble

```

```

6268 \def\hyper@link##1##2##3{##3\Hy@xspace@end}%
6269 \let\hyper@anchor\ltx@gobble
6270 \let\hyper@anchorstart\ltx@gobble
6271 \def\hyper@anchorend{\Hy@xspace@end}%
6272 \let\hyper@linkstart\ltx@gobbletwo
6273 \def\hyper@linkend{\Hy@xspace@end}%
6274 \def\hyper@linkurl##1##2{##1\Hy@xspace@end}%
6275 \def\hyper@linkfile##1##2##3{##1\Hy@xspace@end}%
6276 }
6277 \def\endNoHyper{%
6278 \global\let\hyper@link\hyper@livelink
6279 }
6280 \endpackage

```

23 Package nohyperref

This package is introduced by Sebastian Rahtz.

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

Some low-level commands:

```

6281 (*nohyperref)
6282 \RequirePackage{letltxmacro}[2008/06/13]
6283 \let\hyper@@anchor\@gobble
6284 \def\hyper@link#1#2#3{#3}%
6285 \let\hyper@anchorstart\@gobble
6286 \let\hyper@anchorend\@empty
6287 \let\hyper@linkstart\@gobbletwo
6288 \let\hyper@linkend\@empty
6289 \def\hyper@linkurl#1#2{#1}%
6290 \def\hyper@linkfile#1#2#3{#1}%
6291 \def\hyper@link@{#1}#2#3{#1}%
6292 \let\PDF@SetupDoc\@empty
6293 \let\PDF@FinishDoc\@empty
6294 \def\nohyperpage#1{#1}

```

Some top-level commands:

```

6295 \def\Acrobatmenu#1#2{\leavevmode#2}
6296 \let\pdfstringdefDisableCommands\@gobbletwo
6297 \let\texorpdfstring\@firstoftwo
6298 \let\pdfbookmark\@undefined
6299 \newcommand\pdfbookmark[3]{}{}
6300 \let\phantomsection\@empty
6301 \let\hypersetup\@gobble
6302 \let\hyperbaseurl\@gobble
6303 \newcommand*{\href}[3]{}{#3}
6304 \let\hyperdef\@gobbletwo
6305 \let\hyperlink\@gobble
6306 \let\hypertarget\@gobble
6307 \def\hyperref{%
6308 \ifnextchar\@gobbleopt{\expandafter\@gobbletwo\@gobble}%
6309 }

```

```

6310 \long\def\@gobbleopt[#1]{ }
6311 \let\hyperpage\@empty
Ignore star from referencing macros. This is only needed in older formats.
6312 \@if@t@r\fmtversion{2022-06-01}
6313 { }%
6314 { %
6315 \LetLtxMacro\NoHy@OrgRef\ref
6316 \DeclareRobustCommand*{\ref}{ %
6317 \@ifstar\NoHy@OrgRef\NoHy@OrgRef
6318 }
6319 \LetLtxMacro\NoHy@OrgPageRef\pageref
6320 \DeclareRobustCommand*{\pageref}{ %
6321 \@ifstar\NoHy@OrgPageRef\NoHy@OrgPageRef
6322 }%
6323 }
6324 \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}`

```

6325 (*package)
6326 \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.

```

6327 \if@filesw
6328 \immediate\write\@auxout{%
6329 \string\providecommand\string\HyperFirstAtBeginDocument{%
6330 \string\AtBeginDocument}^^J%
6331 \string\HyperFirstAtBeginDocument{%
6332 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6333 \string\global\string\let\string\oldnewlabel\string\newlabel^^J%
6334 \string\gdef\string\newlabel\string#1\string#2{%
6335 \string\newlabelxx{\string#1}\string#2}^^J%
6336 \string\gdef\string\newlabelxx%
6337 \string#1\string#2\string#3\string#4\string#5\string#6{%
6338 \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.

```

6339 \string\AtEndDocument{%
6340 \string\ifx\string\hyper@anchor\string\@undefined^^J%
6341 \string\let\string\newlabel\string\oldnewlabel^^J%
6342 \string\fi%
6343 }^^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.

```

6344     \string\fi%
6345   }^^J%
6346   \string\global\string\let\string\hyper@last\relax^^J%
6347   \string\gdef\string\HyperFirstAtBeginDocument\string#1{\string#1}%
6348 }%
6349 \fi
6350 \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.

```

6351 \ifx\hyper@last@\undefined
6352   \def\newlabel#1#2{\@newl@bel r{#1}{#2}{\}{\}{\}}}%
6353 \fi
6354 }

```

25 Title strings

If options pdftitle and pdfauthor are not used, these informations for the pdf information dictionary can be extracted by the \expandafter \cmd@to@cs \string \title and \expandafter \cmd@to@cs \string \author .

```

6355 \ifHy@pdfusetitle
6356   \let\HyOrg@title\title
6357   \let\HyOrg@author\author
6358   \def\title{\@ifnextchar{\Hy@scanopttitle}{\Hy@scantitle}}%
6359   \def\Hy@scanopttitle[#1]{%
6360     \gdef\Hy@title{#1}%
6361     \HyOrg@title{#1}%
6362   }%
6363   \def\Hy@scantitle#1{%
6364     \gdef\Hy@title{#1}%
6365     \HyOrg@title{#1}%
6366   }%
6367   \def\author{\@ifnextchar{\Hy@scanoptauthor}{\Hy@scanauthor}}%
6368   \def\Hy@scanoptauthor[#1]{%
6369     \gdef\Hy@author{#1}%
6370     \HyOrg@author{#1}%
6371   }%
6372   \def\Hy@scanauthor#1{%
6373     \gdef\Hy@author{#1}%
6374     \HyOrg@author{#1}%
6375   }%

```

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

```

6376 \begingroup
6377   \def\process@me#1\@nil#2{%
6378     \expandafter\let\expandafter\x\csname @#2\endcsname
6379     \edef\y{\expandafter\strip@prefix\meaning\x}%

```

```

6380 \def\c##1##2\@nil{%
6381 \ifx\\##1\\%
6382 \else
6383 \expandafter\gdef\csname Hy@#2\expandafter\endcsname
6384 \expandafter{x}%
6385 \fi
6386 }%
6387 \expandafter\c\y\relax#1\@nil
6388 }%
6389 \expandafter\process@me\string\@latex@\@nil{title}%
6390 \expandafter\process@me\string\@latex@\@nil{author}%
6391 \endgroup
6392 \fi
6393 \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 ¹ removes its argument.

```

6394 \def\Hy@UseMaketitleString#1{%
6395 \ltx@ifundefined{Hy@#1}{-}{%
6396 \begingroup
6397 \let\Hy@saved@hook\pdfstringdefPreHook
6398 \pdfstringdefDisableCommands{%
6399 \expandafter\let\expandafter\\ \csname Hy@newline@#1\endcsname
6400 \let\newline\\%
6401 \def\and{; }%
6402 \let\thanks\@gobble%
6403 }%
6404 \expandafter\ifx\csname @pdf#1\endcsname\@empty
6405 \expandafter\pdfstringdef\csname @pdf#1\endcsname{%
6406 \csname Hy@#1\endcsname\@empty
6407 }%
6408 \fi
6409 \global\let\pdfstringdefPreHook\Hy@saved@hook
6410 \endgroup
6411 }%
6412 }
6413 \def\Hy@newline@title#1{ #1}
6414 \def\Hy@newline@author#1{, #1}
6415 \def\Hy@UseMaketitleInfos{%
6416 \Hy@UseMaketitleString{title}%
6417 \Hy@UseMaketitleString{author}%
6418 }

```

26 Page numbers

This stuff is done by Heiko Oberdiek.

27 Every page

```
6419 \RequirePackage{atbegshi}[2007/09/09]
6420 \let\Hy@EveryPageHook\ltx@empty
6421 \let\Hy@EveryPageBoxHook\ltx@empty
6422 \let\Hy@FirstPageHook\ltx@empty
6423 \AtBeginShipout{%
6424   \Hy@EveryPageHook
6425   \ifx\Hy@EveryPageBoxHook\ltx@empty
6426     \else
6427       \setbox\AtBeginShipoutBox=\vbox{%
6428         \offinterlineskip
6429         \Hy@EveryPageBoxHook
6430         \box\AtBeginShipoutBox
6431       }%
6432     \fi
6433 }
6434 \ltx@iffileloaded{hpdftex.def}{%
6435   \AtBeginShipout{%
6436     \Hy@FirstPageHook
6437     \global\let\Hy@FirstPageHook\ltx@empty
6438   }%
6439 }{%
6440   \AtBeginShipoutFirst{%
6441     \Hy@FirstPageHook
6442   }%
6443 }
6444 \g@addto@macro\Hy@FirstPageHook{%
6445   \PDF@FinishDoc
6446   \global\let\PDF@FinishDoc\ltx@empty
6447 }
```

27.1 PDF /PageLabels

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

```
6448 \ifHy@pdfpagelabels
6449   \begingroup\expandafter\expandafter\expandafter\endgroup
6450   \expandafter\ifx\csname thepage\endcsname\relax
6451     \Hy@pdfpagelabelsfalse
6452     \Hy@WarningNoLine{%
6453       Option `pdfpagelabels' is turned off\MessageBreak
6454       because \string\thepage\space is undefined%
6455     }%
6456     \csname fi\endcsname
6457     \csname iffalse\expandafter\endcsname
6458     \fi
```

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

```

\string \thepage for the page.
6459 \def\thispdfpagelabel#1{%
6460   \gdef\HyPL@thisLabel{#1}%
6461 }%
6462 \global\let\HyPL@thisLabel\relax

```

`\HyPL@Labels` The page labels are collected in `\expandafter \cmd@to@cs \string \HyPL @Labels` and set at the end of the document.

```
6463 \let\HyPL@Labels\ltx@empty
```

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

```

6464 \newcount\Hy@abspage
6465 \Hy@abspage=0 %

```

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

```

6466 \def\HyPL@LastType{init}%
6467 \def\HyPL@LastNumber{0}%
6468 \let\HyPL@LastPrefix\ltx@empty

```

Definitions for the PDF names of the \LaTeX pendants.

```

6469 \def\HyPL@arabic{D}%
6470 \def\HyPL@Roman{R}%
6471 \def\HyPL@roman{r}%
6472 \def\HyPL@Alph{A}%
6473 \def\HyPL@alph{a}%

6474 \let\HyPL@SlidesSetPage\ltx@empty
6475 \ltx@ifclassloaded{slides}{%
6476   \def\HyPL@SlidesSetPage{%
6477     \advance\c@page\ltx@one
6478     \ifnum\value{page}>\ltx@one
6479       \protected@edef\HyPL@SlidesOptionalPage{%
6480         \Hy@SlidesFormatOptionalPage{\thepage}%
6481       }%
6482     \else
6483       \let\HyPL@SlidesOptionalPage\ltx@empty
6484     \fi
6485     \advance\c@page-\ltx@one
6486     \def\HyPL@page{%
6487       \csname the\Hy@SlidesPage\endcsname
6488       \HyPL@SlidesOptionalPage
6489     }%
6490   }%
6491 }{}%

```

`\HyPL@EveryPage` If a page is shipout and the page number is known, `\expandafter \cmd@to@cs \string \HyPL @EveryPage` has to be called. It stores the current page label.

```

6492 \def\HyPL@EveryPage{%
6493   \begingroup
6494   \ifx\HyPL@thisLabel\relax
6495     \let\HyPL@page\thepage
6496     \HyPL@SlidesSetPage
6497   \else

```

```

6498     \let\HyPL@page\HyPL@thisLabel
6499     \global\let\HyPL@thisLabel\relax
6500   \fi
6501   \let\HyPL@Type\relax
6502   \ifnum\c@page>0 %
6503     \ifx\HyPL@SlidesSetPage\ltx@empty
6504       \expandafter\HyPL@CheckThePage\HyPL@page\@nil
6505     \fi
6506   \fi
6507   \let\Hy@temp Y%
6508   \ifx\HyPL@Type\HyPL@LastType
6509   \else
6510     \let\Hy@temp N%
6511   \fi
6512   \ifx\HyPL@Type\relax
6513     \pdfstringdef\HyPL@Prefix{\HyPL@page}%
6514   \else
6515     \pdfstringdef\HyPL@Prefix\HyPL@Prefix
6516   \fi
6517   \ifx\HyPL@Prefix\HyPL@LastPrefix
6518   \else
6519     \let\Hy@temp N%
6520   \fi
6521   \if Y\Hy@temp
6522     \advance\c@page by -1 %
6523     \ifnum\HyPL@LastNumber=\the\c@page\relax
6524     \else
6525       \let\Hy@temp N%
6526     \fi
6527     \Hy@StepCount\c@page
6528   \fi
6529   \if N\Hy@temp
6530     \ifx\HyPL@Type\relax
6531       \HyPL@storePageLabel{/P(\HyPL@Prefix)}%
6532     \else
6533       \HyPL@storePageLabel{%
6534         \ifx\HyPL@Prefix\@empty
6535         \else
6536           /P(\HyPL@Prefix)%
6537         \fi
6538         /S/\csname HyPL\HyPL@Type\endcsname
6539         \ifnum\the\c@page=1 %
6540         \else
6541           \space/St \the\c@page
6542         \fi
6543       }%
6544     \fi
6545   \fi
6546   \xdef\HyPL@LastNumber{\the\c@page}%
6547   \global\let\HyPL@LastType\HyPL@Type
6548   \global\let\HyPL@LastPrefix\HyPL@Prefix
6549 \endgroup
6550 \Hy@GlobalStepCount\Hy@abspage
6551 }%

```

`\HyPL@CheckThePage` Macro `\expandafter \cmd@to@cs \string \HyPL @CheckThePage` calls `\expandafter \cmd@to@cs \string \HyPL @@CheckThePage` that does the job.

```
6552 \def\HyPL@CheckThePage#1\@nil{%
6553   \HyPL@@CheckThePage{#1}#1\csname\endcsname\c@page\@nil
6554 }%
```

`\HyPL@@CheckThePage` The first check is, is `\expandafter \cmd@to@cs \string \thepage` is defined such as in L^AT_EX, e.g.: `\csname @arabic\endcsname\c@page`. In the current implementation the check fails, if there is another `\expandafter \cmd@to@cs \string \csname` before.

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

```
6555 \def\HyPL@@CheckThePage#1#2\csname#3\endcsname\c@page#4\@nil{%
6556   \def\Hy@tempa{#4}%
6557   \def\Hy@tempb{\csname\endcsname\c@page}%
6558   \ifx\Hy@tempa\Hy@tempb
6559     \expandafter\ifx\csname HyPL#3\endcsname\relax
6560   \else
6561     \def\HyPL@Type{#3}%
6562     \def\HyPL@Prefix{#2}%
6563     \fi
6564   \else
6565     \begingroup
6566       \let\Hy@next\endgroup
6567       \let\HyPL@found\@undefined
6568       \def\arabic{\HyPL@Format{arabic}}%
6569       \def\Roman{\HyPL@Format{Roman}}%
6570       \def\roman{\HyPL@Format{roman}}%
6571       \def\Alph{\HyPL@Format{Alph}}%
6572       \def\alph{\HyPL@Format{alph}}%
6573       \protected@edef\Hy@temp{#1}%
6574       \ifx\HyPL@found\relax
6575         \toks@{\expandafter{\Hy@temp}}%
6576         \edef\Hy@next{\endgroup
6577           \noexpand\HyPL@@@CheckThePage\the\toks@
6578           \noexpand\HyPL@found\relax\noexpand\@nil
6579         }%
6580       \fi
6581       \Hy@next
6582     \fi
6583   }%
```

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

```
6584 \def\HyPL@Format#1#2{%
6585   \ifx\HyPL@found\@undefined
6586     \expandafter\ifx\csname c@#2\endcsname\c@page
6587     \expandafter\noexpand\csname HyPL@found\endcsname{#1}%
6588   \else
```

```

6589     \expandafter\noexpand\csname#1\endcsname{#2}%
6590     \fi
6591     \else
6592     \expandafter\noexpand\csname#1\endcsname{#2}%
6593     \fi
6594 }%

```

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

```

6595 \def\HyPL@@@CheckThePage#1\HyPL@found#2#3\@nil{%
6596   \def\Hy@tempa{#3}%
6597   \def\Hy@tempb{\HyPL@found\relax}%
6598   \ifx\Hy@tempa\Hy@tempb
6599     \def\HyPL@Type{#2}%
6600     \def\HyPL@Prefix{#1}%
6601   \fi
6602 }%

```

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

```

6603 \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 `\expandafter \cmd@to@cs \string \HyPL @Labels` has the meaning of `\expandafter \cmd@to@cs \string \HyPL @Useless`.

```

6604 \def\HyPL@Useless{0<</S/D>>}%
6605 \@onelevel@sanitize\HyPL@Useless

```

`\HyPL@SetPageLabels` The page labels are written to the PDF catalogue. The command `\expandafter \cmd@to@cs \string \Hy @PutCatalog` is defined in the driver files.

```

6606 \def\HyPL@SetPageLabels{%
6607   \@onelevel@sanitize\HyPL@Labels
6608   \ifx\HyPL@Labels\@empty
6609     \else
6610     \ifx\HyPL@Labels\HyPL@Useless
6611     \else
6612     \Hy@PutCatalog{/PageLabels<</Nums[\HyPL@Labels]>>}%
6613     \fi
6614   \fi
6615 }%

6616 \g@addto@macro\Hy@EveryPageHook{\HyPL@EveryPage}%
6617 \fi

```

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

```

6618 \Hy@DisableOption{pdfpagelabels}
6619 </package>

```

27.1.1 pdfTeX and VTeX

Because of pdfTeX’s `\expandafter \cmd@to@cs \string \pdfcatalog` command the `/PageLabels` entry can set at end of document in the first run.

\Hy@PutCatalog

```
6620 <*pdfTeX>
6621 \pdf@ifdraftmode{%
6622   \let\Hy@PutCatalog\ltx@gobble
6623 }{%
6624   \let\Hy@PutCatalog\pdfcatalog
6625 }
6626 </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 \expandafter \cmd@to@cs \string \VTeXversion reports 660.

```
6627 <*vTeX>
6628 \providecommand*\XR@ext}{pdf}
6629 \edef\Hy@VTeXversion{%
6630   \ifx\VTeXversion\@undefined
6631     \z@
6632   \else
6633     \ifx\VTeXversion\relax
6634       \z@
6635     \else
6636       \VTeXversion
6637     \fi
6638   \fi
6639 }
6640 \begingroup
6641   \ifnum\Hy@VTeXversion<660 %
6642     \gdef\Hy@PutCatalog#1{%
6643       \Hy@WarningNoLine{%
6644         VTeX 6.59g or above required for pdfpagelabels%
6645       }%
6646     }%
6647   \else
6648     \gdef\Hy@PutCatalog#1{%
6649       \Hy@vt@PutCatalog#1/PageLabels<<>>\@nil
6650     }%
6651     \gdef\Hy@vt@PutCatalog#1/PageLabels<<#2>>#3\@nil{%
6652       \ifx\#2\%
6653         \else
6654           \immediate\special{!pdfpagelabels #2}%
6655         \fi
6656       }%
6657     \fi
6658 \endgroup
6659 </vTeX>

6660 <*pdfTeX | vTeX>
```

\HyPL@StorePageLabel This macro adds the entry #1 to \expandafter \cmd@to@cs \string \HyPL@Labels.

```
6661 \ifHy@pdfpagelabels
6662   \def\HyPL@StorePageLabel#1{%
```

```

6663 \toks@\expandafter{\HyPL@Labels}%
6664 \xdef\HyPL@Labels{%
6665   \the\toks@
6666   \the\Hy@abspage<<#1>>%
6667 }%
6668 }%

```

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.

```

6669 \RequirePackage{atveryend}[2009/12/07]%
6670 \AtVeryEndDocument{%
6671   \HyPL@SetPageLabels
6672 }%

6673 \fi
6674 </pdfTeX | vTeX>

```

27.1.2 xetex

```

6675 <*xetex>
6676 \HyPsd@LoadUnicode
6677 \Hy@unicodetrue
6678 \ifx\HyPsd@pdfencoding\HyPsd@pdfencoding@unicode
6679 \else
6680   \let\HyPsd@pdfencoding\HyPsd@pdfencoding@auto
6681 \fi
6682 \HyPsd@LoadStringEncoding
6683 \define@key{Hyp}{unicode}[true]{%
6684   \Hy@boolkey{unicode}{#1}%
6685   \ifHy@unicode
6686   \else
6687     \Hy@Warning{%
6688       XeTeX driver only supports `unicode=true'. Ignoring\MessageBreak
6689       option setting `unicode=false'%
6690   }%
6691   \Hy@unicodetrue
6692 \fi
6693 }
6694 \define@key{Hyp}{pdfencoding}{%
6695   \edef\HyPsd@temp{#1}%
6696   \ifx\HyPsd@temp\HyPsd@pdfencoding@unicode
6697     \let\HyPsd@pdfencoding\HyPsd@temp
6698   \else
6699     \ifx\HyPsd@temp\HyPsd@pdfencoding@auto
6700       \let\HyPsd@pdfencoding\HyPsd@temp
6701     \else
6702       \Hy@Warning{%
6703         XeTeX driver only supports\MessageBreak
6704         `pdfencoding=unicode|auto'. Ignoring option\MessageBreak
6705         setting `pdfencoding=\HyPsd@temp'%
6706       }%
6707     \fi
6708   \fi

```

```

6709 }
6710 \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:

```

6711 \def\setpdfinkmargin#1{%
6712   \begingroup
6713     \setlength{\dimen@}{#1}%
6714     \special{dvipdfmx:config g \strip@pt\dimen@}%
6715   \endgroup}
6716 \</xetex>

```

set the pdf version

```

6717 \<dvipdfm | xetex>
6718 \special{pdf:majorversion \Hy@pdf@majorversion}
6719 \special{pdf:minorversion \Hy@pdf@minorversion}
6720 \</dvipdfm | xetex>

```

27.1.3 pdfmarkbase, dvipdfm, xetex

```

6721 \<*pdfmarkbase>
6722 \begingroup
6723   \@ifundefined{headerps@out}{-}{%
6724     \toks@\expandafter{\Hy@FirstPageHook}%
6725     \xdef\Hy@FirstPageHook{%
6726       \noexpand\headerps@out{%
6727         systemdict /pdfmark known%
6728         {%
6729           userdict /?pdfmark systemdict /exec get put%
6730         }{%
6731           userdict /?pdfmark systemdict /pop get put %
6732           userdict /pdfmark systemdict /cleartomark get put%
6733         }%
6734         ifelse%
6735       }%
6736       \the\toks@
6737     }%
6738   }%
6739 \endgroup
6740 \</pdfmarkbase>

```

\Hy@PutCatalog

```

6741 \<dvipdfm | xetex>\def\Hy@PutCatalog#1{\@pdfm@mark{docview <<#1>>}}
6742 \<*pdfmarkbase>
6743 \def\Hy@PutCatalog#1{%
6744   \pdfmark{pdfmark=/PUT,Raw={\string{Catalog\string} <<#1>>}}%
6745 }
6746 \</pdfmarkbase>

6747 \<*pdfmarkbase | dvipdfm | xetex>
6748 \ifHy@pdfpagelabels

```

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

```

6749 \def\HyPL@StorePageLabel#1{%
6750   \if@filesw
6751     \begingroup
6752     \edef\Hy@tempa{\the\Hy@abspage<<#1>>}%

```

```

6753     \immediate\write\@mainaux{%
6754         \string\HyPL@Entry{\Hy@tempa}%
6755     }%
6756 \endgroup
6757 \fi
6758 }%

```

Write a dummy definition of `\expandafter\cmd@to@cs\string\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.

```

6759 \Hy@AtBeginDocument{%
6760     \if@filesw
6761         \immediate\write\@mainaux{%
6762             \string\providecommand\string*\string\HyPL@Entry[1]{}%
6763         }%
6764     \fi
6765     \ifx\HyPL@Labels\@empty
6766         \Hy@WarningNoLine{Rerun to get /PageLabels entry}%
6767     \else
6768         \HyPL@SetPageLabels
6769     \fi
6770     \let\HyPL@Entry\@gobble
6771 }%

```

`\HyPL@Entry`

```

6772 \def\HyPL@Entry#1{%
6773     \expandafter\gdef\expandafter\HyPL@Labels\expandafter{%
6774         \HyPL@Labels
6775         #1%
6776     }%
6777 }%

6778 \fi
6779 </pdfmarkbase | dvipdfm | xetex>

6780 <*packageEnd>

6781 \ifx\MaybeStopEarly\relax
6782 \else
6783     \Hy@stoppeearlytrue
6784     \expandafter\MaybeStopEarly
6785 \fi
6786 \Hy@stoppeearlyfalse

```

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

```

6787 \def\Hy@CounterExists#1{%
6788   \begingroup\expandafter\expandafter\expandafter\endgroup
6789   \expandafter\ifx\csname c@#1\endcsname\relax
6790     \expandafter\@gobble
6791   \else
6792     \begingroup\expandafter\expandafter\expandafter\endgroup
6793     \expandafter\ifx\csname the#1\endcsname\relax
6794       \expandafter\expandafter\expandafter\@gobble
6795     \else
6796       \expandafter\expandafter\expandafter\@firstofone
6797     \fi
6798   \fi
6799 }
6800 \Hy@CounterExists{section}{%
6801   \providecommand\theHequation{\theHsection.\arabic{equation}}}%
6802 }
6803 \providecommand\theHequation{\arabic{equation}}}%
6804 \Hy@CounterExists{part}{%
6805   \providecommand\theHpart{\arabic{part}}}%
6806 }
6807 \ltx@ifundefined{thechapter}{%
6808   \providecommand\theHsection   {\arabic{section}}}%
6809   \providecommand\theHfigure    {\arabic{figure}}}%
6810   \providecommand\theHtable     {\arabic{table}}}%
6811 }{%
6812   \providecommand\theHchapter   {\arabic{chapter}}}%
6813   \providecommand\theHfigure    {\theHchapter.\arabic{figure}}}%
6814   \providecommand\theHtable     {\theHchapter.\arabic{table}}}%
6815   \providecommand\theHsection   {\theHchapter.\arabic{section}}}%
6816 }
6817 \providecommand\theHsubsection {\theHsection.\arabic{subsection}}
6818 \providecommand\theHsubsubsection{\theHsubsection.\arabic{subsubsection}}
6819 \providecommand\theHparagraph  {\theHsubsubsection.\arabic{paragraph}}
6820 \providecommand\theHsubparagraph {\theHparagraph.\arabic{subparagraph}}
6821 \providecommand\theHtheorem    {\theHsection.\arabic{theorem}}
6822 \providecommand\theHthm        {\theHsection.\arabic{thm}}

```

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

```

6823 \let\H@item\item
6824 \newcounter{Item}

```

```

6825 \def\theHItem{\arabic{Item}}
6826 \def\item{%
6827   \@hyper@itemfalse
6828   \if@nmbrlist\@hyper@itemtrue\fi
6829   \H@item
6830 }

6831 \providecommand\theHenumi   {\theHItem}
6832 \providecommand\theHenumii  {\theHItem}
6833 \providecommand\theHenumiii {\theHItem}
6834 \providecommand\theHenumiv  {\theHItem}
6835 \providecommand\theHHfootnote {\arabic{Hfootnote}}
6836 \providecommand\theHmpfootnote{\arabic{mpfootnote}}
6837 \@ifundefined{theHHmpfootnote}{%
6838   \let\theHHmpfootnote\theHHfootnote
6839 }{}

```

Tanmoy asked for this default handling of undefined `\theH<name>` situations. It really isn't clear what would be ideal, whether to turn off hyperizing of unknown elements, to pick up the textual definition of the counter, or to default it to something like `\arabic{name}`. We take the latter course, slightly worriedly.

```

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

```

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`

```

6842 \newif\if@hyper@item
6843 \newif\if@skiphyperref
6844 \@hyper@itemfalse
6845 \@skiphyperreffalse
6846 \ExplSyntaxOn
6847 \def\refstepcounter#1{%
6848   \legacy_if:nF {Hy@pdfstring}
6849   {
6850     \H@refstepcounter{#1}%
6851     \bool_lazy_and:nnT
6852       { \l__hyp_target_create_bool }
6853       { ! \legacy_if_p:n{@skiphyperref} }
6854     {
6855       \legacy_if:nTF {@hyper@item}
6856       {
6857         \stepcounter{Item}%
6858         \hyper@refstepcounter{Item}%
6859         \@hyper@itemfalse
6860       }
6861       {
6862         \hyper@refstepcounter{#1}%
6863       }
6864     }
6865   }
6866 }
6867 \ExplSyntaxOff
6868 \let\Hy@saved@refstepcounter\refstepcounter

```

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

```
6869 \@ifpackageloaded{amsmath}{-}{\newif\ifmeasuring@\measuring@false}
```

`\hyper@refstepcounter`

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

`\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.

```
6887 \def\HyCnt@ProvideTheHCounter#1{%
6888   \@ifundefined{theH#1}{%
6889     \expandafter\def\csname theH#1\endcsname{}%
6890     \def\Hy@temp{\@elt{#1}}%
6891     \ltx@onelevel@sanitize\Hy@temp
6892     \let\HyOrg@elt\@elt
6893     \edef\@elt{%
6894       \noexpand\HyCnt@LookForParentCounter
6895       \expandafter\noexpand\csname theH#1\endcsname
6896     }%
6897     \cl@ckpt
6898     \let\@elt\HyOrg@elt
6899     \expandafter
6900     \ltx@LocalAppendToMacro\csname theH#1\endcsname\expandafter\endcsname
6901     \expandafter{%
6902       \expandafter\@arabic\csname c@#1\endcsname
6903     }%
6904   }{}%
6905 }
```

`\Hy@LookForParentCounter`

```
6906 \def\HyCnt@LookForParentCounter#1#2{%
```

```

6907 \expandafter\let\expandafter\Hy@temp@A\csname cl@#2\endcsname
6908 \ltx@ifundefined{cl@#2}{%
6909 }{%
6910 \ltx@onelevel@sanitize\Hy@temp@A
6911 \edef\Hy@temp@A{%
6912 \noexpand\in@{\Hy@temp}{\Hy@temp@A}%
6913 }\Hy@temp@A
6914 \ifin@
6915 \ltx@ifundefined{theH#2}{%
6916 \expandafter\ltx@LocalAppendToMacro\expandafter#1%
6917 \expandafter{%
6918 \expandafter\@arabic\csname c@#2\endcsname.%
6919 }%
6920 }{%
6921 \expandafter\ltx@LocalAppendToMacro\expandafter#1%
6922 \expandafter{%
6923 \csname theH#2\endcsname.%
6924 }%
6925 }%
6926 \fi
6927 }%
6928 }

```

After `\expandafter \cmd@to@cs \string \appendix` “chapter” (or “section” for classes without chapter) should be replaced by “appendix” to get `\expandafter \cmd@to@cs \string \autoref` work. Macro `\expandafter \cmd@to@cs \string \Hy @chapapp` contains the current valid name like `\expandafter \cmd@to@cs \string \@chapapp`, which cannot be used, because this string depends on the current language.

The “french” package defines counter `\expandafter \cmd@to@cs \string \thechapter` by `\expandafter \cmd@to@cs \string \newcounter {chapter}`, if `\expandafter \cmd@to@cs \string \@ifundefined{chapter}`.

```

6929 \begingroup\expandafter\expandafter\expandafter\endgroup
6930 \expandafter\ifx\csname chapter\endcsname\relax
6931 \def\Hy@chapterstring{section}%
6932 \else
6933 \def\Hy@chapterstring{chapter}%
6934 \fi
6935 \def\Hy@appendixstring{appendix}
6936 \def\Hy@chapapp{\Hy@chapterstring}
6937 \ltx@ifundefined{appendix}{%
6938 }{%
6939 \let\HyOrg@appendix\appendix
6940 \def\Hy@AlphNoErr#1{%
6941 \ifnum\value{#1}>26 %
6942 Alph\number\value{#1}%
6943 \else
6944 \ifnum\value{#1}<1 %
6945 Alph\number\value{#1}%
6946 \else
6947 \Alph{#1}%
6948 \fi
6949 \fi

```

```

6950 }%
6951 \def\appendix{%
6952   \ltx@ifundefined{chapter}{%
6953     \gdef\theHsection{\Hy@AlphNoErr{section}}%
6954   }{%
6955     \gdef\theHchapter{\Hy@AlphNoErr{chapter}}%
6956   }%
6957   \xdef\Hy@chapapp{\Hy@appendixstring}%
6958   \HyOrg@appendix
6959 }%
6960 }

```

\Hy@Test@alph

```

6961 \def\Hy@Test@alph#1{%
6962   \ifcase#1\or
6963     a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or
6964     k\or l\or m\or n\or o\or p\or q\or r\or s\or t\or
6965     u\or v\or w\or x\or y\or z%
6966   \else
6967     \@ctrerr
6968   \fi
6969 }

```

\Hy@Test@Alph

```

6970 \def\Hy@Test@Alph#1{%
6971   \ifcase#1\or
6972     A\or B\or C\or D\or E\or F\or G\or H\or I\or J\or
6973     K\or L\or M\or N\or O\or P\or Q\or R\or S\or T\or
6974     U\or V\or W\or X\or Y\or Z%
6975   \else
6976     \@ctrerr
6977   \fi
6978 }

```

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

```

6979 \NewHook{__hyp/target/setname }
6980 \define@key{Hyp}{next-anchor}{%
6981   \AddToHookNext{__hyp/target/setname}%
6982   {\Hy@MakeCurrentHref{#1}}%
6983 }

```

\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.

```

6984 \def\hyper@makecurrent#1{%
6985   \begingroup
6986   \Hy@safe@activestru
6987   \edef\Hy@param{#1}%
6988   \ifx\Hy@param\Hy@chapterstring
6989     \let\Hy@param\Hy@chapapp
6990   \fi
6991   \ifHy@hypertextnames
6992     \let\@number\@firstofone

```

```

6993 \def\@fnsymbol##1{fnsymbol\number##1}%
6994 \def\@arabic##1{\number##1}%
6995 \ifx\@alph\Hy@Test@alph
6996 \else
6997 \def\@alph{alph\number}%
6998 \fi
6999 \ifx\@Alph\Hy@Test@Alph
7000 \else
7001 \def\@Alph{Alph\number}%
7002 \fi
7003 \ifHy@naturalnames
7004 \let\textlatin\@firstofone
7005 \xdef\HyperGlobalCurrentHref{\csname the#1\endcsname}%
7006 \else
7007 \xdef\HyperGlobalCurrentHref{%
7008 \csname
7009 the%
7010 \expandafter\ifx\csname theH#1\endcsname\relax\else H\fi
7011 #1%
7012 \endcsname
7013 }%
7014 \fi
7015 \xdef\HyperGlobalCurrentHref{%
7016 \Hy@param.\expandafter\strip@prefix\meaning\HyperGlobalCurrentHref
7017 }%
7018 \else
7019 \Hy@GlobalStepCount\Hy@linkcounter
7020 \xdef\HyperGlobalCurrentHref{\Hy@param.\the\Hy@linkcounter}%
7021 \fi
7022 \endgroup
7023 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7024 \ifHy@localanchorname
7025 \let\@currentHref\HyperLocalCurrentHref
7026 \else
7027 \global\let\@currentHref\HyperGlobalCurrentHref
7028 \fi
7029 \UseHook{__hyp/target/setname}%
7030 }

```

\Hy@MakeCurrentHref

```

7031 \def\Hy@MakeCurrentHref#1{%
7032 \edef\HyperLocalCurrentHref{#1}%
7033 \@onelevel@sanitize\HyperLocalCurrentHref
7034 \global\let\HyperGlobalCurrentHref\HyperLocalCurrentHref
7035 \let\HyperLocalCurrentHref\HyperGlobalCurrentHref
7036 \ifHy@localanchorname
7037 \let\@currentHref\HyperLocalCurrentHref
7038 \else
7039 \global\let\@currentHref\HyperGlobalCurrentHref
7040 \fi
7041 }

```

\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.

```

7042 \def\Hy@MakeCurrentHrefAuto#1{%
7043 \Hy@GlobalStepCount\Hy@linkcounter
7044 \Hy@MakeCurrentHref{#1.\the\Hy@linkcounter}%
7045 \UseHook{__hyp/target/setname}}

```

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

```

7046 \def\@currentHlabel{\@currentHref}

```

29 Package ifthen support

Since version 6.75a this is done in package nameref.

For compatibility `\expandafter \cmd@to@cs \string \hypergetref` and `\expandafter \cmd@to@cs \string \hypergetpageref` are still provided. But they do not generate warnings, if the reference is undefined.

```

7047 \def\hypergetref#1{\getrefbykeydefault{#1}{}}{??}}
7048 \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:

```

7049 \@ifpackageloaded{titlesec}{%
7050 \def\ttl@Hy@steplink#1{%
7051 \Hy@MakeCurrentHrefAuto{#1*}%
7052 \edef\ttl@Hy@saveanchor{%
7053 \noexpand\Hy@raisedlink{%
7054 \noexpand\hyper@anchorstart{\@currentHref}%
7055 \noexpand\hyper@anchorend
7056 \def\noexpand\ttl@Hy@SavedCurrentHref{\@currentHref}%
7057 \noexpand\ttl@Hy@PatchSaveWrite
7058 }%
7059 }%
7060 }%
7061 \def\ttl@Hy@PatchSaveWrite{%
7062 \begingroup
7063 \toks@{\expandafter{\ttl@savewrite}}%
7064 \edef\x{\endgroup
7065 \def\noexpand\ttl@savewrite{%
7066 \let\noexpand\@currentHref
7067 \noexpand\ttl@Hy@SavedCurrentHref
7068 \the\toks@
7069 }%
7070 }%
7071 \x
7072 }%
7073 \def\ttl@Hy@refstepcounter#1{%
7074 \let\ttl@b\Hy@raisedlink
7075 \def\Hy@raisedlink##1{%
7076 \def\ttl@Hy@saveanchor{\Hy@raisedlink{##1}}%
7077 }%

```

```

7078 \refstepcounter{#1}%
7079 \let\Hy@raisedlink\ttl@b
7080 }%
7081 }{}

```

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.

```

7082 \@if@t@r\fmtversion{2021-11-15}
7083 {}%
7084 {
7085 \AtBeginDocument{%
7086 \def\Hy@varioref@undefined{{??}{??}}{}{}}
7087 \@ifpackageloaded{varioref}{%
7088 \def\vref@pagenum#1#2{%
7089 \@ifundefined{r@#2}{%
7090 \expandafter\let\csname r@#2\endcsname\Hy@varioref@undefined
7091 }{}%
7092 \edef#1{\getpagerefnumber{#2}}%
7093 }%
7094 }{}
7095 }
7096 }

```

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 `\expandafter \cmd@to@cs \string \LT @array`: replace `\expandafter \cmd@to@cs \string \refstepcounter` by the original `\expandafter \cmd@to@cs \string \H @refstepcounter` without anchor generation

```

7097 \@ifpackageloaded{longtable}{%
7098 \begingroup
7099 \def\y{\LT@array}%
7100 \@ifdefined{scr@LT@array}{%
7101 \@ifundefined{adl@LT@array}}{\def\y{\adl@LT@array}}%
7102 }{\def\y{\scr@LT@array}}%
7103 \long\def\x\refstepcounter#1#2\@sharp#3#4\@nil{%
7104 \expandafter\endgroup
7105 \expandafter\def\y[##1]##2{%
7106 \H@refstepcounter{#1}%
7107 \hyper@makecurrent{table}%
7108 \let\Hy@LT@currentHref\@currentHref
7109 #2\@sharp###4%
7110 }%
7111 }%
7112 \expandafter\expandafter\expandafter\x\y[{#1}]{#2}\@nil

```

Patch of `\expandafter \cmd@to@cs \string \LT @start`: add anchor before first line after `\vskip\LTpre`

```

7113 \begingroup
7114 \def\x#1\ifvoid\LT@foot#2\fi#3\@nil{%
7115 \endgroup
7116 \def\LT@start{%
7117 #1%
7118 \ifvoid\LT@foot#2\fi
7119 \let\@currentHref\Hy@LT@currentHref
7120 \Hy@raisedlink{%
7121 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7122 }%
7123 #3%
7124 }%
7125 }%
7126 \expandafter\x\LT@start\@nil
7127 }{}

```

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). The exception is that we move the equation incrementation inside the math environment to avoid specials outside and a wrong vertical spacing of equation environments.

```

7128 \let\new@refstepcounter\refstepcounter
7129 \let\H@equation\equation
7130 \let\H@endequation\endequation
7131 \@ifpackageloaded{amsmath}{%
7132 \long\def\Hy@temp{%
7133 \incr@eqnum
7134 \mathdisplay@push
7135 \st@rredfalse \global\@eqnswtrue
7136 \mathdisplay{equation}%
7137 }%
7138 \ifx\Hy@temp\equation
7139 \expandafter\ifx\csname if@fleqn\expandafter\endcsname
7140 \csname iftrue\endcsname
7141 \else
7142 \long\def\equation{%
7143 \mathdisplay@push
7144 \st@rredfalse \global\@eqnswtrue
7145 \mathdisplay{equation}%
7146 \incr@eqnum
7147 }%
7148 \fi
7149 \fi
7150 }{}%
7151 \def\equation{%
7152 \let\refstepcounter\H@refstepcounter
7153 \H@equation
7154 \@ifundefined{theHequation}{%

```

```

7155 \make@stripped@name{\theequation}%
7156 \let\theHequation\newname
7157 }{}%
7158 \hyper@makecurrent{equation}%

```

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

```

7159 \mathopen{%
7160 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}}}%
7161 }%
7162 \let\refstepcounter\new@refstepcounter
7163 }%
7164 \def\endequation{%
7165 \ifx\Hy@raisedlink\ltx@empty
7166 \hyper@anchorend
7167 \else
7168 \mathclose{\Hy@raisedlink{\hyper@anchorend}}}%
7169 \fi
7170 \H@endequation
7171 }%
7172 }

```

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.

```

7173 \newif\if@eqnstar
7174 \@eqnstarfalse
7175 \let\H@eqnarray\eqnarray
7176 \let\H@endeqnarray\endeqnarray
7177 \def\eqnarray{%
7178 \let\Hy@reserved@a\relax
7179 \def\@currentHref{}%
7180 \H@eqnarray
7181 \if@eqnstar
7182 \else
7183 \ifx\\\@currentHref\\%
7184 \else
7185 \@ifundefined{theHequation}{%
7186 \make@stripped@name{\theequation}%
7187 \let\theHequation\newname
7188 }{}%
7189 \hyper@makecurrent{equation}%
7190 \mathopen{%
7191 \Hy@raisedlink{%
7192 \hyper@anchorstart{\@currentHref}\hyper@anchorend
7193 }%
7194 }%
7195 \fi
7196 \fi
7197 }
7198 \def\endeqnarray{%
7199 \H@endeqnarray
7200 }

```

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.

```

7201 \@namedef{eqnarray*}{%
7202   \def\@eqnocr{\nonumber\@seqnocr}\@eqnstartrue\eqnarray
7203 }
7204 \@namedef{endeqnarray*}{%
7205   \nonumber\endeqnarray\@eqnstarfalse
7206 }

```

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

```

7207 \ltx@ifundefined{subeqnarray}{%}{%
7208   \let\H@subeqnarray\subeqnarray
7209   \let\H@endsubeqnarray\endsubeqnarray
7210   \def\subeqnarray{%
7211     \let\Hy@reserved@a\relax
7212     \H@subeqnarray
7213     \@ifundefined{theHequation}{%
7214       \make@stripped@name{\theequation}%
7215       \let\theHequation\newname
7216     }{}%
7217     \hyper@makecurrent{equation}%
7218     \hyper@anchorstart{\@currentHref}{\hyper@anchorend
7219   }%
7220   \def\endsubeqnarray{%
7221     \H@endsubeqnarray
7222   }%
7223   \providecommand\theHsubequation{\theHequation\alph{subequation}}%
7224 }

```

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

```

7225 \def\make@stripped@name#1{%
7226   \begingroup
7227   \escapechar\m@ne
7228   \global\let\newname\@empty
7229   \protected@edef\Hy@tempa{#1}%
7230   \edef\@tempb{%
7231     \noexpand\@tfor\noexpand\Hy@tempa:=%
7232     \expandafter\strip@prefix\meaning\Hy@tempa
7233   }%
7234   \@tempb\do{%
7235     \if\Hy@tempa\else
7236       \if\Hy@tempa\else
7237         \xdef\newname{\newname\Hy@tempa}%
7238       \fi
7239     \fi
7240   }%
7241   \endgroup
7242 }

```

Support for `amsmath`'s subequations:

```

7243 \begingroup\expandafter\expandafter\expandafter\endgroup
7244 \expandafter\ifx\csname subequations\endcsname\relax

```

```

7245 \else
7246 \let\HyOrg@subequations\subequations
7247 \def\subequations{%
7248 \stepcounter{equation}%
7249 \protected@edef\theHparentequation{%
7250 \@ifundefined{theHequation}\theequation\theHequation
7251 }%
7252 \addtocounter{equation}{-1}%
7253 \HyOrg@subequations
7254 \def\theHequation{\theHparentequation\alph{equation}}%
7255 \ignorespaces
7256 }%
7257 \fi

```

Support for package `amsthm` (Daniel Müllner): also `cleveref`.

```

7258 \Hy@AtBeginDocument{%
7259 \@ifpackageloaded{cleveref}{%
7260 \let\Hy@savedthm\@thm
7261 \def\@thm{\ifhmode\unskip\fi\Hy@savedthm}%
7262 }{%
7263 \@ifpackageloaded{amsthm}{%

```

Class `amsbook` uses a different definition of `\@thm`, where two lines are added (thanks to Dan Luecking for his analysis):

```

\let\thm@indent\indent % indent
\thm@headfont{\scshape}% heading font small caps

7264 \def\Hy@temp#1#2#3{%
7265 \ifhmode\unskip\unskip\par\fi
7266 \normalfont
7267 \trivlist
7268 \let\thmheadnl\relax
7269 \let\thm@swap\@gobble
7270 \let\thm@indent\indent % indent
7271 \thm@headfont{\scshape}% heading font small caps
7272 \thm@notefont{\fontseries\mddefault\upshape}%
7273 \thm@headpunct{.}% add period after heading
7274 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7275 \thm@space@setup
7276 #1% style overrides
7277 \@topsep \thm@preskip % used by thm head
7278 \@topsepadd \thm@postskip % used by \@endparenv
7279 \def\@tempa{#2}\ifx\@empty\@tempa
7280 \def\@tempa{\@oparg{\@begintheorem{#3}{}}}%
7281 \else
7282 \refstepcounter{#2}%
7283 \def\@tempa{%
7284 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}}%
7285 }%
7286 \fi
7287 \@tempa
7288 }%
7289 \ifx\Hy@temp\@thm
7290 \def\@thm#1#2#3{%
7291 \ifhmode

```

```

7292 \unskip\unskip\par
7293 \fi
7294 \normalfont
7295 \trivlist
7296 \let\thmheadnl\relax
7297 \let\thm@swap\@gobble
7298 \let\thm@indent\indent % indent
7299 \thm@headfont{\scshape}% heading font small caps
7300 \thm@notefont{\fontseries\mddefault\upshape}%
7301 \thm@headpunct{.}% add period after heading
7302 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7303 \thm@space@setup
7304 #1% style overrides
7305 \@topsep \thm@preskip % used by thm head
7306 \@topsepadd \thm@postskip % used by \@endparenv
7307 \def\dth@counter{#2}%
7308 \ifx\@empty\dth@counter
7309 \def\@tempa{%
7310 \@oparg{\@begintheorem{#3}{}}[]%
7311 }%
7312 \else
7313 \H@refstepcounter{#2}%
7314 \hyper@makecurrent{#2}%
7315 \let\Hy@dth@currentHref\@currentHref
7316 \def\@tempa{%
7317 \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
7318 }%
7319 \fi
7320 \@tempa
7321 }%
7322 \else
7323 \def\@thm#1#2#3{%
7324 \ifhmode
7325 \unskip\unskip\par
7326 \fi
7327 \normalfont
7328 \trivlist
7329 \let\thmheadnl\relax
7330 \let\thm@swap\@gobble
7331 \thm@notefont{\fontseries\mddefault\upshape}%
7332 \thm@headpunct{.}% add period after heading
7333 \thm@headsep 5\p@ plus\p@ minus\p@\relax
7334 \thm@space@setup
7335 #1% style overrides
7336 \@topsep \thm@preskip % used by thm head
7337 \@topsepadd \thm@postskip % used by \@endparenv
7338 \def\dth@counter{#2}%
7339 \ifx\@empty\dth@counter
7340 \def\@tempa{%
7341 \@oparg{\@begintheorem{#3}{}}[]%
7342 }%
7343 \else
7344 \H@refstepcounter{#2}%
7345 \hyper@makecurrent{#2}%

```

```

7346     \let\Hy@dth@currentHref\@currentHref
7347     \def\@tempa{%
7348         \@oparg{\@begintheorem{#3}{\csname the#2\endcsname}}[]%
7349     }%
7350     \fi
7351     \@tempa
7352 }%
7353 \fi
7354 \dth@everypar={%
7355     \@minipagefalse
7356     \global\@newlistfalse
7357     \@noparitemfalse
7358     \if@inlabel
7359         \global\@inlabelfalse
7360     \begingroup
7361         \setbox\z@\lastbox
7362         \ifvoid\z@
7363             \kern-\itemindent
7364         \fi
7365     \endgroup
7366     \ifx\@empty\dth@counter
7367     \else
7368         \Hy@raisedlink{%
7369             \hyper@anchorstart{%
7370                 \ltx@ifundefined{Hy@dth@currentHref}%
7371                 \@currentHref\Hy@dth@currentHref
7372             }\hyper@anchorend
7373         }%
7374     \fi
7375     \unhbox\@labels
7376     \fi
7377     \if@nobreak
7378         \@nobreakfalse \clubpenalty\@M
7379     \else
7380         \clubpenalty\@clubpenalty \everypar{}%
7381     \fi
7382 }%
7383 }%

```

non `amsthm` case, remove final space on line before a theorem for githib issue 11.

```

7384 {%
7385 \let\Hy@savethm\@thm
7386 \def\@thm{\ifhmode\unskip\fi\Hy@savethm}%
7387 }%
7388 }%
7389 }

```

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.

```

7390 \@ifundefined{hyper@nopatch@footnote}{%
7391 \ifHy@hyperfootnotes
7392 \newcounter{Hfootnote}%
7393 \let\H@@@footnotetext\@footnotetext
7394 \let\H@@@footnotemark\@footnotemark
7395 \def\@xfootnotenext[#1]{%
7396 \begingroup
7397 \csname c@\@mpfn\endcsname #1\relax
7398 \unrestored@protected@xdef\@thefnmark{\thempfn}%
7399 \endgroup
7400 \ifx\@footnotetext\@mpfootnotetext
7401 \expandafter\H@@@mpfootnotetext
7402 \else
7403 \expandafter\H@@@footnotetext
7404 \fi
7405 }%
7406 \def\@xfootnotemark[#1]{%
7407 \begingroup
7408 \c@footnote #1\relax
7409 \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7410 \endgroup
7411 \H@@@footnotemark
7412 }%
7413 \let\H@@@mpfootnotetext\@mpfootnotetext
7414 \long\def\@mpfootnotetext#1{%
7415 \H@@@mpfootnotetext{%
7416 \ifHy@nesting
7417 \expandafter\ltx@firstoftwo
7418 \else
7419 \expandafter\ltx@secondoftwo
7420 \fi
7421 {%
7422 \expandafter\hyper@@@anchor\expandafter{%
7423 \Hy@footnote@currentHref
7424 }\ignorespaces #1}%
7425 }{%
7426 \Hy@raisedlink{%
7427 \expandafter\hyper@@@anchor\expandafter{%
7428 \Hy@footnote@currentHref
7429 }\relax}%
7430 }\ignorespaces #1%
7431 }%
7432 }%
7433 }%
7434 \long\def\@footnotetext#1{%
7435 \H@@@footnotetext{%
7436 \ifHy@nesting
7437 \expandafter\ltx@firstoftwo
7438 \else
7439 \expandafter\ltx@secondoftwo
7440 \fi
7441 {%

```

```

7442 \expandafter\hyper@@anchor\expandafter{%
7443 \Hy@footnote@currentHref
7444 }{\ignorespaces #1}%
7445 }{%
7446 \Hy@raisedlink{%
7447 \expandafter\hyper@@anchor\expandafter{%
7448 \Hy@footnote@currentHref
7449 }{\relax}%
7450 }%
7451 \let\@currentHref\Hy@footnote@currentHref
7452 \let\@currentlabelname\@empty
7453 \ignorespaces #1%
7454 }%
7455 }%
7456 }%

```

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.

```

7457 \def\@footnotemark{%
7458 \leavevmode
7459 \ifhmode\edef\x@sf{\the\spacefactor}\nobreak\fi
7460 \stepcounter{Hfootnote}%
7461 \global\let\Hy@saved@currentHref\@currentHref
7462 \hyper@makecurrent{Hfootnote}%
7463 \global\let\Hy@footnote@currentHref\@currentHref
7464 \global\let\@currentHref\Hy@saved@currentHref
7465 \hyper@linkstart{link}{\Hy@footnote@currentHref}%
7466 \@makefnmark
7467 \hyper@linkend
7468 \ifhmode\spacefactor\x@sf\fi
7469 \relax
7470 }%

```

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

```

7471 \@ifpackageloaded{tabularx}{%
7472 \let\HyOrg@TX@endtabularx\TX@endtabularx
7473 \def\Hy@tabularx@hook{%
7474 \let\@footnotetext\H@@footnotetext
7475 \let\@footnotemark\H@@footnotemark
7476 \let\@mpfootnotetext\H@@mpfootnotetext
7477 }%
7478 \begingroup
7479 \toks@\expandafter{\TX@endtabularx}%
7480 \xdef\Hy@gtemp{%
7481 \noexpand\Hy@tabularx@hook
7482 \the\toks@
7483 }%
7484 \endgroup
7485 \let\TX@endtabularx\Hy@gtemp
7486 }{}%

```

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

```

7487 \ifpackageloaded{longtable}{%
7488   \CheckCommand{\LT@p@ftntext}[1]{%
7489     \edef\@tempa{%
7490       \the\LT@p@ftn
7491       \noexpand\footnotetext[\the\c@footnote]%
7492     }%
7493     \global\LT@p@ftn\expandafter{\@tempa{#1}}%
7494   }%
7495 \long\def\LT@p@ftntext#1{%
7496   \edef\@tempa{%
7497     \the\LT@p@ftn
7498     \begingroup
7499     \noexpand\c@footnote=\the\c@footnote\relax
7500     \noexpand\protected@xdef\noexpand\@thefnmark{%
7501       \noexpand\thempfn
7502     }%
7503     \noexpand\Hy@LT@footnotetext{%
7504       \Hy@footnote@currentHref
7505     }%
7506   }%
7507   \global\LT@p@ftn\expandafter{%
7508     \@tempa{#1}%
7509   \endgroup
7510 }%
7511 }%
7512 \long\def\Hy@LT@footnotetext#1#2{%
7513   \H@@footnotetext{%
7514     \ifHy@nesting
7515       \hyper@@anchor{#1}{#2}%
7516     \else
7517       \Hy@raisedlink{%
7518         \hyper@@anchor{#1}{\relax}%
7519       }%
7520     \def\@currentHref{#1}%
7521     \let\@currentlabelname\@empty
7522     #2%
7523   \fi
7524 }%
7525 }%
7526 }{}%
```

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

```

7527 \ifpackageloaded{fancyvrb}{%
7528   \def\V@@footnotetext{%
7529     \insert\footins\bgroup
7530     \csname reset@font\endcsname
7531     \footnotesize
7532     \interlinepenalty\interfootnotelinepenalty
7533     \splittopskip\footnotesep
7534     \splitmaxdepth\dp\strutbox
```

```

7535 \floatingpenalty \@MM
7536 \hsize\columnwidth
7537 \@parboxrestore
7538 \def\@currentcounter{footnote}%
7539 \protected@edef\@currentlabel{\csname p@footnote\endcsname\@thefn-
mark}%
7540 \@makefnmark{}%
7541 \rule{\z@}{\footnotesep}%
7542 \bgroup
7543 \aftergroup\V@@@footnotetext
7544 \Hy@raisedlink{%
7545 \expandafter\hyper@@anchor\expandafter{%
7546 \Hy@footnote@currentHref
7547 }{\relax}%
7548 }%
7549 \let\@currentHref\Hy@footnote@currentHref
7550 \let\@currentlabelname\@empty
7551 \ignorespaces
7552 }%
7553 }{}%

```

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

```

7554 \def\Hy@temp#1{%
7555 \begingroup
7556 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7557 \endgroup
7558 \@footnotemark
7559 }%
7560 \ifx\Hy@temp\footref
7561 \def\footref#1{%
7562 \begingroup
7563 \unrestored@protected@xdef\@thefnmark{\ref{#1}}%
7564 \endgroup
7565 \H@@@footnotemark
7566 }%
7567 \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.

```

7568 \let\HyOrg@maketitle\maketitle
7569 \def\maketitle{%
7570 \let\Hy@saved@footnotemark\@footnotemark
7571 \let\Hy@saved@footnotetext\@footnotetext
7572 \let\@footnotemark\H@@@footnotemark
7573 \let\@footnotetext\H@@@footnotetext
7574 \@ifnextchar[\Hy@maketitle@optarg{% ]
7575 \HyOrg@maketitle
7576 \Hy@maketitle@end
7577 }%
7578 }%
7579 \def\Hy@maketitle@optarg[#1]{%
7580 \HyOrg@maketitle[#1]}%
7581 \Hy@maketitle@end

```

```

7582 }%
7583 \def\Hy@maketitle@end{%
7584   \ifx\@footnotemark\H@@footnotemark
7585     \let\@footnotemark\Hy@saved@footnotemark
7586   \fi
7587   \ifx\@footnotetext\H@@footnotetext
7588     \let\@footnotetext\Hy@saved@footnotetext
7589   \fi
7590 }%

```

\realfootnote Does anyone remember the function and purpose of \expandafter \cmd@to@cs
\string \realfootnote ?

```

7591 \def\realfootnote{%
7592   \@ifnextchar[\@xfootnote%]
7593   {\stepcounter{\@mpfn}%
7594     \protected@xdef\@thefnmark{\thempfn}%
7595     \H@@footnotemark\H@@footnotetext
7596   }%
7597 }%

7598 \fi
7599 }{}
7600 \Hy@DisableOption{hyperfootnotes}

7601 \</packageEnd>
7602 \< *check>
7603 \checklatex
7604 \checkcommand\def\@xfootnotenext[#1]{%
7605   \begingroup
7606     \csname c@\@mpfn\endcsname #1\relax
7607     \unrestored@protected@xdef\@thefnmark{\thempfn}%
7608   \endgroup
7609   \@footnotetext
7610 }
7611 \checkcommand\def\@xfootnotemark[#1]{%
7612   \begingroup
7613     \c@footnote #1\relax
7614     \unrestored@protected@xdef\@thefnmark{\thefootnote}%
7615   \endgroup
7616   \@footnotemark
7617 }
7618 \checkcommand\def\@footnotemark{%
7619   \leavevmode
7620   \ifhmode\edef\@x@sf{\the\spacefactor}\nobreak\fi
7621   \@makefnmark
7622   \ifhmode\spacefactor\@x@sf\fi
7623   \relax
7624 }
7625 \</check>
7626 \< *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.

```

7627 \def\caption{%
7628   \ifx\@captype\@undefined
7629     \@latex@error{\noexpand\caption outside float}\@ehd
7630     \expandafter\@gobble
7631   \else
7632     \H@refstepcounter\@captype
7633     \let\Hy@tempa\@caption
7634     \@ifundefined{float@caption}{%
7635       }{%
7636         \expandafter\ifx\csname @float@cc@\@captype\endcsname
7637           \float@caption
7638         \let\Hy@tempa\Hy@float@caption
7639       \fi
7640     }%
7641     \expandafter\@firstofone
7642   \fi
7643   {\@dblarg{\Hy@tempa\@captype}}}%
7644 }
7645 \long\def\@caption#1[#2]#3{%
7646   \expandafter\ifx\csname if@capstart\expandafter\endcsname
7647     \csname iftrue\endcsname
7648     \global\let\@currentHref\hc@currentHref
7649   \else
7650     \hyper@makecurrent{\@captype}%
7651   \fi
7652   \@ifundefined{NR@getttitle}{%
7653     \def\@currentlabelname{#2}%
7654   }{%
7655     \NR@getttitle{#2}%
7656   }%
7657   \par\addcontentsline{\csname ext@#1\endcsname}{#1}{%
7658     \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7659   }%
7660   \begingroup
7661     \@parboxrestore
7662     \if@minipage
7663       \@setminipage
7664     \fi
7665     \normalsize
7666     \expandafter\ifx\csname if@capstart\expandafter\endcsname
7667       \csname iftrue\endcsname
7668       \global\@capstartfalse
7669     \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces#3}%
7670   \else
7671     \@makecaption{\csname fnum@#1\endcsname}{%
7672       \ignorespaces

```

If we cannot have nesting, the anchor is empty.

```

7673   \ifHy@nesting
7674     \expandafter\hyper@@anchor\expandafter{\@currentHref}{#3}%

```

```

7675     \else
7676     \Hy@raisedlink{%
7677         \expandafter\hyper@@anchor\expandafter{%
7678             \@currentHref
7679         }\relax}%
7680     }%
7681     #3%
7682     \fi
7683     }%
7684     \fi
7685     \par
7686 \endgroup
7687 }

```

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’.

```

7688 \let\Hy@float@caption\@caption
7689 \newcommand{\HyNew@float@makebox}[1]{%
7690     \HyOrg@float@makebox{%
7691         #1\relax
7692         \ifx\Hy@float@currentHref\@undefined
7693         \else
7694             \expandafter\hyper@@anchor\expandafter{%
7695                 \Hy@float@currentHref
7696             }\relax}%
7697         \global\let\Hy@float@currentHref\@undefined
7698     \fi
7699     }%
7700 }%
7701 \@ifpackageloaded{float}{%
7702     \def\Hy@float@caption{%
7703         \ifx\Hy@float@currentHref\@undefined
7704             \hyper@makecurrent{\@capttype}%
7705         \global\let\Hy@float@currentHref\@currentHref
7706         \else
7707             \let\@currentHref\Hy@float@currentHref
7708         \fi
7709         \float@caption
7710     }%
7711     \let\HyOrg@float@makebox\float@makebox
7712     \let\float@makebox\HyNew@float@makebox
7713 }{}
7714 \</packageEnd>
7715 \< *check>
7716 \checklatex[1999/06/01 - 2000/06/01]
7717 \checkcommand\def\caption{%
7718     \ifx\@capttype\@undefined
7719         \@latex@error{\noexpand\caption outside float}\@ehd
7720     \expandafter\@gobble
7721     \else
7722         \refstepcounter\@capttype

```

```

7723 \expandafter\@firstofone
7724 \fi
7725 {\@dblarg{\@caption\@capytype}}%
7726 }
7727 \checkcommand\long\def\@caption#1[#2]#3{%
7728 \par
7729 \addcontentsline{\csname ext@#1\endcsname}{#1}{%
7730 \protect\numberline{\csname the#1\endcsname}{\ignorespaces #2}%
7731 }%
7732 \begingroup
7733 \@parboxrestore
7734 \ifminipage
7735 \@setminipage
7736 \fi
7737 \normalsize
7738 \@makecaption{\csname fnum@#1\endcsname}{\ignorespaces #3}\par
7739 \endgroup
7740 }
7741 \</check>
7742 \<*\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 `\bibtex`; this still breaks some citation packages so we have to work around them. But this remains extremely dangerous. Any or all of *achemso* and *drftcite* may break.

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

```

7743 \def\hyper@natlinkstart#1{%
7744 \Hy@backout{#1}%
7745 \hyper@linkstart{cite}{cite.#1}%
7746 \def\hyper@nat@current{#1}%
7747 }
7748 \def\hyper@natlinkend{%
7749 \hyper@linkend
7750 }
7751 \def\hyper@natlinkbreak#1#2{%
7752 \hyper@linkend#1\hyper@linkstart{cite}{cite.#2}%
7753 }
7754 \def\hyper@natanchorstart#1{%
7755 \Hy@raisedlink{\hyper@anchorstart{cite.#1}}%
7756 }
7757 \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.

```

7758 \ltx@ifundefined{NAT@parse}{%

```

```

7759 \providecommand*\@extra@binfo{}%
7760 \providecommand*\@extra@b@citeb{}%
7761 \def\bibcite#1#2{%
7762   \@newl@bel{b}{#1\@extra@binfo}{%
7763     \hyper@link[cite]{#1\@extra@b@citeb}{#2}%
7764   }%
7765 }%
7766 \gdef\@extra@binfo{}%

```

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

```

7767 \let\Hy@bibcite\bibcite
7768 \begingroup
7769   \@ifundefined{bbl@cite@choice}{}{%
7770     \g@addto@macro\bbl@cite@choice{%
7771       \let\bibcite\Hy@bibcite
7772     }%
7773   }%
7774 \endgroup

```

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

```

7775 \providecommand*\@BIBLABEL{\@biblabel}%
7776 \def\@bibitem[#1]#2{%
7777   \@skiphyperreftrue
7778   \H@item[%
7779     \ifx\Hy@raisedlink\@empty
7780       \hyper@anchorstart{cite.#2\@extra@b@citeb}%
7781       \@BIBLABEL{#1}%
7782       \hyper@anchorend
7783     \else
7784       \Hy@raisedlink{%
7785         \hyper@anchorstart{cite.#2\@extra@b@citeb}\hyper@anchorend
7786       }%
7787       \@BIBLABEL{#1}%
7788     \fi
7789   \hfill
7790 ]%
7791   \@skiphyperreffalse
7792   \if@filesw
7793     \begingroup
7794       \let\protect\noexpand
7795       \immediate\write\@auxout{%
7796         \string\bibcite{#2}{#1}%
7797       }%
7798     \endgroup
7799   \fi
7800   \ignorespaces
7801 }%

```

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

```

7802 \def\@bibitem#1{%
7803   \@skiphyperreftrue\H@item\@skiphyperreffalse
7804   \Hy@raisedlink{%

```

```

7805     \hyper@anchorstart{cite.#1\@extra@b@citeb}\relax\hyper@anchorend
7806   }%
7807   \if@filesw
7808     \begingroup
7809       \let\protect\noexpand
7810       \immediate\write\@auxout{%
7811         \string\bibcite{#1}{\the\value{\@listctr}}}%
7812     }%
7813   \endgroup
7814   \fi
7815   \ignorespaces
7816 }%
7817 }{}

7818 </packageEnd>
7819 <*check>
7820 \checklatex
7821 \checkcommand\def\@bibitem[#1]#2{%
7822   \item[\@biblabel{#1}\hfill]%
7823   \if@filesw
7824     {%
7825       \let\protect\noexpand
7826       \immediate\write\@auxout{%
7827         \string\bibcite{#2}{#1}%
7828       }%
7829     }%
7830   \fi
7831   \ignorespaces
7832 }
7833 \checkcommand\def\@bibitem#1{%
7834   \item
7835   \if@filesw
7836     \immediate\write\@auxout{%
7837       \string\bibcite{#1}{\the\value{\@listctr}}}%
7838   }%
7839   \fi
7840   \ignorespaces
7841 }
7842 </check>
7843 <*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 pdfTeX, then `hyperref` is already loaded at the begin of `harvard.sty`, and the `\newcommand` macros causes error messages.

```

7844 \@ifpackageloaded{harvard}{%
7845   \Hy@AtBeginDocument{%
7846     \Hy@Info{*** compatibility with harvard **** }%
7847     \Hy@raiselinksfalse

```

```

7848 \def\harvardcite#1#2#3#4{%
7849 \global\@namedef{HAR@fn@#1}{\hyper@@link[cite]{}{cite.#1}{#2}}%
7850 \global\@namedef{HAR@an@#1}{\hyper@@link[cite]{}{cite.#1}{#3}}%
7851 \global\@namedef{HAR@yr@#1}{\hyper@@link[cite]{}{cite.#1}{#4}}%
7852 \global\@namedef{HAR@df@#1}{\csname HAR@fn@#1\endcsname}%
7853 }%
7854 \def\HAR@citetoaux#1{%
7855 \if@filesw\immediate\write\@auxout{\string\citation{#1}}\fi%
7856 \ifHy@backref
7857 \ifx\@empty\@currentlabel
7858 \else
7859 \@bsphack
7860 \if@filesw
7861 \protected@write\@auxout{}{%
7862 \string\@writefile{brf}{%
7863 \string\backcite{#1}{%
7864 {\thepage}{\@currentlabel}{\@currentHref}%
7865 }%
7866 }%
7867 }%
7868 \fi
7869 \@esphack
7870 \fi
7871 \fi
7872 }%
7873 \def\harvarditem{%
7874 \ifnextchar[{\@harvarditem}{\@harvarditem[\null]}%
7875 }%
7876 \def\@harvarditem[#1]#2#3#4#5\par{%
7877 \item[]%
7878 \hyper@anchorstart{cite.#4}\relax\hyper@anchorend
7879 \if@filesw
7880 \begingroup
7881 \def\protect##1{\string ##1\space}%
7882 \ifthenelse{\equal{#1}{\null}}%
7883 {\def\next{{#4}{#2}{#2}{#3}}}%
7884 {\def\next{{#4}{#2}{#1}{#3}}}%
7885 \immediate\write\@auxout{\string\harvardcite\codeof\next}%
7886 \endgroup
7887 \fi
7888 \protect\hspace*{-\labelwidth}%
7889 \protect\hspace*{-\labelsep}%
7890 \ignorespaces
7891 #5%
7892 \ifHy@backref
7893 \newblock
7894 \backref{\csname br@#4\endcsname}%
7895 \fi
7896 \par
7897 }%

```

\HAR@checkcitations Package hyperref has added \expandafter \cmd@to@cs \string \hyper @@link, so the original test \expandafter \cmd@to@cs \string \HAR @checkcitations will fail every time and always will appear the “Changed labels” warning. So we

have to redefine `\expandafter \cmd@to@cs \string \Har @checkcitations:`

```

7898 \long\def\HAR@checkcitations#1#2#3#4{%
7899 \def\HAR@tempa{\hyper@link[cite]{\cite.#1}{#2}}%
7900 \expandafter\ifx\csname HAR@fn@#1\endcsname\HAR@tempa
7901 \def\HAR@tempa{\hyper@link[cite]{\cite.#1}{#3}}%
7902 \expandafter\ifx\csname HAR@an@#1\endcsname\HAR@tempa
7903 \def\HAR@tempa{\hyper@link[cite]{\cite.#1}{#4}}%
7904 \expandafter\ifx\csname HAR@yr@#1\endcsname\HAR@tempa
7905 \else
7906 \@tempswatrue
7907 \fi
7908 \else
7909 \@tempswatrue
7910 \fi
7911 \else
7912 \@tempswatrue
7913 \fi
7914 }%
7915 }%

7916 {}

```

36.2 Package chicago

The links by `\expandafter \cmd@to@cs \string \citeN` and `\expandafter \cmd@to@cs \string \shortciteN` should include the closing parentheses.

```

7917 \@ifpackageloaded{chicago}{%

```

`\citeN`

```

7918 \def\citeN{%
7919 \def\@citesep{~}%
7920 \def\@cite##1##2{##1}%
7921 \def\citeauthoryear##1##2##3{##1 (##3\@cite@opt)}%
7922 \@citedata@opt
7923 }%

```

`\shortciteN`

```

7924 \def\shortciteN{%
7925 \def\@citesep{~}%
7926 \def\@cite##1##2{##1}%
7927 \def\citeauthoryear##1##2##3{##2 (##3\@cite@opt)}%
7928 \@citedata@opt
7929 }%

```

`\@citedata@opt`

```

7930 \def\@citedata@opt{%
7931 \let\@cite@opt\@empty
7932 \@ifnextchar [{%
7933 \@tempswatrue
7934 \@citedatax@opt
7935 }{%
7936 \@tempswafalse
7937 \@citedatax[]%

```

```

7938 }%
7939 }%

\@citedatax@Opt
7940 \def\@citedatax@Opt[#1]{%
7941   \def\@cite@Opt{, #1}%
7942   \@citedatax[{#1}]%
7943 }%

7944 }{}



## 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{pdf-pageduration={}}. This can be set with \expandafter \cmd@to@cs \string \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.



```

7945 \ltx@ifclassloaded{slides}{%
7946 \def\Hy@SlidesFormatOptionalPage#1{(#1)}%
7947 \def\Hy@PageAnchorSlidesPlain{%
7948 \advance\c@page\ltx@one
7949 \edef\Hy@TempPageAnchor{%
7950 \noexpand\hyper@@anchor{%
7951 page.\the\c@slide.\the\c@overlay.\the\c@note%
7952 \ifnum\c@page=\ltx@one
7953 \else
7954 .\the\c@page
7955 \fi
7956 }%
7957 }%
7958 \advance\c@page-\ltx@one
7959 }%
7960 \def\Hy@PageAnchorSlide{%
7961 \advance\c@page\ltx@one
7962 \ifnum\c@page>\ltx@one
7963 \ltx@ifundefined{theHpage}{%
7964 \protected@edef\Hy@TheSlideOptionalPage{%
7965 \Hy@SlidesFormatOptionalPage{theHpage}%
7966 }%
7967 }{%
7968 \protected@edef\Hy@TheSlideOptionalPage{%
7969 \Hy@SlidesFormatOptionalPage{theHpage}%
7970 }%
7971 }%
7972 \else
7973 \def\Hy@TheSlideOptionalPage{}%
7974 \fi
7975 \advance\c@page-\ltx@one
7976 \pdfstringdef\@the@H@page{%

```


```

```

7977 \csname
7978 the%
7979 \ltx@ifundefined{theH\Hy@SlidesPage}{H}%
7980 \Hy@SlidesPage
7981 \endcsname
7982 \Hy@TheSlideOptionalPage
7983 }%
7984 \ltx@gobblethree
7985 }%
7986 \def\Hy@SlidesPage{slide}%
7987 \g@addto@macro\slide{%
7988 \def\Hy@SlidesPage{slide}%
7989 }%
7990 \g@addto@macro\overlay{%
7991 \def\Hy@SlidesPage{overlay}%
7992 }%
7993 \g@addto@macro\note{%
7994 \def\Hy@SlidesPage{note}%
7995 }%
7996 }-%
7997 \def\Hy@PageAnchorSlidesPlain{}%
7998 \def\Hy@PageAnchorSlide{}%
7999 }
8000 \def\Hy@EveryPageAnchor{%
8001 \Hy@DistillerDestFix
8002 \ifHy@pageanchor
8003 \ifHy@hypertextnames
8004 \ifHy@plainpages
8005 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\the\c@page}}%
8006 \Hy@PageAnchorSlidesPlain
8007 \else
8008 \begingroup
8009 \let\@number\@firstofone
8010 \Hy@unicodetofalse
8011 \Hy@PageAnchorSlide
8012 \pdfstringdef\@the@H@page{\thepage}%
8013 \endgroup
8014 \EdefUnescapeString\@the@H@page{\@the@H@page}%
8015 \def\Hy@TempPageAnchor{\hyper@@anchor{page.\@the@H@page}}%
8016 \fi
8017 \else
8018 \Hy@GlobalStepCount\Hy@pagecounter
8019 \def\Hy@TempPageAnchor{%
8020 \hyper@@anchor{page.\the\Hy@pagecounter}%
8021 }%
8022 \fi
8023 \vbox to 0pt{%
8024 \kern\voffset
8025 \kern\topmargin
8026 \kern-1bp\relax
8027 \hbox to 0pt{%
8028 \kern\hoffset
8029 \kern\ifodd\value{page}%
8030 \oddsidemargin

```

```

8031         \else
8032         \evensidemargin
8033         \fi
8034     \kern-1bp\relax
8035     \Hy@TempPageAnchor\relax
8036     \hss
8037 }%
8038 \vss
8039 }%
8040 \fi
8041 }
8042 \g@addto@macro\Hy@EveryPageBoxHook{%
8043 \Hy@EveryPageAnchor
8044 }

```

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 tocfile.

```

8045 \providecommand\protected@file@percent{}
8046 \def\addcontentsline#1#2#3{% toc extension, type, tag
8047 \begingroup
8048 \let\label\@gobble
8049 \ifx\@currentHref\@empty
8050 \Hy@Warning{%
8051 No destination for bookmark of \string\addcontentsline,%
8052 \MessageBreak destination is added%
8053 }%
8054 \phantomsection
8055 \fi
8056 \expandafter\ifx\csname toplevel@#2\endcsname\relax
8057 \begingroup
8058 \def\Hy@tempa{#1}%
8059 \ifx\Hy@tempa\Hy@bookmarkstype
8060 \Hy@WarningNoLine{%
8061 bookmark level for unknown #2 defaults to 0%
8062 }%
8063 \else
8064 \Hy@Info{bookmark level for unknown #2 defaults to 0}%
8065 \fi
8066 \endgroup
8067 \expandafter\gdef\csname toplevel@#2\endcsname{0}%
8068 \fi
8069 \edef\Hy@toclevel{\csname toplevel@#2\endcsname}%
8070 \Hy@writebookmark{\csname the#2\endcsname}%
8071 {#3}%
8072 {\@currentHref}%
8073 {\Hy@toclevel}%
8074 {#1}%

```

```

8075 \ifHy@verbose
8076 \begingroup
8077   \def\Hy@tempa{#3}%
8078   \@onelevel@sanitize\Hy@tempa
8079   \let\temp@online\on@line
8080   \let\on@line\@empty
8081   \Hy@Info{%
8082     bookmark\temp@online:\MessageBreak
8083     thecounter {\csname the#2\endcsname}\MessageBreak
8084     text {\Hy@tempa}\MessageBreak
8085     reference {\@currentHref}\MessageBreak
8086     toplevel {\Hy@toclevel}\MessageBreak
8087     type {#1}%
8088   }%
8089 \endgroup
8090 \fi
8091 \addtocontents{#1}{%
8092   \protect\contentsline{#2}{#3}{\thepage}{\@currentHref}\protected@file@per-
cent
8093 }%
8094 \endgroup
8095 }

```

`\contentsline` The page number might be empty. In this case the link for the page number is suppressed to avoid little link boxes.

```

8096 \def\contentsline#1#2#3#4{%
8097   \begingroup
8098     \Hy@safe@activestrue
8099   \edef\x{\endgroup
8100     \def\noexpand\Hy@tocdestname{#4}%
8101   }\x
8102   \ifx\Hy@tocdestname\ltx@empty
8103     \csname l@#1\endcsname{#2}{#3}%
8104   \else
8105     \ifcase\Hy@linktoc % none
8106       \csname l@#1\endcsname{#2}{#3}%
8107     \or % section
8108       \csname l@#1\endcsname{%
8109         \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend
8110       }{#3}%
8111     \or % page
8112       \def\Hy@temp{#3}%
8113       \ifx\Hy@temp\ltx@empty
8114         \csname l@#1\endcsname{#2}{#3}%
8115       \else
8116         \csname l@#1\endcsname{{#2}}{%
8117           \hyper@linkstart{link}{\Hy@tocdestname}{#3}\hyper@linkend
8118         }%
8119       \fi
8120     \else % all
8121       \def\Hy@temp{#3}%
8122       \ifx\Hy@temp\ltx@empty
8123         \csname l@#1\endcsname{%
8124           \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend

```

```

8125     }{}%
8126   \else
8127     \csname l@#1\endcsname{%
8128       \hyper@linkstart{link}{\Hy@tocdestname}{#2}\hyper@linkend
8129     }{%
8130       \hyper@linkstart{link}{\Hy@tocdestname}{#3}\hyper@linkend
8131     }%
8132   \fi
8133 \fi
8134 \fi
8135 }

8136 \</packageEnd>
8137 \<*check>
8138 \checklatex
8139 \checkcommand\def\addcontentsline#1#2#3{%
8140   \addtocontents{#1}{\protect\contentsline{#2}{#3}{\thepage}}}%
8141 }
8142 \checkcommand\def\contentsline#1{\csname l@#1\endcsname}
8143 \</check>
8144 \<*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.

```

8145 \let\H@definecounter\@definecounter
8146 \def\@definecounter#1{%
8147   \H@definecounter{#1}%
8148   \expandafter\gdef\csname theH#1\endcsname{\arabic{#1}}%
8149 }

```

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.

```

8150 \let\H@newctr\@newctr
8151 \def\@newctr#1[#2]{%
8152   \H@newctr#1[#2]%
8153   \expandafter\gdef\csname theH#1\endcsname{%
8154     \csname the\@ifundefined{theH#2}{H}{H}#2\endcsname.\arabic{#1}%
8155   }%
8156 }

```

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.

```

8157 \<@ifpackageloaded{amsmath}{%
8158   \def\Hy@make@anchor{%

```

```

8159 \Hy@MakeCurrentHrefAuto{AMS}%
8160 \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
8161 }%
8162 \def\Hy@make@df@tag@@#1{%
8163 \gdef\df@tag{%
8164 \maketag@@@{\Hy@make@anchor#1}%
8165 \def\@currentlabel{#1}%
8166 }%
8167 }%
8168 \def\Hy@make@df@tag@@@#1{%
8169 \gdef\df@tag{%
8170 \tagform@{\Hy@make@anchor#1}%
8171 \toks@{\xp{p@equation{#1}}}%
8172 \edef\@currentlabel{\the\toks@}%
8173 }%
8174 }%
8175 \let\HyOrg@make@df@tag@@\make@df@tag@@
8176 \let\HyOrg@make@df@tag@@@ \make@df@tag@@@
8177 \let\make@df@tag@@\Hy@make@df@tag@@
8178 \let\make@df@tag@@@ \Hy@make@df@tag@@@
8179 }{}

```

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

```

8180 \@ifpackagewith{hyperref}{pdftex}{%
8181 \let\H@seteqlabel\@seteqlabel
8182 \def\@seteqlabel#1{%
8183 \H@seteqlabel{#1}%
8184 \xdef\@currentHref{AMS.\the\Hy@linkcounter}%
8185 \Hy@raisedlink{%
8186 \hyper@anchorstart{\@currentHref}\hyper@anchorend
8187 }%
8188 }%
8189 }{}

```

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.

```

8190 \let\HyOrg@addtoreset\@addtoreset
8191 \def\@addtoreset#1#2{%
8192 \HyOrg@addtoreset{#1}{#2}%
8193 \expandafter\xdef\csname theH#1\endcsname{%

```

```

8194 \expandafter\noexpand
8195 \csname the\@ifundefined{theH#2}{H#2\endcsname
8196 .\noexpand\the\noexpand\value{#1}%
8197 }%
8198 }

```

`\numberwithin` A appropriate definition of hyperref's companion counter (`\expandafter \cmd@to@cs \string \theH ...`) is added for correct link names.

```

8199 \endpackage
8200 \check
8201 \checkpackage{amsmath}[1999/12/14 - 2000/06/06]
8202 \checkcommand\newcommand{\numberwithin}[3]{\arabic{#1}%
8203 \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8204 \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8205 \addtoreset{#2}{#3}%
8206 \exp\xdef\csname the#2\endcsname{%
8207 \exp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8208 }%
8209 }%
8210 }%
8211 }%
8212 \check
8213 \endpackage
8214 \ifpackageloaded{amsmath}{%
8215 \renewcommand*\numberwithin[3]{\arabic{#1}%
8216 \@ifundefined{c@#2}{\@nocounterr{#2}}{%
8217 \@ifundefined{c@#3}{\@nocnterr{#3}}{%
8218 \HyOrg@addtoreset{#2}{#3}%
8219 \exp\xdef\csname the#2\endcsname{%
8220 \exp\@nx\csname the#3\endcsname .\@nx#1{#2}%
8221 }%
8222 \exp\xdef\csname theH#2\endcsname{%
8223 \exp\@nx
8224 \csname the\@ifundefined{theH#3}{H#3\endcsname
8225 .\@nx#1{#2}%
8226 }%
8227 }%
8228 }%
8229 }%
8230 }%

```

41 Included figures

Simply intercept the low level graphics package macro.

```

8231 \ifHy@hyperfigures
8232 \let\Hy@Gin@setfile\Gin@setfile
8233 \def\Gin@setfile#1#2#3{%
8234 \hyperimage{#3}{\Hy@Gin@setfile{#1}{#2}{#3}}%
8235 }%
8236 \fi
8237 \Hy@DisableOption{hyperfigures}

```

42 hyperindex entries

Internal command names are prefixed with `\expandafter \cmd@to@cs \string \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.

```

8238 \ifHy@hyperindex
8239   \def\HyInd@ParenLeft{({}%
8240   \def\HyInd@ParenRight{)}}%
8241   \def\hyperindexformat#1#2{%
8242     \let\HyOrg@hyperpage\hyperpage
8243     \let\hyperpage\@firstofone
8244     #1{\HyOrg@hyperpage{#2}}%
8245     \let\hyperpage\HyOrg@hyperpage
8246   }%
8247   \Hy@nextfalse
8248   \@ifpackageloaded{multind}{\Hy@nexttrue}{}%
8249   \@ifpackageloaded{index}{\Hy@nexttrue}{}%
8250   \@ifpackageloaded{amsmidx}{\Hy@nexttrue}{}%
8251   \begingroup
8252     \lccode`\|=\expandafter`\HyInd@EncapChar\relax
8253     \lccode`\|/\=\\|\relax
8254   \lowercase{\endgroup
8255   \ifHy@next
8256     \let\HyInd@org@wrindex\@wrindex
8257     \def\@wrindex#1#2{\HyInd@@wrindex{#1}#2|\\}%
8258     \def\HyInd@@wrindex#1#2|#3|#4\\{%
8259       \ifx\\#3\\%
8260         \HyInd@org@wrindex{#1}{#2|hyperpage}%
8261       \else
8262         \HyInd@@@wrindex{#1}{#2}#3\\%
8263       \fi
8264     }%
8265     \def\HyInd@@@wrindex#1#2#3#4\\{%
8266       \def\Hy@temp@A{#3}%
8267       \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8268         \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8269       \relax
8270       \HyInd@org@wrindex{#1}{%
8271         #2|hyperindexformat{/#3#4}%
8272       }%
8273     \else
8274       \ifx\\#4\\%
8275         \ifx\Hy@temp@A\HyInd@ParenRight
8276           \HyInd@org@wrindex{#1}{#2|#3}%
8277         \else
8278           \HyInd@org@wrindex{#1}{#2|#3hyperpage}%

```

```

8279     \fi
8280   \else
8281     \HyInd@org@wrindex{#1}{%
8282       #2|#3hyperindexformat{/#4}%
8283     }%
8284   \fi
8285 \fi
8286 }%
8287 \else
8288   \def\@wrindex#1{\@wrindex#1||\}%
8289   \def\@wrindex#1|#2|#3\{\%
8290     \if@filesw
8291       \ifx\|#2\%
8292         \protected@write\@indexfile{\%
8293           \string\indexentry{#1|hyperpage}{\thepage}%
8294         }%
8295       \else
8296         \HyInd@@@wrindex{#1}#2\%
8297       \fi
8298     \fi
8299   \endgroup
8300   \@esphack
8301 }%
8302 \def\HyInd@@@wrindex#1#2#3\{\%
8303   \def\Hy@temp@A{#2}%
8304   \ifcase0\ifx\Hy@temp@A\HyInd@ParenLeft 1\fi
8305     \ifx\Hy@temp@A\HyInd@ParenRight 1\fi
8306     \relax
8307   \protected@write\@indexfile{\%
8308     \string\indexentry{%
8309       #1|hyperindexformat{/#2#3}%
8310     }{\thepage}%
8311   }%
8312 \else
8313   \ifx\|#3\%
8314     \ifx\Hy@temp@A\HyInd@ParenRight
8315       \HyInd@DefKey{#1}%
8316       \ltx@ifundefined{HyInd@(\HyInd@key)}{\%
8317         \let\Hy@temp\ltx@empty
8318       }{\%
8319         \expandafter\let\expandafter\Hy@temp
8320           \csname HyInd@(\HyInd@key)\endcsname
8321       }%
8322     \protected@write\@indexfile{\%
8323       \string\indexentry{#1|#2\Hy@temp}{\thepage}%
8324     }%
8325   \else
8326     \protected@write\@indexfile{\%
8327       \string\indexentry{#1|#2hyperpage}{\thepage}%
8328     }%
8329     \HyInd@DefKey{#1}%
8330     \expandafter
8331     \gdef\csname HyInd@(\HyInd@key)\endcsname{%
8332       hyperpage%

```

```

8333     }%
8334     \fi
8335     \else
8336     \protected@write\@indexfile{}\{%
8337     \string\indexentry{%
8338     #1|#2hyperindexformat{/#3}%
8339     }\thepage}%
8340     }%
8341     \ifx\Hy@temp@A\HyInd@ParenLeft
8342     \HyInd@DefKey{#1}%
8343     \expandafter
8344     \gdef\csname HyInd@(\HyInd@key)\endcsname{%
8345     hyperindexformat{/#3}%
8346     }%
8347     \fi
8348     \fi
8349     \fi
8350     }%
8351     \def\HyInd@DefKey#1{%
8352     \begingroup
8353     \let\protect\@unexpandable@protect
8354     \edef\Hy@temp{#1}%
8355     \ltx@onelevel@sanitize\Hy@temp
8356     \global\let\HyInd@key\Hy@temp
8357     \endgroup
8358     }%
8359     \fi
8360     }%
8361     \fi
8362     \Hy@DisableOption{hyperindex}
8363     \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.

```
8364 \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.

```

8365 \def\hyperpage#1{%
8366   \HyInd@hyperpage#1\nohyperpage{}\@nil
8367 }
8368 \def\HyInd@hyperpage#1\nohyperpage#2#3\@nil{%
8369   \HyInd@@hyperpage{#1}%
8370   #2%
8371   \def\Hy@temp{#3}%
8372   \ifx\Hy@temp\@empty
8373   \else
8374     \ltx@ReturnAfterFi{%
8375       \HyInd@hyperpage#3\@nil
8376     }%
8377   \fi
8378 }
8379 \def\HyInd@@hyperpage#1{\@hyperpage#1----\}
8380 \def\@hyperpage#1--#2--#3\{\%

```

```

8381 \ifx\|#2\|%
8382 \commahyperpage{#1}%
8383 \else
8384 \HyInd@pagelink{#1}--\HyInd@pagelink{#2}%
8385 \fi
8386 }
8387 \def\commahyperpage#1{\commahyperpage#1, \,}
8388 \def\commahyperpage#1, #2, #3\{%
8389 \ifx\|#2\|%
8390 \HyInd@pagelink{#1}%
8391 \else
8392 \HyInd@pagelink{#1}, \HyInd@pagelink{#2}%
8393 \fi
8394 }

```

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

```

8395 \def\HyInd@pagelink#1{%
8396 \begingroup
8397 \toks@={}%
8398 \HyInd@removespaces#1 \@nil
8399 \endgroup
8400 }
8401 \def\HyInd@removespaces#1 #2\@nil{%
8402 \toks@=\expandafter{\the\toks@#1}%
8403 \ifx\|#2\|%
8404 \edef\x{\the\toks@}%
8405 \ifx\x\@empty
8406 \else
8407 \hyperlink{page.\the\toks@}{\the\toks@}%
8408 \fi
8409 \else
8410 \ltx@ReturnAfterFi{%
8411 \HyInd@removespaces#2\@nil
8412 }%
8413 \fi
8414 }

```

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.)

```

8415 \ifHy@texht
8416 \expandafter\endinput
8417 \fi
8418 \let\real@setref\@setref
8419 \def\@setref#1#2#3{% csname, extract group, refname
8420 \ifx#1\relax
8421 \protect\G@refundefinedtrue
8422 \nfss@text{\reset@font\bfseries ??}%
8423 \@latex@warning{%
8424 Reference `#3' on page \thepage \space undefined%
8425 }%
8426 \else
8427 \expandafter\Hy@setref@link#1\@empty\@empty\@nil{#2}%

```

```

8428 \fi
8429 }

\\expandafter \cmd@to@cs \string \Hy @setref@link extracts the reference in-
formation entries, because \\expandafter \cmd@to@cs \string \hyper @@link
does not expand arguments for the automatic link type detection.

8430 \def\Hy@setref@link#1#2#3#4#5#6\@nil#7{%
8431 \begingroup
8432 \toks0={\hyper@@link{#5}{#4}}%
8433 \toks1=\expandafter{#7{#1}{#2}{#3}{#4}{#5}}%
8434 \edef\x{\endgroup
8435 \the\toks0 {\the\toks1 }%
8436 }%
8437 \x
8438 }

8439 \def\@pagesetref#1#2#3{% csname, extract macro, ref
8440 \ifx#1\relax
8441 \protect\G@refundefinedtrue
8442 \nfss@text{\reset@font\bfseries ??}%
8443 \@latex@warning{%
8444 Reference `#3' on page \thepage \space undefined%
8445 }%
8446 \else
8447 \protect\hyper@@link
8448 {\expandafter\@fifthoffive#1}%
8449 {page.\expandafter\@secondoffive#1}%
8450 {\expandafter\@secondoffive#1}%
8451 \fi
8452 }

8453 \</packageEnd>
8454 \<*check>
8455 \checklatex
8456 \checkcommand\def\@setref#1#2#3{%
8457 \ifx#1\relax
8458 \protect\G@refundefinedtrue
8459 \nfss@text{\reset@font\bfseries ??}%
8460 \@latex@warning{%
8461 Reference `#3' on page \thepage \space undefined%
8462 }%
8463 \else
8464 \expandafter#2#1\null
8465 \fi
8466 }
8467 \</check>
8468 \<*packageEnd>

```

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

```

8469 \def\HyRef@StarSetRef#1{%
8470 \begingroup
8471 \Hy@safe@activetrue
8472 \let\protect\@unexpandable@protect
8473 \edef\x{#1}%
8474 \@onelevel@sanitize\x

```

```

8475 \edef\x{\endgroup
8476 \noexpand\HyRef@@StarSetRef
8477 \expandafter\noexpand\csname r@\x\endcsname{\x}%
8478 }%
8479 \x
8480 }
8481 \def\HyRef@@StarSetRef#1#2#3{%
8482 \ifx#1\@undefined
8483 \let#1\relax
8484 \fi
8485 \real@setref#1#3{#2}%
8486 }
8487 \def\@refstar#1{%
8488 \HyRef@StarSetRef{#1}\@firstoffive
8489 }
8490 \def\@pagerefstar#1{%
8491 \HyRef@StarSetRef{#1}\@secondoffive
8492 }
8493 \def\@namerefstar#1{%
8494 \HyRef@StarSetRef{#1}\@thirdoffive
8495 }
8496 \def\@Refstar#1{%
8497 \HyRef@StarSetRef{#1}\HyRef@MakeUppercaseFirstOfFive
8498 }%
8499 \def\HyRef@MakeUppercaseFirstOfFive#1#2#3#4#5{%
8500 \MakeUppercase#1%
8501 }%
8502 \def\HyRef@Ref#1{%
8503 \hyperref[{#1}]{\Ref*{#1}}%
8504 }%
8505 \Hy@AtBeginDocument{%
8506 \@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.

```

8507 \@ifundefined{hyper@nopatch@varioref}
8508 {
8509 \renewcommand\Vref@star[2][]{%
8510 \begingroup
8511 \let\T@pageref\@pagerefstar
8512 \Ref*{#2}
8513 \vpageref[#1]{#2}%
8514 \endgroup
8515 }%
8516 \renewcommand\Vr@f[2][]{%
8517 \begingroup
8518 \let\T@pageref\@pagerefstar
8519 \hyperref[{#2}]{%
8520 \Ref*{#2}
8521 \vpageref[#1]{#2}%
8522 }%
8523 \endgroup
8524 }%

```

```

8525 \renewcommand\vr@f[2][]{%
8526 \begingroup
8527 \let\T@pageref\@pagerefstar
8528 \hyperref[#{#2}]{%
8529 \ref*{#2}
8530 \vpageref[#1]{#2}%
8531 }%
8532 \endgroup
8533 }%
8534 \renewcommand\vr@star[2][]{%
8535 \begingroup
8536 \let\T@pageref\@pagerefstar
8537 \ref*{#2}
8538 \vpageref[#1]{#2}%
8539 \endgroup
8540 }%
8541 }{}%
8542 }{}%
8543 }

8544 \DeclareRobustCommand*\autopageref{%
8545 \@ifstar{%
8546 \HyRef@autopagerefname\pageref*%
8547 }\HyRef@autopageref
8548 }
8549 \def\HyRef@autopageref#1{%
8550 \hyperref[#{#1}]{\HyRef@autopagerefname\pageref*{#1}}%
8551 }
8552 \def\HyRef@autopagerefname{%
8553 \ltx@ifundefined{pageautorefname}{%
8554 \ltx@ifundefined{pagename}{%
8555 \Hy@Warning{No autoref name for `page'}%
8556 }{%
8557 \pagename\nobreakspace
8558 }%
8559 }{}%
8560 \pageautorefname\nobreakspace
8561 }%
8562 }

```

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

```

8563 \NewDocumentCommand\autoref{s}
8564 { \leavevmode
8565 \IfBooleanTF{#1}{\HyRef@autoref\@gobbletwo}{\HyRef@autoref\hyper@@link}}
8566 \def\HyRef@autoref#1#2{%
8567 \begingroup
8568 \Hy@safe@activertrue
8569 \expandafter\HyRef@autosetref\csname r@#2\endcsname{#2}{#1}%
8570 \endgroup
8571 }
8572 \def\HyRef@autosetref#1#2#3{% link command, csname, refname
8573 \HyRef@ShowKeysRef{#2}%
8574 \ifcase 0\ifx#1\relax 1\fi\ifx#1\Hy@varioref\undefined 1\fi\relax
8575 \edef\HyRef@thisref{%

```

```

8576 \expandafter\@fourthoffive#1\@empty\@empty\@empty
8577 }%
8578 \expandafter\HyRef@testreftype\HyRef@thisref.\.%
8579 \Hy@safe@activesfalse
8580 #3{%
8581 \expandafter\@fifthoffive#1\@empty\@empty\@empty
8582 }{%
8583 \expandafter\@fourthoffive#1\@empty\@empty\@empty
8584 }{%
8585 \HyRef@currentHtag
8586 \expandafter\@firstoffive#1\@empty\@empty\@empty
8587 \null
8588 }%
8589 \else
8590 \protect\G@refundefinedtrue
8591 \nfss@text{\reset@font\bfseries ??}%
8592 \@latex@warning{%
8593 Reference `#2' on page \thepage\space undefined%
8594 }%
8595 \fi
8596 }
8597 \def\HyRef@testreftype#1.#2\{%
8598 \ltx@ifundefined{#1autorefname}{%
8599 \ltx@ifundefined{#1name}{%
8600 \HyRef@StripStar#1\*\@nil{#1}%
8601 \ltx@ifundefined{\HyRef@name autorefname}{%
8602 \ltx@ifundefined{\HyRef@name name}{%
8603 \def\HyRef@currentHtag{%
8604 \Hy@Warning{No autoref name for `#1'}%
8605 }{%
8606 \edef\HyRef@currentHtag{%
8607 \expandafter\noexpand\csname\HyRef@name name\endcsname
8608 \noexpand~%
8609 }%
8610 }%
8611 }{%
8612 \edef\HyRef@currentHtag{%
8613 \expandafter\noexpand
8614 \csname\HyRef@name autorefname\endcsname
8615 \noexpand~%
8616 }%
8617 }%
8618 }{%
8619 \edef\HyRef@currentHtag{%
8620 \expandafter\noexpand\csname#1name\endcsname
8621 \noexpand~%
8622 }%
8623 }%
8624 }{%
8625 \edef\HyRef@currentHtag{%
8626 \expandafter\noexpand\csname#1autorefname\endcsname
8627 \noexpand~%
8628 }%
8629 }%

```

```

8630 }
8631 \def\HyRef@StripStar#1*\#2\@nil#3{%
8632   \def\HyRef@name{#2}%
8633   \ifx\HyRef@name\HyRef@CaseStar
8634     \def\HyRef@name{#1}%
8635   \else
8636     \def\HyRef@name{#3}%
8637   \fi
8638 }
8639 \def\HyRef@CaseStar{*\\}
8640 \def\HyRef@currentHtag{}

```

Support for package `showkeys`.

`\HyRef@ShowKeysRef`

```

8641 \let\HyRef@ShowKeysRef\@gobble
8642 \def\HyRef@ShowKeysInit{%
8643   \ifcsname SK@@label\endcsname
8644     \ifx\SK@ref\@empty
8645       \else
8646         \def\HyRef@ShowKeysRef{%
8647           \SK@\SK@@ref
8648         }%
8649       \fi
8650     \fi
8651 }
8652 \@ifpackageloaded{showkeys}{%
8653   \HyRef@ShowKeysInit
8654 }{%
8655   \Hy@AtBeginDocument{%
8656     \@ifpackageloaded{showkeys}{%
8657       \HyRef@ShowKeysInit
8658     }{}%
8659   }%
8660 }

```

Defaults for the names that `\expandafter \cmd@to@cs \string \autoref` uses.

```

8661 \providecommand*\AMSautorefname{\equationautorefname}
8662 \providecommand*\Hfootnoteautorefname{\footnoteautorefname}
8663 \providecommand*\Itemautorefname{\itemautorefname}
8664 \providecommand*\itemautorefname{item}
8665 \providecommand*\equationautorefname{Equation}
8666 \providecommand*\footnoteautorefname{footnote}
8667 \providecommand*\itemautorefname{item}
8668 \providecommand*\figureautorefname{Figure}
8669 \providecommand*\tableautorefname{Table}
8670 \providecommand*\partautorefname{Part}
8671 \providecommand*\appendixautorefname{Appendix}
8672 \providecommand*\chapterautorefname{chapter}
8673 \providecommand*\sectionautorefname{section}
8674 \providecommand*\subsectionautorefname{subsection}
8675 \providecommand*\subsubsectionautorefname{subsubsection}
8676 \providecommand*\paragraphautorefname{paragraph}
8677 \providecommand*\subparagraphautorefname{subparagraph}

```

```

8678 \providecommand*\FancyVerbLineautorefname{line}
8679 \providecommand*\theoremautorefname{Theorem}
8680 \providecommand*\pageautorefname{page}
8681 \end{package}

```

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 pdfTeX offers `\pdfescapestring`.

```

8682 (*pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo)
8683 \begingroup\expandafter\expandafter\expandafter\endgroup
8684 \expandafter\ifx\csname pdf@escapestring\endcsname\relax
8685 \begingroup
8686 \catcode`\| =0 %
8687 \@makeother\| %
8688 |@firstofone{| \endgroup
8689 |def|Hy@pstringdef#1#2{%
8690 | \begingroup
8691 | \edef~{|string~}%
8692 | \xdef|Hy@gtemp{#2}%
8693 | \endgroup
8694 |let#1|Hy@gtemp
8695 |@onelevel@sanitize#1%
8696 | \edef#1{| \expandafter|Hy@ExchangeBackslash#1|@nil}%
8697 | \edef#1{| \expandafter|Hy@ExchangeLeftParenthesis#1(|@nil}%
8698 | \edef#1{| \expandafter|Hy@ExchangeRightParenthesis#1|@nil}%
8699 }%
8700 |def|Hy@ExchangeBackslash#1\#2|@nil{%
8701 #1%
8702 |ifx|\#2|\% %
8703 |else
8704 \\\%
8705 |ltx@ReturnAfterFi{%
8706 |Hy@ExchangeBackslash#2|@nil
8707 }%
8708 |fi
8709 }%
8710 }%
8711 \def\Hy@ExchangeLeftParenthesis#1(#2\@nil{%
8712 #1%
8713 \ifx\#2\% %
8714 \else
8715 \@backslashchar(%
8716 \ltx@ReturnAfterFi{%
8717 \Hy@ExchangeLeftParenthesis#2\@nil

```

```

8718 }%
8719 \fi
8720 }%
8721 \def\Hy@ExchangeRightParenthesis#1)#2\@nil{%
8722   #1%
8723   \ifx\#2\%
8724   \else
8725     \@backslashchar)%
8726     \ltx@ReturnAfterFi{%
8727       \Hy@ExchangeRightParenthesis#2\@nil
8728     }%
8729   \fi
8730 }%
8731 \else
8732 \def\Hy@pstringdef#1#2{%
8733   \begingroup
8734     \edef~{\string~}%
8735     \xdef\Hy@gtemp{\pdf@escapestring{#2}}%
8736   \endgroup
8737   \let#1\Hy@gtemp
8738 }%
8739 \fi
8740 </pdfTeX | dvipdfm | xetex | vtex | pdfmarkbase | dviwindo>

```

43.2 pdfTeX

```

8741 (*pdfTeX)
8742 \providecommand*\XR@ext}{pdf}
8743 \Hy@setbreaklinks{true}
8744 \def\HyPat@ObjRef{%
8745   [0-9]*[1-9][0-9]* 0 R%
8746 }

```

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

```

8747 \def\Hy@pdfminorversion{\pdfoptionpdfminorversion}%
8748 \def\Hy@pdfminorversion{\pdfminorversion}%
8749 \ifHy@ocgcolorlinks
8750   \ifnum\Hy@pdfmajorminor@version<105 %
8751     \kvsetkeys{Hyp}{pdfversion=1.5}%
8752   \fi
8753 \fi
8754 \ifHy@setpdfversion
8755   \ifnum\Hy@pdf@majorminor@version<105 %
8756     \ltx@ifundefined{pdfobjcompresslevel}{%
8757     }{%
8758       \ifHy@verbose
8759         \Hy@InfoNoLine{%
8760           PDF object streams are disabled, because they are%

```

```

8761      \MessageBreak
8762      not supported in requested PDF version %
8763      \Hy@pdf@majorversion.\Hy@pdf@minorversion
8764    }%
8765  \fi
8766  \pdfobjcompresslevel=\ltx@zero
8767 }%
8768 \fi
8769 \ifnum\Hy@pdfmajorminor@version=\Hy@pdf@majorminor@version\relax
8770 \else
8771   \let\Hy@temp\ltx@empty
8772   \def\Hy@temp@A#1#2{%
8773     \ifnum#1>\ltx@zero
8774       \edef\Hy@temp{%
8775         \Hy@temp
8776         \space\space
8777         \the#1\space #2%
8778         \ifnum#1=\ltx@one\else s\fi
8779         \MessageBreak
8780       }%
8781     \fi
8782   }%
8783   \Hy@temp@A\pdflastobj{PDF object}%
8784   \Hy@temp@A\pdflastxform{form XObject}%
8785   \Hy@temp@A\pdflastximage{image XObject}%
8786   \Hy@temp@A\pdflastannot{annotation}%
8787   \ltx@ifundefined{pdflastlink}{%
8788     }{%
8789     \Hy@temp@A\pdflastlink{link}%
8790   }%
8791   \ifx\Hy@temp\ltx@empty
8792     \Hy@pdfmajorversion=\Hy@pdf@majorversion\relax
8793     \Hy@pdfminorversion=\Hy@pdf@minorversion\relax
8794   \else
8795     \let\Hy@temp@A\ltx@empty
8796     \ifnum\Hy@pdf@majorminor@version=104 %
8797       \IfFileExists{pdf14.sty}{%
8798         \def\Hy@temp@A{%
8799           \MessageBreak
8800           Or \string\RequirePackage{pdf14} can be used%
8801           \MessageBreak
8802           before \string\documentclass\space as shortcut%
8803         }%
8804       }{}%
8805     \fi
8806     \Hy@WarningNoLine{%
8807       The PDF version number could not be set,\MessageBreak
8808       because some PDF objects are already written:%
8809     \MessageBreak
8810     \Hy@temp
8811     The version should be set as early as possible:%
8812     \MessageBreak
8813     \space\space
8814     \expandafter\string\Hy@pdfmajorversion=\Hy@pdf@majorversion, %

```

```

8815     \expandafter\string\Hy@pdfminorversion=\Hy@pdf@minorversion
8816     \string\relax
8817     \ifnum\Hy@pdf@majorminor@version<105 %
8818         \ltx@ifundefined{pdfobjcompresslevel}{%
8819             }{%
8820                 \MessageBreak
8821                 \space\space
8822                 \string\pdfobjcompresslevel=0\string\relax
8823             }%
8824         \fi
8825         \Hy@temp@A
8826     }%
8827 \fi
8828 \fi
8829 \PackageInfo{hyperref}{%
8830     \expandafter\string\Hy@pdfmajorversion.%
8831     \expandafter\string\Hy@pdfminorversion
8832     :=\number\Hy@pdf@majorversion.\number\Hy@pdf@minorversion\space
8833 }%
8834 \fi
8835 \edef\Hy@pdf@majorversion{\number\Hy@pdfmajorversion}%
8836 \edef\Hy@pdf@minorversion{\number\Hy@pdfminorversion}%
8837 \Hy@DisableOption{pdfversion}%

8838 \ifHy@ocgcolorlinks
8839     \pdf@ifdraftmode{}{%
8840         \immediate\pdfobj{%
8841             <<%
8842             /Type/OCG%
8843             /Name(View)%
8844             /Usage<<%
8845             /Print<<%
8846             /PrintState/OFF%
8847             >>%
8848             /View<<%
8849             /ViewState/ON%
8850             >>%
8851             >>%
8852             >>%
8853         }%
8854         \edef\OBJ@OCG@view{\the\pdflastobj\space 0 R}%
8855         \immediate\pdfobj{%
8856             <<%
8857             /Type/OCG%
8858             /Name(Print)%
8859             /Usage<<%
8860             /Print<<%
8861             /PrintState/ON%
8862             >>%
8863             /View<<%
8864             /ViewState/OFF%
8865             >>%
8866             >>%
8867             >>%
8868         }%

```

```

8869 \edef\OBJ@OCG@print{\the\pdflastobj\space 0 R}%
8870 \immediate\pdfobj{
8871   [%
8872   \OBJ@OCG@view\space\OBJ@OCG@print
8873   ]%
8874 }%
8875 \edef\OBJ@OCGs{\the\pdflastobj\space 0 R}%
8876 \pdfcatalog{
8877   /OCProperties<<%
8878   /OCGs \OBJ@OCGs
8879   /D<<%
8880   /OFF[\OBJ@OCG@print]%
8881   /AS[%
8882   <<%
8883     /Event/View%
8884     /OCGs \OBJ@OCGs
8885     /Category[/View]%
8886   >>%
8887   <<%
8888     /Event/Print%
8889     /OCGs \OBJ@OCGs
8890     /Category[/Print]%
8891   >>%
8892   <<%
8893     /Event/Export%
8894     /OCGs \OBJ@OCGs
8895     /Category[/Print]%
8896   >>%
8897   ]%
8898   >>%
8899   >>%
8900 }%
8901 \begingroup
8902 \edef\x{\endgroup
8903 \pdfpageresources{
8904 \the\pdfpageresources
8905 /Properties<<%
8906 /OCView \OBJ@OCG@view
8907 /OCPrint \OBJ@OCG@print
8908 >>%
8909 }%
8910 }%
8911 \x
8912 }%
8913 \Hy@AtBeginDocument{
8914 \def\Hy@colorlink#1{
8915 \begingroup
8916 \ifHy@ocgcolorlinks
8917 \def\Hy@ocgcolor{#1}%
8918 \setbox0=\hbox\bgroup\color@begingroup
8919 \else
8920 \HyColor@UseColor#1%
8921 \fi
8922 }%

```

```

8923 \def\Hy@endcolorlink{%
8924 \ifHy@ocgcolorlinks
8925 \color@endgroup\egroup
8926 \mbox{%
8927 \pdfliteral page{/OC/OCPrint BDC}%
8928 \rlap{\copy0}%
8929 \pdfliteral page{EMC/OC/OCView BDC}%
8930 \begingroup
8931 \expandafter\HyColor@UseColor\Hy@ocgcolor
8932 \box0 %
8933 \endgroup
8934 \pdfliteral page{EMC}%
8935 }%
8936 \fi
8937 \endgroup
8938 }%
8939 }%
8940 \else
8941 \Hy@DisableOption{ocgcolorlinks}%
8942 \fi

```

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

```

8943 \def\setpdfinkmargin#1{%
8944 \begingroup
8945 \setlength{\dimen@}{#1}%
8946 \expandafter\endgroup
8947 \expandafter\pdfinkmargin\the\dimen@\relax
8948 }
8949 \pdfinkmargin1pt %

```

First set up the default linking

```

8950 \providecommand*\@pdfview{XYZ}

```

First define the anchors:

```

8951 \Hy@WrapperDef\new@pdfink#1{%
8952 \ifhmode
8953 \@savsf\spacefactor
8954 \fi
8955 \Hy@SaveLastskip
8956 \Hy@VerboseAnchor{#1}%
8957 \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
8958 \Hy@DestName\Hy@pstringDest\@pdfview
8959 \Hy@RestoreLastskip
8960 \ifhmode
8961 \spacefactor\@savsf
8962 \fi
8963 }
8964 \let\pdf@endanchor\@empty

```

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

```

8965 \def\Hy@DestName#1#2{%
8966 \pdfdest name{#1}#2\relax
8967 }

```

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.

```

8968 \providecommand*\@pdfborder{0 0 1}
8969 \providecommand*\@pdfborderstyle{}
8970 \def\Hy@undefinedname{UNDEFINED}
8971 \def\find@pdfink#1#2{%
8972   \leavevmode
8973   \protected@edef\Hy@testname{#2}%
8974   \ifx\Hy@testname\@empty
8975     \Hy@Warning{%
8976       Empty destination name,\MessageBreak
8977       using `\'Hy@undefinedname'%
8978     }%
8979     \let\Hy@testname\Hy@undefinedname
8980   \else
8981     \Hy@pstringdef\Hy@testname{%
8982       \expandafter\HyperDestNameFilter\expandafter{\Hy@testname}%
8983     }%
8984   \fi
8985   \Hy@StartlinkName{%
8986     \ifHy@pdfa /F 4\fi
8987     \Hy@setpdfborder
8988     \Hy@setpdfhighlight
8989     \ifx\CurrentBorderColor\relax
8990       \else
8991         /C[\CurrentBorderColor]%
8992       \fi
8993   }\Hy@testname
8994   \expandafter\Hy@colorlink\csname @#1color\endcsname
8995 }
8996 \def\Hy@StartlinkName#1#2{%
8997   \pdfstartlink attr{#1}goto name{#2}\relax
8998 }
8999 \def\close@pdfink{%
9000   \Hy@endcolorlink
9001   \Hy@VerboseLinkStop
9002   \pdfendlink
9003 }
9004 \def\hyper@anchor#1{%
9005   \new@pdfink{#1}\anchor@spot\pdf@endanchor
9006 }
9007 \def\hyper@anchorstart#1{%
9008   \new@pdfink{#1}%
9009   \Hy@activeanchortrue
9010 }
9011 \def\hyper@anchorend{%
9012   \pdf@endanchor
9013   \Hy@activeanchorfalse
9014 }
9015 \def\hyper@linkstart#1#2{%
9016   \Hy@VerboseLinkStart{#1}{#2}%
9017   \ltx@ifundefined{#@#1bordercolor}{%

```

```

9018 \let\CurrentBorderColor\relax
9019 }{%
9020 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9021 }%
9022 \find@pdfink{#1}{#2}%
9023 }
9024 \def\hyper@linkend{\close@pdfink}
9025 \def\hyper@link#1#2#3{%
9026 \Hy@VerboseLinkStart{#1}{#2}%
9027 \ltx@ifundefined{@#1bordercolor}{%
9028 \let\CurrentBorderColor\relax
9029 }{%
9030 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
9031 }%
9032 \find@pdfink{#1}{#2}#3\Hy@xspace@end
9033 \close@pdfink
9034 }
9035 \let\CurrentBorderColor\@linkbordercolor
9036 \def\hyper@linkurl#1#2{%
9037 \begingroup
9038 \Hy@pstringdef\Hy@pstringURI{#2}%
9039 \hyper@chars
9040 \leavevmode
9041 \pdfstartlink
9042 attr{%
9043 \Hy@setpdfborder
9044 \Hy@setpdfhighlight
9045 \ifx\@urlbordercolor\relax
9046 \else
9047 /C[\@urlbordercolor]%
9048 \fi
9049 }%
9050 user{%
9051 /Subtype/Link%
9052 \ifHy@pdfa /F 4\fi
9053 /A<<%
9054 /Type/Action%
9055 /S/URI%
9056 /URI(\Hy@pstringURI)%
9057 \ifHy@href@ismap
9058 /IsMap true%
9059 \fi
9060 \Hy@href@nextactionraw
9061 >>%
9062 }%
9063 \relax
9064 \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9065 \close@pdfink
9066 \endgroup
9067 }
9068 \def\hyper@linkfile#1#2#3{% anchor text, filename, linkname
9069 \begingroup
9070 \def\Hy@pstringF{#2}%
9071 \Hy@CleanupFile\Hy@pstringF

```

```

9072 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
9073 \Hy@pstringdef\Hy@pstringD{#3}%
9074 \Hy@MakeRemoteAction
9075 \leavevmode
9076 \pdfstartlink
9077 attr{%
9078 \Hy@setpdfborder
9079 \Hy@setpdfhighlight
9080 \ifx\@filebordercolor\relax
9081 \else
9082 /C[\@filebordercolor]%
9083 \fi
9084 }%
9085 user {%
9086 /Subtype/Link%
9087 \ifHy@pdfa /F 4\fi
9088 /A<<%
9089 /F(\Hy@pstringF)%
9090 /S/GoToR%
9091 \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}

```

```

9092 \ifx\#3\%
9093 /D[\Hy@href@page\@pdfremotestartview]%
9094 \else
9095 /D(\Hy@pstringD)%
9096 \fi
9097 \Hy@href@nextactionraw
9098 >>%
9099 }%
9100 \relax
9101 \Hy@colorlink\@filecolor#1\Hy@xspace@end
9102 \close@pdflink
9103 \endgroup
9104 }
9105 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
9106 \begingroup
9107 \Hy@pstringdef\Hy@pstringF{#1}%
9108 \Hy@pstringdef\Hy@pstringP{#3}%
9109 \leavevmode
9110 \pdfstartlink
9111 attr{%
9112 \Hy@setpdfborder
9113 \Hy@setpdfhighlight

```

```

9114     \ifx\@runbordercolor\relax
9115     \else
9116         /C[\@runbordercolor]%
9117     \fi
9118 }%
9119 user {%
9120     /Subtype/Link%
9121     \ifHy@pdfa /F 4\fi
9122     /A<<%
9123         /F(\Hy@pstringF)%
9124         /S/Launch%
9125         \Hy@SetNewWindow
9126         \ifx\#3\%
9127         \else
9128             /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
9129         \fi
9130         \Hy@href@nextactionraw
9131     >>%
9132 }%
9133 \relax
9134 \Hy@colorlink\@runcolor#2\Hy@xspace@end
9135 \close@pdflink
9136 \endgroup
9137 }

```

\PDF@SetupDox

```

9138 \def\PDF@SetupDoc{%
9139     \ifx\@pdfpagescrop\@empty
9140     \else
9141         \edef\process@me{%
9142             \pdfpagesattr={%
9143                 /CropBox[\@pdfpagescrop]%
9144                 \expandafter\ifx\expandafter\the\pdfpagesattr\%
9145                 \else
9146                     ^^J\the\pdfpagesattr
9147                 \fi
9148             }%
9149         }%
9150         \process@me
9151     \fi
9152     \Hy@pstringdef\Hy@pstringB{\@baseurl}%
9153     \pdfcatalog{%
9154         /PageMode/\@pdfpagemode
9155         \ifx\@baseurl\@empty
9156         \else
9157             /URI<</Base(\Hy@pstringB)>>%
9158         \fi
9159     }%
9160     \ifx\@pdfstartpage\@empty
9161     \else
9162         \ifx\@pdfstartview\@empty
9163         \else
9164             openaction goto page\@pdfstartpage{\@pdfstartview}%
9165         \fi

```

```

9166 \fi
9167 \edef\Hy@temp{%
9168   \ifHy@pdftoolbar\else /HideToolbar true\fi
9169   \ifHy@pdfmenubar\else /HideMenubar true\fi
9170   \ifHy@pdfwindowui\else /HideWindowUI true\fi
9171   \ifHy@pdffitwindow /FitWindow true\fi
9172   \ifHy@pdfcenterwindow /CenterWindow true\fi
9173   \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9174   \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9175   \Hy@UseNameKey{Direction}\@pdfdirection
9176   \Hy@UseNameKey{ViewArea}\@pdfviewarea
9177   \Hy@UseNameKey{ViewClip}\@pdfviewclip
9178   \Hy@UseNameKey{PrintArea}\@pdfprintarea
9179   \Hy@UseNameKey{PrintClip}\@pdfprintclip
9180   \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9181   \Hy@UseNameKey{Duplex}\@pdfduplex
9182   \ifx\@pdfpicktraybypdfsize\@empty
9183   \else
9184     /PickTrayByPDFSize \@pdfpicktraybypdfsize
9185   \fi
9186   \ifx\@pdfprintpagerange\@empty
9187   \else
9188     /PrintPageRange[\@pdfprintpagerange]%
9189   \fi
9190   \ifx\@pdfnumcopies\@empty
9191   \else
9192     /NumCopies \@pdfnumcopies
9193   \fi
9194 }%
9195 \pdfcatalog{%
9196   \ifx\Hy@temp\@empty
9197   \else
9198     /ViewerPreferences<<\Hy@temp>>%
9199   \fi
9200   \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9201   \ifx\@pdflang\relax
9202   \else
9203     /Lang(\@pdflang)%
9204   \fi
9205 }%
9206 }

```

\PDF@FinishDoc

```

9207 \def\PDF@FinishDoc{%
9208   \pdf@ifdraftmode{}\{%
9209     \Hy@UseMaketitleInfos
9210     \HyInfo@GenerateAddons
9211     \pdfinfo{%
9212       /Author(\@pdfauthor)%
9213       /Title(\@pdftitle)%
9214       /Subject(\@pdfsubject)%
9215       /Creator(\@pdfcreator)%
9216       \ifx\@pdfcreationdate\@empty
9217       \else

```

```

9218      /CreationDate(\@pdfcreationdate)%
9219      \fi
9220      \ifx\@pdfmoddate\@empty
9221      \else
9222      /ModDate(\@pdfmoddate)%
9223      \fi
9224      \ifx\@pdfproducer\relax
9225      \else
9226      /Producer(\@pdfproducer)%
9227      \fi
9228      /Keywords(\@pdfkeywords)%
9229      \ifx\@pdftrapped\@empty
9230      \else
9231      /Trapped/\@pdftrapped
9232      \fi
9233      \HyInfo@Addons
9234    }%
9235  }%
9236  \Hy@DisableOption{pdfauthor}%
9237  \Hy@DisableOption{pdftitle}%
9238  \Hy@DisableOption{pdfsubject}%
9239  \Hy@DisableOption{pdfcreator}%
9240  \Hy@DisableOption{addtopdfcreator}%
9241  \Hy@DisableOption{pdfcreationdate}%
9242  \Hy@DisableOption{pdfmoddate}%
9243  \Hy@DisableOption{pdfproducer}%
9244  \Hy@DisableOption{pdfkeywords}%
9245  \Hy@DisableOption{pdftrapped}%
9246  \Hy@DisableOption{pdfinfo}%
9247 }

```

\hyper@pagetransition \\\expandafter \cmd@to@cs \string \@pdfpagetransition is initialized with \\\expandafter \cmd@to@cs \string \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 \\\expandafter \cmd@to@cs \string \pdfpageattr .

```

9248 \def\hyper@pagetransition{%
9249   \ifx\@pdfpagetransition\relax
9250   \else
9251     \expandafter\Hy@RemoveTransPageAttr
9252     \the\pdfpageattr^^J/Trans{}}>>\END
9253   \ifx\@pdfpagetransition\@empty
9254   \else
9255     \edef\@processme{%
9256       \global\pdfpageattr{%
9257         \the\pdfpageattr
9258         ^^J/Trans << /S /\@pdfpagetransition\space >>%
9259       }%
9260     }%
9261     \@processme
9262   \fi
9263 \fi
9264 }

```

\Hy@RemoveTransPageAttr Macro \\\expandafter \cmd@to@cs \string \Hy @RemoveTransPageAttr re-

moves a /Trans entry from `\expandafter \cmd@to@cs \string \pdfpageattr`. It is called with the end marker `^^J/Trans{>>\END`. The trick is the empty group that does not appear in legal `\expandafter \cmd@to@cs \string \pdfpageattr` code. It appears in argument #2 and shows, whether the parameter text catches a really /Trans object or the end marker.

```

9265 \gdef\Hy@RemoveTransPageAttr#1^^J/Trans#2#3>>#4\END{%
9266   \ifx\#2\%
9267     \global\pdfpageattr{#1}%
9268   \else
9269     \Hy@RemoveTransPageAttr#1#4\END
9270   \fi
9271 }
```

`\hyper@pageduration` `\expandafter \cmd@to@cs \string \@pdfpageduration` is initialized with `\expandafter \cmd@to@cs \string \relax`. So it indicates, if option pdfpageduration is used. First previous /Dur entries are removed. If a new /Dur key exists, it is appended to `\expandafter \cmd@to@cs \string \pdfpageattr`.

```

9272 \def\hyper@pageduration{%
9273   \ifx\@pdfpageduration\relax
9274   \else
9275     \expandafter
9276     \Hy@RemoveDurPageAttr\the\pdfpageattr^^J/Dur{ } \END
9277     \ifx\@pdfpageduration\@empty
9278     \else
9279       \edef\@processme{%
9280         \global\pdfpageattr{%
9281           \the\pdfpageattr
9282           ^^J/Dur \@pdfpageduration\space
9283         }%
9284       }%
9285       \@processme
9286     \fi
9287   \fi
9288 }
```

`\Hy@RemoveDurPageAttr` Macro `\expandafter \cmd@to@cs \string \Hy @RemoveDurPageAttr` removes a /Dur entry from `\expandafter \cmd@to@cs \string \pdfpageattr`. It is called with the end marker `^^J/Dur{ } \END`. The trick is the empty group that does not appear in legal `\expandafter \cmd@to@cs \string \pdfpageattr` code. It appears in argument #2 and shows, whether the parameter text catches a really /Dur object or the end marker.

```

9289 \gdef\Hy@RemoveDurPageAttr#1^^J/Dur#2#3 #4\END{%
9290   \ifx\#2\%
9291     \global\pdfpageattr{#1}%
9292   \else
9293     \Hy@RemoveDurPageAttr#1#4\END
9294   \fi
9295 }

9296 \pdf@ifdraftmode{}{%
9297   \g@addto@macro\Hy@EveryPageHook{%
9298     \hyper@pagetransition
9299     \hyper@pageduration
```

```

9300 }%
9301 }

```

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

```

9302 </pdftex>
9303 <*pdftex | xetex>
9304 \Hy@AtBeginDocument{%
9305   \ifHy@setpagesize
9306     \expandafter\@firstofone
9307   \else
9308     \expandafter\@gobble
9309   \fi
9310   {%
9311     \@ifclassloaded{seminar}{%
9312 <*pdftex>
9313       \setlength{\pdfhorigin}{1truein}%
9314       \setlength{\pdfvorigin}{1truein}%
9315 </pdftex>
9316       \ifportrait
9317         \ifdim\paperwidth=\z@
9318         \else
9319           \setlength{\pdfpagewidth}{\strip@pt\paperwidth truept}%
9320         \fi
9321         \ifdim\paperheight=\z@
9322         \else
9323           \setlength{\pdfpageheight}{\strip@pt\paperheight truept}%
9324         \fi
9325       \else
9326         \ifdim\paperheight=\z@
9327         \else
9328           \setlength{\pdfpagewidth}{\strip@pt\paperheight truept}%
9329         \fi
9330         \ifdim\paperwidth=\z@
9331         \else
9332           \setlength{\pdfpageheight}{\strip@pt\paperwidth truept}%
9333         \fi
9334       \fi
9335     }{%
9336       \ltx@ifundefined{stockwidth}{%
9337         \ifdim\paperwidth>\z@
9338           \setlength{\pdfpagewidth}{\paperwidth}%
9339         \fi
9340         \ifdim\paperheight>\z@
9341           \setlength{\pdfpageheight}{\paperheight}%
9342         \fi
9343       }{%
9344         \ifdim\stockwidth>\z@
9345           \setlength{\pdfpagewidth}{\stockwidth}%
9346         \fi
9347         \ifdim\stockheight>\z@
9348           \setlength{\pdfpageheight}{\stockheight}%
9349         \fi
9350       }%

```

```

9351 }%
9352 }%
9353 \Hy@DisableOption{setpagesize}%
9354 }
9355 </pdfTeX | xetex>
9356 <*pdfTeX>
9357 \def\Acrobatmenu#1#2{%
9358 \Hy@Acrobatmenu{#1}{#2}{%
9359 \leavevmode
9360 \EdefEscapeName\Hy@temp@menu{#1}%
9361 \pdfstartlink
9362 attr{%
9363 \Hy@setpdfborder
9364 \Hy@setpdfhighlight
9365 \ifx\@menubordercolor\relax
9366 \else
9367 /C[\@menubordercolor]%
9368 \fi
9369 }%
9370 user{%
9371 /Subtype/Link%
9372 \ifHy@pdfa /F 4\fi
9373 /A<<%
9374 /S/Named%
9375 /N/\Hy@temp@menu
9376 \Hy@href@nextactionraw
9377 >>%
9378 }%
9379 \relax
9380 \Hy@colorlink\@menucolor#2%
9381 \close@pdflink
9382 }%
9383 }

```

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.

```

9384 </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:<a href = "href_string">

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

end: html:</a>

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

base_name: html:<base href = "href_string">

```

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

The *href* and *name* commands must be paired with an *end* command later in the T_EX file — the T_EX commands between the two ends of a pair form an *anchor* in the document. In the case of an *href* command, the *anchor* is to be highlighted in the *dvi* viewer, and when clicked on will cause the scene to shift to the destination specified by *href_string*. The *anchor* associated with a name command represents a possible location to which other hypertext links may refer, either as local references (of the form href="#name_string" with the *name_string* identical to the one in the name command) or as part of a URL (of the form URL#name_string). Here *href_string* is a valid URL or local identifier, while name_string could be any string at all: the only caveat is that ‘” characters should be escaped with a backslash (\), and if it looks like a URL name it may cause problems.

```

9385 (*hypertext)
9386 \providecommand*{\XR@ext}{dvi}
9387 \let\PDF@FinishDoc\ltx@empty
9388 \def\PDF@SetupDoc{%
9389   \ifx\@baseurl\@empty
9390   \else
9391     \special{html:<base href="\@baseurl">}%
9392   \fi
9393 }
9394 \Hy@WrapperDef\hyper@anchor#1{%
9395   \Hy@SaveLastskip
9396   \Hy@VerboseAnchor{#1}%
9397   \begingroup
9398     \let\protect=\string
9399     \hyper@chars
9400     \special{html:<a name=%
9401       \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9402   \endgroup
9403   \Hy@activeanchortrue
9404   \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9405   \special{html:</a>}%
9406   \Hy@activeanchorfalse
9407   \Hy@RestoreLastskip
9408 }
9409 \Hy@WrapperDef\hyper@anchorstart#1{%

```

```

9410 \Hy@SaveLastskip
9411 \Hy@VerboseAnchor{#1}%
9412 \begingroup
9413   \hyper@chars
9414   \special{html:<a name=%
9415     \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
9416 \endgroup
9417 \Hy@activeanchortrue
9418 }
9419 \def\hyper@anchorend{%
9420   \special{html:</a>}%
9421   \Hy@activeanchorfalsetrue
9422   \Hy@RestoreLastskip
9423 }
9424 \def\@urltype{url}
9425 \def\hyper@linkstart#1#2{%
9426   \Hy@VerboseLinkStart{#1}{#2}%
9427   \expandafter\Hy@colorlink\csname @#1color\endcsname
9428   \def\Hy@tempa{#1}%
9429   \ifx\Hy@tempa\@urltype
9430     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9431   \else
9432     \begingroup
9433       \hyper@chars
9434       \special{html:<a href=%
9435         \hyper@quote\#1\HyperDestNameFilter{#2}\hyper@quote>}%
9436     \endgroup
9437   \fi
9438 }
9439 \def\hyper@linkend{%
9440   \special{html:</a>}%
9441   \Hy@endcolorlink
9442 }
9443 \def\hyper@linkfile#1#2#3{%
9444   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\#3\fi}%
9445 }
9446 \def\hyper@linkurl#1#2{%

```

If we want to raise up the final link `\special`, we need to get its height; ask me why L^AT_EX constructs make this totally foul up, and make us revert to basic T_EX. I do not know.

```

9447 \leavevmode
9448 \ifHy@raiselinks
9449   \Hy@SaveSpaceFactor
9450   \Hy@SaveSavedSpaceFactor
9451   \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9452   \Hy@RestoreSavedSpaceFactor
9453   \@linkdim\dp\@tempboxa
9454   \lower\@linkdim\hbox{%
9455     \hyper@chars
9456     \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9457   }%
9458   \Hy@colorlink\@urlcolor
9459   \Hy@RestoreSpaceFactor

```

```

9460    #1%
9461    \Hy@SaveSpaceFactor
9462    \@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).

```

9463    \advance\@linkdim by -6.5\p@
9464    \raise\@linkdim\hbox{\special{html:</a>}}}%
9465    \Hy@endcolorlink
9466    \Hy@RestoreSpaceFactor
9467    \else
9468    \begingroup
9469    \hyper@chars
9470    \special{html:<a href=\hyper@quote#2\hyper@quote>}%
9471    \Hy@colorlink\@urlcolor#1\Hy@xspace@end
9472    \special{html:</a>}}}%
9473    \Hy@endcolorlink
9474    \endgroup
9475    \fi
9476 }

```

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

```

9477 \def\hyper@link#1#2#3{%
9478   \Hy@VerboseLinkStart{#1}{#2}%
9479   \hyper@linkurl{#3}{\#\HyperDestNameFilter{#2}}}%
9480 }

9481 \def\hyper@image#1#2{%
9482   \begingroup
9483   \hyper@chars
9484   \special{html:<img src=\hyper@quote#1\hyper@quote>}%
9485   \endgroup
9486 }
9487 </hypertex>
9488 <*\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 define this command before or after loading the hyperref package if the default c:/netscape/netscape is not suitable) Dviwindo could in fact handle external links to dvi files on the same machine without calling a web browser, but that would mean parsing the URL to recognise such, and this is currently not done.

This was more or less blindly copied from the hypertex cfg. For dviwindo, L^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.

```

9489 \providecommand*\XR@ext}{dvi}
9490 \providecommand*\wwwbrowser{c:\string\netscape\string\netscape}
9491 \Hy@WrapperDef\hyper@anchor#1{%
9492   \Hy@SaveLastskip

```

```

9493 \Hy@VerboseAnchor{#1}%
9494 \begingroup
9495 \let\protect=\string
9496 \special{mark: #1}%
9497 \endgroup
9498 \Hy@activeanchortrue
9499 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
9500 \Hy@activeanchorfalse
9501 \Hy@RestoreLastskip
9502 }
9503 \Hy@WrapperDef\hyper@anchorstart#1{%
9504 \Hy@SaveLastskip
9505 \Hy@VerboseAnchor{#1}%
9506 \special{mark: #1}%
9507 \Hy@activeanchortrue
9508 }
9509 \def\hyper@anchorend{%
9510 \Hy@activeanchorfalse
9511 \Hy@RestoreLastskip
9512 }
9513 \def\hyper@linkstart#1#2{%
9514 \Hy@VerboseLinkStart{#1}{#2}%
9515 \expandafter\Hy@colorlink\csname @#1color\endcsname
9516 \special{button: %
9517 10000000 %
9518 \number\baselineskip\space
9519 #2%
9520 }%
9521 }
9522 \def\hyper@linkend{%
9523 \Hy@endcolorlink
9524 }
9525 \def\hyper@link#1#2#3{%
9526 \Hy@VerboseLinkStart{#1}{#2}%
9527 \leavevmode
9528 \ifHy@raiselinks
9529 \Hy@SaveSpaceFactor
9530 \Hy@SaveSavedSpaceFactor
9531 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#3}%
9532 \Hy@RestoreSavedSpaceFactor
9533 \@linkdim\dp\@tempboxa
9534 \lower\@linkdim\hbox{%
9535 \special{button: %
9536 \number\wd\@tempboxa\space
9537 \number\ht\@tempboxa\space
9538 #2%
9539 }%
9540 \expandafter\Hy@colorlink\csname @#1color\endcsname
9541 \Hy@RestoreSpaceFactor
9542 #3\Hy@xspace@end
9543 \Hy@SaveSpaceFactor
9544 \Hy@endcolorlink
9545 }%
9546 \@linkdim\ht\@tempboxa

```

```

9547 \advance\@linkdim by -6.5\p@
9548 \raise\@linkdim\hbox{}%
9549 \Hy@RestoreSpaceFactor
9550 \else
9551 \special{button: %
9552 \number\wd\@tempboxa\space
9553 \number\ht\@tempboxa\space
9554 #2%
9555 }%
9556 \expandafter\Hy@colorlink\csname @#1color\endcsname
9557 #3\Hy@xspace@end
9558 \Hy@endcolorlink
9559 \fi
9560 }
9561 \def\hyper@linkurl#1#2{%
9562 \begingroup
9563 \hyper@chars
9564 \leavevmode
9565 \ifHy@raiselinks
9566 \Hy@SaveSpaceFactor
9567 \Hy@SaveSavedSpaceFactor
9568 \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9569 \Hy@RestoreSavedSpaceFactor
9570 \@linkdim\dp\@tempboxa
9571 \lower\@linkdim\hbox{%
9572 \special{button: %
9573 \number\wd\@tempboxa\space
9574 \number\ht\@tempboxa\space
9575 launch: \wwwbrowser\space
9576 #2%
9577 }%
9578 \Hy@colorlink\@urlcolor
9579 \Hy@RestoreSpaceFactor
9580 #1\Hy@xspace@end
9581 \Hy@SaveSpaceFactor
9582 \Hy@endcolorlink
9583 }%
9584 \@linkdim\ht\@tempboxa
9585 \advance\@linkdim by -6.5\p@
9586 \raise\@linkdim\hbox{}%
9587 \Hy@RestoreSpaceFactor
9588 \else
9589 \special{button: %
9590 \number\wd\@tempboxa\space
9591 \number\ht\@tempboxa\space
9592 launch: \wwwbrowser\space
9593 #2%
9594 }%
9595 \Hy@colorlink\@urlcolor
9596 #1\Hy@xspace@end
9597 \Hy@endcolorlink
9598 \fi
9599 \endgroup
9600 }

```

```

9601 \def\hyper@linkfile#1#2#3{%
9602   \begingroup
9603     \hyper@chars
9604     \leavevmode
9605     \ifHy@raiselinks
9606       \Hy@SaveSpaceFactor
9607       \Hy@SaveSavedSpaceFactor
9608       \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
9609       \Hy@RestoreSavedSpaceFactor
9610       \@linkdim\dp\@tempboxa
9611       \lower\@linkdim\hbox{%
9612         \special{button: %
9613           \number\wd\@tempboxa\space
9614           \number\ht\@tempboxa\space
9615           #3,%
9616           file: #2%
9617         }%
9618         \Hy@colorlink\@filecolor
9619         \Hy@RestoreSpaceFactor
9620         #1\Hy@xspace@end
9621         \Hy@SaveSpaceFactor
9622         \Hy@endcolorlink
9623       }%
9624       \@linkdim\ht\@tempboxa
9625       \advance\@linkdim by -6.5\p@
9626       \raise\@linkdim\hbox{}%
9627       \Hy@RestoreSpaceFactor
9628     \else
9629       \special{button: %
9630         \number\wd\@tempboxa\space
9631         \number\ht\@tempboxa\space
9632         #3,%
9633         file: #2%
9634       }%
9635       \Hy@colorlink\@filecolor
9636       #1\Hy@xspace@end
9637       \Hy@endcolorlink
9638     \fi
9639   \endgroup
9640 }
9641 \HyInfo@AddonUnsupportedtrue
9642 \def\PDF@FinishDoc{%
9643   \Hy@UseMaketitleInfos
9644   \HyInfo@TrappedUnsupported
9645   \special{PDF: Keywords \@pdfkeywords}%
9646   \special{PDF: Title \@pdftitle}%
9647   \special{PDF: Creator \@pdfcreator}%
9648   \ifx\@pdfcreationdate\@empty
9649   \else
9650     \special{PDF: CreationDate \@pdfcreationdate}%
9651   \fi
9652   \ifx\@pdfmoddate\@empty
9653   \else
9654     \special{PDF: ModDate \@pdfmoddate}%

```

```

9655 \fi
9656 \special{PDF: Author \@pdfauthor}%
9657 \ifx\@pdfproducer\relax
9658 \else
9659 \special{PDF: Producer \@pdfproducer}%
9660 \fi
9661 \special{PDF: Subject \@pdfsubject}%
9662 \Hy@DisableOption{pdfauthor}%
9663 \Hy@DisableOption{pdftitle}%
9664 \Hy@DisableOption{pdfsubject}%
9665 \Hy@DisableOption{pdfcreator}%
9666 \Hy@DisableOption{addtopdfcreator}%
9667 \Hy@DisableOption{pdfcreationdate}%
9668 \Hy@DisableOption{pdfcreationdate}%
9669 \Hy@DisableOption{pdfmoddate}%
9670 \Hy@DisableOption{pdfproducer}%
9671 \Hy@DisableOption{pdfkeywords}%
9672 \Hy@DisableOption{pdftrapped}%
9673 \Hy@DisableOption{pdfinfo}%
9674 }
9675 \def\PDF@SetupDoc{%
9676 \ifx\@baseurl\@empty
9677 \else
9678 \special{PDF: Base \@baseurl}%
9679 \fi
9680 \ifx\@pdfpagescrop\@empty\else
9681 \special{PDF: BBox \@pdfpagescrop}%
9682 \fi
9683 \def\Hy@temp{}%
9684 \ifx\@pdfstartpage\@empty
9685 \else
9686 \ifx\@pdfstartview\@empty
9687 \else
9688 \edef\Hy@temp{%
9689 ,Page=\@pdfstartpage
9690 ,View=\@pdfstartview
9691 }%
9692 \fi
9693 \fi
9694 \edef\Hy@temp{%
9695 \noexpand\pdfmark{%
9696 pdfmark=/DOCVIEW,%
9697 PageMode=/\@pdfpagemode
9698 \Hy@temp
9699 }%
9700 }%
9701 \Hy@temp
9702 \ifx\@pdfpagescrop\@empty
9703 \else
9704 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
9705 \fi
9706 \edef\Hy@temp{%
9707 \ifHy@pdftoolbar\else /HideToolbar true\fi
9708 \ifHy@pdfmenubar\else /HideMenubar true\fi

```

```

9709 \ifHy@pdfwindowui\else /HideWindowUI true\fi
9710 \ifHy@pdffitwindow /FitWindow true\fi
9711 \ifHy@pdfcenterwindow /CenterWindow true\fi
9712 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
9713 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
9714 \Hy@UseNameKey{Direction}\@pdfdirection
9715 \Hy@UseNameKey{ViewArea}\@pdfviewarea
9716 \Hy@UseNameKey{ViewClip}\@pdfviewclip
9717 \Hy@UseNameKey{PrintArea}\@pdfprintarea
9718 \Hy@UseNameKey{PrintClip}\@pdfprintclip
9719 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
9720 \Hy@UseNameKey{Duplex}\@pdfduplex
9721 \ifx\@pdfpicktraybypdfsize\@empty
9722 \else
9723 /PickTrayByPDFSize \@pdfpicktraybypdfsize
9724 \fi
9725 \ifx\@pdfprintpagerange\@empty
9726 \else
9727 /PrintPageRange[\@pdfprintpagerange]%
9728 \fi
9729 \ifx\@pdfnumcopies\@empty
9730 \else
9731 /NumCopies \@pdfnumcopies
9732 \fi
9733 }%
9734 \pdfmark{pdfmark=/PUT,%
9735 Raw={%
9736 \string{Catalog\string}<<%
9737 \ifx\Hy@temp\@empty
9738 \else
9739 /ViewerPreferences<<\Hy@temp>>%
9740 \fi
9741 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
9742 \ifx\@pdflang\relax
9743 \else
9744 /Lang(\@pdflang)%
9745 \fi
9746 >>%
9747 }%
9748 }%
9749 }
9750 </dviwindo>
9751 <*\dvi pdfm | 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.

```

9752 \special{dvipdfmx:config C 0x0010}
9753 \providecommand*{\XR@ext}{pdf}
9754 \Hy@setbreaklinks{true}

```

```

9755 \def\HyPat@ObjRef{%
9756   @[\^ ]+{%
9757 }
9758 \newsavebox{\pdfm@box}
9759 \def\@pdfm@mark#1{\special{pdf:#1}}
9760 \Hy@WrapperDef\@pdfm@dest#1{%
9761   \Hy@SaveLastskip
9762   \Hy@VerboseAnchor{#1}%
9763   \begin{group}
9764     \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
9765     \def\x{XYZ}%
9766     \ifx\x\@pdfview
9767       \def\x{XYZ @xpos @ypos null}%
9768     \else
9769       \def\x{FitH}%
9770       \ifx\x\@pdfview
9771         \def\x{FitH @ypos}%
9772       \else
9773         \def\x{FitBH}%
9774         \ifx\x\@pdfview
9775           \def\x{FitBH @ypos}%
9776         \else
9777           \def\x{FitV}%
9778           \ifx\x\@pdfview
9779             \def\x{FitV @xpos}%
9780           \else
9781             \def\x{FitBV}%
9782             \ifx\x\@pdfview
9783               \def\x{FitBV @xpos}%
9784             \else
9785               \def\x{Fit}%
9786               \ifx\x\@pdfview
9787                 \let\x\@pdfview
9788               \else
9789                 \def\x{FitB}%
9790                 \ifx\x\@pdfview
9791                   \let\x\@pdfview
9792                 \else
9793                   \def\x{FitR}%
9794                   \ifx\x\@pdfview
9795                     \Hy@Warning{'\pdfview=FitR' is not supported}%
9796                     \def\x{XYZ @xpos @ypos null}%
9797                   \else
9798                     \@onelevel@sanitize\@pdfview
9799                     \Hy@Warning{%
9800                       Unknown value `\'@pdfview' for pdfview%
9801                     }%
9802                     \def\x{XYZ @xpos @ypos null}%
9803                   \fi
9804                 \fi
9805               \fi
9806             \fi
9807           \fi
9808         \fi

```

```

9809     \fi
9810     \fi
9811     \@pdfm@mark{dest (\Hy@pstringDest) [@thispage /\x]]}%
9812 \endgroup
9813 \Hy@RestoreLastskip
9814 }
9815 \providecommand*\@pdfview{XYZ}
9816 \providecommand*\@pdfborder{0 0 1}
9817 \providecommand*\@pdfborderstyle{}
9818 \def\hyper@anchor#1{%
9819   \@pdfm@dest{#1}%
9820 }
9821 \def\hyper@anchorstart#1{%
9822   \Hy@activeanchortrue
9823   \@pdfm@dest{#1}%
9824 }
9825 \def\hyper@anchorend{%
9826   \Hy@activeanchorfalse
9827 }

9828 \newcounter{Hy@AnnotLevel}

9829 \ifHy@ocgcolorlinks
9830   \def\OBJ@OCG@view{@OCG@view}%
9831   \@pdfm@mark{%
9832     obj \OBJ@OCG@view <<%
9833       /Type/OCG%
9834       /Name(View)%
9835       /Usage<<%
9836       /Print<<%
9837       /PrintState/OFF%
9838       >>%
9839       /View<<%
9840       /ViewState/ON%
9841       >>%
9842       >>%
9843       >>%
9844     }%
9845   \@pdfm@mark{close \OBJ@OCG@view}%
9846   \def\OBJ@OCG@print{@OCG@print}%
9847   \@pdfm@mark{%
9848     obj \OBJ@OCG@print <<%
9849       /Type/OCG%
9850       /Name(Print)%
9851       /Usage<<%
9852       /Print<<%
9853       /PrintState/ON%
9854       >>%
9855       /View<<%
9856       /ViewState/OFF%
9857       >>%
9858       >>%
9859       >>%
9860     }%
9861   \@pdfm@mark{close \OBJ@OCG@print}%

```

```

9862 \def\OBJ@OCGs{@OCGs}%
9863 \@pdfm@mark{%
9864   obj \OBJ@OCGs [%
9865     \OBJ@OCG@view\space\OBJ@OCG@print
9866   ]%
9867 }%
9868 \@pdfm@mark{close \OBJ@OCGs}%
9869 \@pdfm@mark{%
9870   put @catalog <<%
9871     /OCProperties<<%
9872     /OCGs \OBJ@OCGs
9873     /D<<%
9874     /OFF[\OBJ@OCG@print]%
9875     /AS[%
9876       <<%
9877         /Event/View%
9878         /OCGs \OBJ@OCGs
9879         /Category[/View]%
9880       >>%
9881       <<%
9882         /Event/Print%
9883         /OCGs \OBJ@OCGs
9884         /Category[/Print]%
9885       >>%
9886       <<%
9887         /Event/Export%
9888         /OCGs \OBJ@OCGs
9889         /Category[/Print]%
9890       >>%
9891     ]%
9892   >>%
9893 >>%
9894 >>%
9895 }%
9896 \AtBeginShipout{%
9897   \setbox\AtBeginShipoutBox=\hbox{%
9898     \copy\AtBeginShipoutBox
9899     \@pdfm@mark{%
9900       put @resources <<%
9901         /Properties<<%
9902         /OCView \OBJ@OCG@view
9903         /OCPrint \OBJ@OCG@print
9904       >>%
9905     >>%
9906   }%
9907 }%
9908 }%
9909 \Hy@AtBeginDocument{%
9910   \def\Hy@colorlink#1{%
9911     \begingroup
9912     \ifHy@ocgcolorlinks
9913       \def\Hy@ocgcolor{#1}%
9914       \setbox0=\hbox\bgroup\color@begingroup
9915     \else

```

```

9916      \HyColor@UseColor#1%
9917      \fi
9918    }%
9919    \def\Hy@endcolorlink{%
9920      \ifHy@ocgcolorlinks
9921        \color@endgroup\egroup
9922        \mbox{%
9923          \@pdfm@mark{content /OC/OCPrint BDC}%
9924          \rlap{\copy0}%
9925          \@pdfm@mark{content EMC/OC/OCView BDC}%
9926          \begingroup
9927            \expandafter\HyColor@UseColor\Hy@ocgcolor
9928            \box0 %
9929          \endgroup
9930          \@pdfm@mark{content EMC}%
9931        }%
9932      \fi
9933    \endgroup
9934  }%
9935 }%
9936 \else
9937   \Hy@DisableOption{ocgcolorlinks}%
9938 \fi

```

Use primitive counter arithmetic here to avoid amsmath redefining `\stepcounter` (github issue/13)

```

9939 \def\Hy@BeginAnnot#1{%
9940   \global\advance\c@Hy@AnnotLevel\@ne
9941   \ifnum\c@Hy@AnnotLevel=\@ne
9942     #1%
9943   \fi
9944 }
9945 \def\Hy@endAnnot{%
9946   \ifnum\value{Hy@AnnotLevel}=\@ne
9947     \Hy@endcolorlink
9948     \@pdfm@mark{eann}%
9949   \fi
9950   \global\advance\c@Hy@AnnotLevel\m@ne
9951 }
9952 \def\Hy@undefinedname{UNDEFINED}
9953 \def\hyper@linkstart#1#2{%
9954   \Hy@VerboseLinkStart{#1}{#2}%
9955   \leavevmode
9956   \Hy@BeginAnnot{%
9957     \protected@edef\Hy@testname{#2}%
9958     \ifx\Hy@testname\@empty
9959       \Hy@Warning{%
9960         Empty destination name,\MessageBreak
9961         using ``\Hy@undefinedname'%
9962       }%
9963     \let\Hy@testname\Hy@undefinedname
9964   \else
9965     \Hy@pstringdef\Hy@testname{%
9966       \expandafter\HyperDestNameFilter\expandafter{%

```

```

9967     \Hy@testname
9968   }%
9969 }%
9970 \fi
9971 \@pdfm@mark{%
9972   bann<<%
9973   /Type/Annot%
9974   /Subtype/Link%
9975   \ifHy@pdfa /F 4\fi
9976   \Hy@setpdfborder
9977   \Hy@setpdfhighlight
9978   \expandafter\ifx\csname @#1bordercolor\endcsname\relax
9979   \else
9980     /C[\csname @#1bordercolor\endcsname]%
9981   \fi
9982   /A<<%
9983   /S/GoTo%
9984   /D(\Hy@testname)%
9985   \Hy@href@nextactionraw
9986   >>%
9987   >>%
9988 }%
9989 \expandafter\Hy@colorlink\csname @#1color\endcsname
9990 }%
9991 }
9992 \def\hyper@linkend{\Hy@EndAnnot}%
9993 \def\hyper@link#1#2#3{%
9994   \hyper@linkstart{#1}{#2}#3\Hy@xspace@end\hyper@linkend
9995 }
9996 \def\hyper@linkfile#1#2#3{%
9997   \leavevmode
9998   \Hy@BeginAnnot{%
9999     \def\Hy@pstringF{#2}%
10000   \Hy@CleanupFile\Hy@pstringF
10001   \Hy@pstringdef\Hy@pstringF\Hy@pstringF
10002   \Hy@pstringdef\Hy@pstringD{#3}%
10003   \Hy@MakeRemoteAction
10004   \@pdfm@mark{%
10005     bann<<%
10006     /Type/Annot%
10007     /Subtype/Link%
10008     \ifHy@pdfa /F 4\fi
10009     \Hy@setpdfborder
10010     \Hy@setpdfhighlight
10011     \ifx\@filebordercolor\relax
10012     \else
10013       /C[\@filebordercolor]%
10014     \fi
10015     /A<<%
10016     /S/GoToR%
10017     /F(\Hy@pstringF)%
10018     /D%
10019     \ifx\#3\%
10020       [\Hy@href@page\@pdfremotestartview]%

```

```

10021         \else
10022         (\Hy@pstringD)%
10023         \fi
10024         \Hy@SetNewWindow
10025         \Hy@href@nextactionraw
10026         >>%
10027     >>%
10028     }%
10029     \Hy@colorlink\@filecolor
10030 }%
10031 #1\Hy@xspace@end
10032 \Hy@endAnnot
10033 }
10034 \def\@hyper@launch run:#1\#2#3{% filename, anchor text linkname
10035     \leavevmode
10036     \Hy@BeginAnnot{%
10037         \Hy@pstringdef\Hy@pstringF{#1}%
10038         \Hy@pstringdef\Hy@pstringP{#3}%
10039         \@pdfm@mark{%
10040             bann<<%
10041             /Type/Annot%
10042             /Subtype/Link%
10043             \ifHy@pdfa /F 4\fi
10044             \Hy@setpdfborder
10045             \Hy@setpdfhighlight
10046             \ifx\@runbordercolor\relax
10047             \else
10048                 /C[\@runbordercolor]%
10049             \fi
10050             /A<<%
10051             /F(\Hy@pstringF)%
10052             /S/Launch%
10053             \Hy@SetNewWindow
10054             \ifx\#3\%
10055             \else
10056                 /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
10057             \fi
10058             \Hy@href@nextactionraw
10059             >>%
10060             >>%
10061             }%
10062             \Hy@colorlink\@runcolor
10063         }%
10064         #2\Hy@xspace@end
10065         \Hy@endAnnot
10066     }
10067 \def\hyper@linkurl#1#2{%
10068     \leavevmode
10069     \Hy@BeginAnnot{%
10070         \Hy@pstringdef\Hy@pstringURI{#2}%
10071         \@pdfm@mark{%
10072             bann<<%
10073             /Type/Annot%
10074             /Subtype/Link%

```

```

10075 \ifHy@pdfa /F 4\fi
10076 \Hy@setpdfborder
10077 \Hy@setpdfhighlight
10078 \ifx\@urlbordercolor\relax
10079 \else
10080 /C[\@urlbordercolor]%
10081 \fi
10082 /A<<%
10083 /S/URI%
10084 /URI(\Hy@pstringURI)%
10085 \ifHy@href@ismap
10086 /IsMap true%
10087 \fi
10088 \Hy@href@nextactionraw
10089 >>%
10090 >>%
10091 }%
10092 \Hy@colorlink\@urlcolor
10093 }%
10094 #1\Hy@xspace@end
10095 \Hy@EndAnnot
10096 }
10097 \def\Acrobatmenu#1#2{%
10098 \Hy@Acrobatmenu{#1}{#2}{%
10099 \Hy@BeginAnnot{%
10100 \EdefEscapeName\Hy@temp@menu{#1}%
10101 \@pdfm@mark{%
10102 bann<<%
10103 /Type/Annot%
10104 /Subtype/Link%
10105 \ifHy@pdfa /F 4\fi
10106 \Hy@setpdfborder
10107 \Hy@setpdfhighlight
10108 \ifx\@menubordercolor\relax
10109 \else
10110 /C[\@menubordercolor]%
10111 \fi
10112 /A<<%
10113 /S/Named%
10114 /N/\Hy@temp@menu
10115 \Hy@href@nextactionraw
10116 >>%
10117 >>%
10118 }%
10119 \Hy@colorlink\@menucolor
10120 }%
10121 #2\Hy@xspace@end
10122 \Hy@EndAnnot
10123 }%
10124 }
10125
10126 \def\PDF@FinishDoc{%
10127 \Hy@UseMaketitleInfos
10128 \Hy@Info@GenerateAddons

```

```

10129 \@pdfm@mark{%
10130   docinfo<<%
10131     /Title(\@pdftitle)%
10132     /Subject(\@pdfsubject)%
10133     /Creator(\@pdfcreator)%
10134     \ifx\@pdfcreationdate\@empty
10135     \else
10136       /CreationDate(\@pdfcreationdate)%
10137     \fi
10138     \ifx\@pdfmoddate\@empty
10139     \else
10140       /ModDate(\@pdfmoddate)%
10141     \fi
10142     /Author(\@pdfauthor)%
10143     \ifx\@pdfproducer\relax
10144     \else
10145       /Producer(\@pdfproducer)%
10146     \fi
10147     /Keywords(\@pdfkeywords)%
10148     \ifx\@pdftrapped\@empty
10149     \else
10150       /Trapped/\@pdftrapped
10151     \fi
10152     \HyInfo@Addons
10153   >>%
10154 }%
10155 \Hy@DisableOption{pdfauthor}%
10156 \Hy@DisableOption{pdftitle}%
10157 \Hy@DisableOption{pdfsubject}%
10158 \Hy@DisableOption{pdfcreator}%
10159 \Hy@DisableOption{addtopdfcreator}%
10160 \Hy@DisableOption{pdfcreationdate}%
10161 \Hy@DisableOption{pdfcreationdate}%
10162 \Hy@DisableOption{pdfmoddate}%
10163 \Hy@DisableOption{pdfproducer}%
10164 \Hy@DisableOption{pdfkeywords}%
10165 \Hy@DisableOption{pdftrapped}%
10166 \Hy@DisableOption{pdfinfo}%
10167 }

10168 \def\PDF@SetupDoc{%
10169   \edef\Hy@temp{%
10170     \ifHy@pdftoolbar\else /HideToolbar true\fi
10171     \ifHy@pdfmenubar\else /HideMenubar true\fi
10172     \ifHy@pdfwindowui\else /HideWindowUI true\fi
10173     \ifHy@pdffitwindow /FitWindow true\fi
10174     \ifHy@pdfcenterwindow /CenterWindow true\fi
10175     \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10176     \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10177     \Hy@UseNameKey{Direction}\@pdfdirection
10178     \Hy@UseNameKey{ViewArea}\@pdfviewarea
10179     \Hy@UseNameKey{ViewClip}\@pdfviewclip
10180     \Hy@UseNameKey{PrintArea}\@pdfprintarea
10181     \Hy@UseNameKey{PrintClip}\@pdfprintclip
10182     \Hy@UseNameKey{PrintScaling}\@pdfprintscaling

```

```

10183 \Hy@UseNameKey{Duplex}\@pdfduplex
10184 \ifx\@pdfpicktraybypdfsize\@empty
10185 \else
10186 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10187 \fi
10188 \ifx\@pdfprintpagerange\@empty
10189 \else
10190 /PrintPageRange[\@pdfprintpagerange]%
10191 \fi
10192 \ifx\@pdfnumcopies\@empty
10193 \else
10194 /NumCopies \@pdfnumcopies
10195 \fi
10196 }%
10197 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
10198 \@pdfm@mark{%
10199 docview<<%
10200 \ifx\@pdfstartpage\@empty
10201 \else
10202 \ifx\@pdfstartview\@empty
10203 \else
10204 /OpenAction[@page\@pdfstartpage\@pdfstartview]%
10205 \fi
10206 \fi
10207 \ifx\@baseurl\@empty
10208 \else
10209 /URI<</Base(\Hy@pstringB)>>%
10210 \fi
10211 /PageMode/\@pdfpagemode
10212 \ifx\Hy@temp\@empty
10213 \else
10214 /ViewerPreferences<<\Hy@temp>>%
10215 \fi
10216 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
10217 \ifx\@pdflang\relax
10218 \else
10219 /Lang(\@pdflang)%
10220 \fi
10221 >>%
10222 }%
10223 \ifx\@pdfpagescrop\@empty
10224 \else
10225 \@pdfm@mark{put @pages <</CropBox[\@pdfpagescrop]>>}%
10226 \fi
10227 }
10228 </dvipdfm | xetex>
10229 < *dvipdfm | xetex>

```

\hyper@pagetransition

```

10230 \def\hyper@pagetransition{%
10231 \ifx\@pdfpagetransition\relax
10232 \else
10233 \ifx\@pdfpagetransition\@empty
10234 \else

```

```

10235     \special{pdf:put @thispage %
10236         <</Trans<</S/\@pdfpagetransition>>>>%
10237     }%
10238     \fi
10239 \fi
10240 }

```

\hyper@pageduration

```

10241 \def\hyper@pageduration{%
10242     \ifx\@pdfpageduration\relax
10243     \else
10244         \ifx\@pdfpageduration\@empty
10245         \else
10246             \special{pdf:put @thispage %
10247                 <</Dur \@pdfpageduration>>>%
10248             }%
10249         \fi
10250     \fi
10251 }

10252 \g@addto@macro\Hy@EveryPageBoxHook{%
10253     \hyper@pagetransition
10254     \hyper@pageduration
10255 }

10256 </dvipdfm | xetex>

```

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

```

10257 <*\dvipdfm>
10258 \AtBeginShipoutFirst{%
10259     \ifHy@setpagesize
10260     \begingroup
10261         \@ifundefined{stockwidth}{%
10262             \ifdim\paperwidth>\z@
10263             \ifdim\paperheight>\z@
10264                 \special{papersize=\the\paperwidth,\the\paperheight}%
10265             \fi
10266         \fi
10267     }{%
10268         \ifdim\stockwidth>\z@
10269         \ifdim\stockheight>\z@
10270             \special{papersize=\the\stockwidth,\the\stockheight}%
10271         \fi
10272     \fi
10273 }%
10274 \endgroup
10275 \fi
10276 \Hy@DisableOption{setpagesize}%
10277 }
10278 </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.

```
10279 \*vtexhtml>
10280 \providecommand*\XR@ext\{htm}
10281 \RequirePackage{vtexhtml}
10282 \newif\if@Localurl
10283 \let\PDF@FinishDoc\ltx@empty
10284 \def\PDF@SetupDoc{%
10285   \ifx\@baseurl\@empty
10286   \else
10287     \special{!direct <base href="\@baseurl">}%
10288   \fi
10289 }
10290 \def\@urltype{url}
10291 \def\hyper@link#1#2#3{%
10292   \Hy@VerboseLinkStart{#1}{#2}%
10293   \leavevmode
10294   \special{!direct <a href=%
10295     \hyper@quote\hyper@hash\HyperDestNameFilter{#2}\hyper@quote>}%
10296   #3\Hy@xspace@end
10297   \special{!direct </a>}%
10298 }
10299 \def\hyper@linkurl#1#2{%
10300   \begingroup
10301     \hyper@chars
10302     \leavevmode
10303     \MathBSuppress=1\relax
10304     \special{!direct <a href=%
10305       \hyper@quote\HyperDestNameFilter{#2}\hyper@quote>}%
10306     #1\Hy@xspace@end
10307     \MathBSuppress=0\relax
10308     \special{!direct </a>}%
10309   \endgroup
10310 }
10311 \def\hyper@linkfile#1#2#3{%
10312   \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
10313 }
10314 \def\hyper@linkstart#1#2{%
10315   \Hy@VerboseLinkStart{#1}{#2}%
10316   \def\Hy@tempa{#1}\ifx\Hy@tempa\@urltype
10317     \@Localurltrue
10318     \special{!direct <a href=\hyper@quote#2\hyper@quote>}%
10319   \else
10320     \@Localurlfalse
10321     \begingroup
10322       \hyper@chars
10323       \special{!aref \HyperDestNameFilter{#2}}%
10324     \endgroup
10325   \fi
10326 }
10327 \def\hyper@linkend{%
10328   \if@Localurl
```

```

10329 \special{!endaref}%
10330 \else
10331 \special{!direct </a>}%
10332 \fi
10333 }
10334 \Hy@WrapperDef\hyper@anchorstart#1{%
10335 \Hy@SaveLastskip
10336 \Hy@VerboseAnchor{#1}%
10337 \begingroup
10338 \hyper@chars
10339 \special{!aname #1}%
10340 \special{!direct <a name=%
10341 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10342 \endgroup
10343 \Hy@activeanchortrue
10344 }
10345 \def\hyper@anchorend{%
10346 \special{!direct </a>}%
10347 \Hy@activeanchorfalse
10348 \Hy@RestoreLastskip
10349 }
10350 \Hy@WrapperDef\hyper@anchor#1{%
10351 \Hy@SaveLastskip
10352 \Hy@VerboseAnchor{#1}%
10353 \begingroup
10354 \let\protect=\string
10355 \hyper@chars
10356 \leavevmode
10357 \special{!aname #1}%
10358 \special{!direct <a name=%
10359 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
10360 \endgroup
10361 \Hy@activeanchortrue
10362 \bgroup\anchor@spot\egroup
10363 \special{!direct </a>}%
10364 \Hy@activeanchorfalse
10365 \Hy@RestoreLastskip
10366 }
10367 \def\@Form[#1]{%
10368 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10369 }
10370 \let\@endForm\ltx@empty
10371 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
10372 \Hy@Message{Sorry, TeXpider does not yet support FORM gauges}%
10373 }
10374 \def\@TextField[#1]#2{% parameters, label
10375 \Hy@Message{Sorry, TeXpider does not yet support FORM text fields}%
10376 }
10377 \def\@CheckBox[#1]#2{% parameters, label
10378 \Hy@Message{Sorry, TeXpider does not yet support FORM checkboxes}%
10379 }
10380 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
10381 \Hy@Message{Sorry, TeXpider does not yet support FORM choice menus}%
10382 }

```

```

10383 \def\@PushButton[#1]#2{% parameters, label
10384 \Hy@Message{Sorry, TeXpider does not yet support FORM pushbuttons}%
10385 }
10386 \def\@Reset[#1]#2{%
10387 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10388 }
10389 \def\@Submit[#1]#2{%
10390 \Hy@Message{Sorry, TeXpider does not yet support FORMs}%
10391 }
10392 \</vtexhtml>
10393 \<vtx>

```

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.

```

10394 \ifx\mediaheight\@undefined
10395 \else
10396 \ifx\mediaheight\relax
10397 \else
10398 \ifHy@setpagesize
10399 \providecommand*\VTeXInitMediaSize{%
10400 \ltx@ifundefined{stockwidth}{%
10401 \ifdim\paperheight>0pt %
10402 \setlength\mediaheight\paperheight
10403 \fi
10404 \ifdim\paperheight>0pt %
10405 \setlength\mediawidth\paperwidth
10406 \fi
10407 }{%
10408 \ifdim\stockheight>0pt %
10409 \setlength\mediaheight\stockheight
10410 \fi
10411 \ifdim\stockwidth>0pt %
10412 \setlength\mediawidth\stockwidth
10413 \fi
10414 }%
10415 }%
10416 \Hy@AtBeginDocument{\VTeXInitMediaSize}%
10417 \fi
10418 \Hy@DisableOption{setpagesize}%
10419 \fi
10420 \fi

```

Older versions of VTeX require `xyz` in lower case.

```

10421 \providecommand*\@pdfview{xyz}
10422 \providecommand*\@pdfborder{0 0 1}
10423 \providecommand*\@pdfborderstyle{}
10424 \let\CurrentBorderColor\@linkbordercolor
10425 \Hy@WrapperDef\hyper@anchor#1{%
10426 \Hy@SaveLastskip
10427 \Hy@VerboseAnchor{#1}%
10428 \begingroup
10429 \let\protect=\string
10430 \hyper@chars

```

```

10431 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10432 \endgroup
10433 \Hy@activeanchortrue
10434 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
10435 \Hy@activeanchorfalse
10436 \Hy@RestoreLastskip
10437 }
10438 \Hy@WrapperDef\hyper@anchorstart#1{%
10439 \Hy@SaveLastskip
10440 \Hy@VerboseAnchor{#1}%
10441 \begingroup
10442 \hyper@chars
10443 \special{!aname \HyperDestNameFilter{#1};\@pdfview}%
10444 \endgroup
10445 \Hy@activeanchortrue
10446 }
10447 \def\hyper@anchorend{%
10448 \Hy@activeanchorfalse
10449 \Hy@RestoreLastskip
10450 }
10451 \def\@urltype{url}
10452 \def\Hy@undefinedname{UNDEFINED}
10453 \def\hyper@linkstart#1#2{%
10454 \Hy@VerboseLinkStart{#1}{#2}%
10455 \Hy@pstringdef\Hy@pstringURI{#2}%
10456 \expandafter\Hy@colorlink\csname @#1color\endcsname
10457 \ltx@ifundefined{@#1bordercolor}{%
10458 \let\CurrentBorderColor\relax
10459 }{%
10460 \edef\CurrentBorderColor{%
10461 \csname @#1bordercolor\endcsname
10462 }%
10463 }%
10464 \def\Hy@tempa{#1}%
10465 \ifx\Hy@tempa\@urltype
10466 \special{!%
10467 aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10468 \ifHy@href@ismap
10469 /IsMap true%
10470 \fi
10471 \Hy@href@nextactionraw
10472 >,%
10473 a=<%
10474 \ifHy@pdfa /F 4\fi
10475 \Hy@setpdfborder
10476 \ifx\CurrentBorderColor\relax
10477 \else
10478 /C [\CurrentBorderColor]%
10479 \fi
10480 >%
10481 }%
10482 \else
10483 \protected@edef\Hy@testname{#2}%
10484 \ifx\Hy@testname\@empty

```

```

10485 \Hy@Warning{%
10486   Empty destination name,\MessageBreak
10487   using ``\Hy@undefinedname'%
10488 }%
10489 \let\Hy@testname\Hy@undefinedname
10490 \fi
10491 \special{!%
10492   aref \expandafter\HyperDestNameFilter
10493   \expandafter{\Hy@testname};%
10494   a=<%
10495   \ifHy@pdfa /F 4\fi
10496   \Hy@setpdfborder
10497   \ifx\CurrentBorderColor\relax
10498   \else
10499   /C [\CurrentBorderColor]%
10500   \fi
10501   >%
10502 }%
10503 \fi
10504 }
10505 \def\hyper@linkend{%
10506 \special{!endaref}%
10507 \Hy@endcolorlink
10508 }
10509 \def\hyper@linkfile#1#2#3{%
10510 \leavevmode
10511 \def\Hy@pstringF{#2}%
10512 \Hy@CleanupFile\Hy@pstringF
10513 \special{!%
10514   aref <%
10515   \ifnum\Hy@VTeXversion>753 \ifHy@pdfnewwindow n\fi\fi
10516   f=\Hy@pstringF>#3;%
10517   a=<%
10518   \ifHy@pdfa /F 4\fi
10519   \Hy@setpdfborder
10520   \ifx\@filebordercolor\relax
10521   \else
10522   /C [\@filebordercolor]%
10523   \fi
10524   >%
10525 }%
10526 \Hy@colorlink\@filecolor
10527 #1\Hy@xspace@end
10528 \Hy@endcolorlink
10529 \special{!endaref}%
10530 }
10531 \def\hyper@linkurl#1#2{%
10532 \begingroup
10533 \Hy@pstringdef\Hy@pstringURI{#2}%
10534 \hyper@chars
10535 \leavevmode
10536 \special{!%
10537   aref <u=/Type/Action/S/URI/URI(\Hy@pstringURI)%
10538   \ifHy@href@ismap

```

```

10539      /IsMap true%
10540      \fi
10541      \Hy@href@nextactionraw
10542      >,%
10543      a=<%
10544      \ifHy@pdfa /F 4\fi
10545      \Hy@setpdfborder
10546      \ifx\@urlbordercolor\relax
10547      \else
10548      /C [\@urlbordercolor]%
10549      \fi
10550      >%
10551      }%
10552      \Hy@colorlink\@urlcolor
10553      #1\Hy@xspace@end
10554      \Hy@endcolorlink
10555      \special{!endaref}%
10556 \endgroup
10557 }
10558 \def\hyper@link#1#2#3{%
10559 \Hy@VerboseLinkStart{#1}{#2}%
10560 \ltx@ifundefined{@#1bordercolor}{%
10561 \let\CurrentBorderColor\relax
10562 }{%
10563 \edef\CurrentBorderColor{\csname @#1bordercolor\endcsname}%
10564 }%
10565 \leavevmode
10566 \protected@edef\Hy@testname{#2}%
10567 \ifx\Hy@testname\@empty
10568 \Hy@Warning{%
10569 Empty destination name,\MessageBreak
10570 using ``\Hy@undefinedname'%
10571 }%
10572 \let\Hy@testname\Hy@undefinedname
10573 \fi
10574 \special{!%
10575 aref \expandafter\HyperDestNameFilter
10576 \expandafter{\Hy@testname};%
10577 a=<%
10578 \ifHy@pdfa /F 4\fi
10579 \Hy@setpdfborder
10580 \ifx\CurrentBorderColor\relax
10581 \else
10582 /C [\CurrentBorderColor]%
10583 \fi
10584 >%
10585 }%
10586 \expandafter
10587 \Hy@colorlink\csname @#1color\endcsname
10588 #3\Hy@xspace@end
10589 \Hy@endcolorlink
10590 \special{!endaref}%
10591 }
10592 \def\hyper@image#1#2{%

```

```

10593 \hyper@linkurl{#2}{#1}%
10594 }
10595 \def\@hyper@launch run:#1\#2#3{%
10596 \Hy@pstringdef\Hy@pstringF{#1}%
10597 \Hy@pstringdef\Hy@pstringP{#3}%
10598 \leavevmode
10599 \special{!aref %
10600 <u=%
10601 /Type/Action%
10602 /S/Launch%
10603 /F(\Hy@pstringF)%
10604 \Hy@SetNewWindow
10605 \ifx\#3\%
10606 \else
10607 /Win<</F(\Hy@pstringF)/P(\Hy@pstringP)>>%
10608 \fi
10609 \Hy@href@nextactionraw
10610 >,%
10611 a=<%
10612 \ifHy@pdfa /F 4\fi
10613 \Hy@setpdfborder
10614 \ifx\@runbordercolor\relax
10615 \else
10616 /C[\@runbordercolor]%
10617 \fi
10618 >%
10619 }%
10620 \Hy@colorlink\@runcolor
10621 #2\Hy@xspace@end
10622 \Hy@endcolorlink
10623 \special{!endaref}%
10624 }
10625 \def\Acrobatmenu#1#2{%
10626 \EdefEscapeName\Hy@temp@menu{#1}%
10627 \Hy@Acrobatmenu{#1}{#2}{%
10628 \special{!%
10629 aref <u=/S /Named /N /\Hy@temp@menu>;%
10630 a=<%
10631 \ifHy@pdfa /F 4\fi
10632 \Hy@setpdfborder
10633 \ifx\@menubordercolor\relax
10634 \else
10635 /C[\@menubordercolor]%
10636 \fi
10637 >%
10638 }%
10639 \Hy@colorlink\@menucolor
10640 #2\Hy@xspace@end
10641 \Hy@endcolorlink
10642 \special{!endaref}%
10643 }%
10644 }

```

The following code (transition effects) is made by Alex Kostin.
The code below makes sense for V_TE_X 7.02 or later.

Please never use `\@ifundefined{VTeXversion}{..}{..}` *globally*.

```
10645 \ifnum\Hy@VTeXversion<702 %
10646 \else
10647   \def\hyper@pagetransition{%
10648     \ifx\@pdfpagetransition\relax
10649       \else
10650         \ifx\@pdfpagetransition\@empty
```

Standard incantation.

1. Does an old entry have to be deleted? 2. If 1=yes, how to delete?

```
10651   \else
10652     \hvtex@parse@trans\@pdfpagetransition
10653   \fi
10654 \fi
10655 }%
```

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:

```
10656 \def\hvtex@trans@effect@Blinds{\def\hvtex@trans@code{B}}%
10657 \def\hvtex@trans@effect@Box{\def\hvtex@trans@code{X}}%
10658 \def\hvtex@trans@effect@Dissolve{\def\hvtex@trans@code{D}}%
10659 \def\hvtex@trans@effect@Glitter{\def\hvtex@trans@code{G}}%
10660 \def\hvtex@trans@effect@Split{\def\hvtex@trans@code{S}}%
10661 \def\hvtex@trans@effect@Wipe{\def\hvtex@trans@code{W}}%
10662 \def\hvtex@trans@effect@R{\def\hvtex@trans@code{R}}%
```

Optional parameters:

```
10663 \def\hvtex@par@dimension{/Dm}%
10664 \def\hvtex@par@direction{/Di}%
10665 \def\hvtex@par@duration{/D}%
10666 \def\hvtex@par@motion{/M}%
```

Tokenizer:

```
10667 \def\hvtex@gettoken{%
10668   \expandafter\hvtex@gettoken@\hvtex@buffer\@nil
10669 }%
```

Notice that tokens in the input buffer must be space delimited.

```
10670 \def\hvtex@gettoken@#1 #2\@nil{%
10671 \edef\hvtex@token{#1}%
10672 \edef\hvtex@buffer{#2}%
10673 }%
10674 \def\hvtex@parse@trans#1{%
```

Initializing code:

```
10675 \let\hvtex@trans@code\@empty
10676 \let\hvtex@param@dimension\@empty
10677 \let\hvtex@param@direction\@empty
10678 \let\hvtex@param@duration\@empty
10679 \let\hvtex@param@motion\@empty
10680 \edef\hvtex@buffer{#1\space}%
```

First token is the PDF transition name without escape.

```
10681 \hvtex@gettoken
10682 \ifx\hvtex@token\@empty
```

Leading space(s)?

```
10683 \ifx\hvtex@buffer\@empty
```

The buffer is empty, nothing to do.

```
10684 \else
10685 \hvtex@gettoken
10686 \fi
10687 \fi
10688 \csname hvtex@trans@effect@\hvtex@token\endcsname
```

Now is time to parse optional parameters.

```
10689 \hvtex@trans@params
10690 }%
```

Reentrant macro to parse optional parameters.

```
10691 \def\hvtex@trans@params{%
10692 \ifx\hvtex@buffer\@empty
10693 \else
10694 \hvtex@gettoken
10695 \let\hvtex@trans@par\hvtex@token
10696 \ifx\hvtex@buffer\@empty
10697 \else
10698 \hvtex@gettoken
10699 \ifx\hvtex@trans@par\hvtex@par@duration
```

/D is the effect duration in seconds. V_{TEX} special takes it in milliseconds.

```
10700 \let\hvtex@param@duration\hvtex@token
10701 \else \ifx\hvtex@trans@par\hvtex@par@motion
```

/M can be either /I or /O

```
10702 \expandafter\edef\expandafter\hvtex@param@motion
10703 \expandafter{\expandafter\@gobble\hvtex@token}%
10704 \else \ifx\hvtex@trans@par\hvtex@par@dimension
```

/Dm can be either /H or /V

```
10705 \expandafter\edef\expandafter\hvtex@param@dimension
10706 \expandafter{\expandafter\@gobble\hvtex@token}%
10707 \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).

```

10708      \let\hvtex@param@direction\hvtex@token
10709      \fi\fi\fi\fi
10710      \fi
10711      \fi
10712      \ifx\hvtex@buffer\@empty
10713        \let\next\hvtex@produce@trans
10714      \else
10715        \let\next\hvtex@trans@params
10716      \fi
10717      \next
10718    }%

```

Merge <transition_effect> and issue the special when possible. Too lazy to validate optional parameters.

```

10719 \def\hvtex@produce@trans{%
10720   \let\vtex@trans@special\@empty
10721   \if S\hvtex@trans@code
10722     \edef\vtex@trans@special{\hvtex@trans@code
10723       \hvtex@param@dimension\hvtex@param@motion}%
10724   \else\if B\hvtex@trans@code
10725     \edef\vtex@trans@special{%
10726       \hvtex@trans@code\hvtex@param@dimension
10727     }%
10728   \else\if X\hvtex@trans@code
10729     \edef\vtex@trans@special{%
10730       \hvtex@trans@code\hvtex@param@motion
10731     }%
10732   \else\if W\hvtex@trans@code
10733     \edef\vtex@trans@special{%
10734       \hvtex@trans@code\hvtex@param@direction
10735     }%
10736   \else\if D\hvtex@trans@code
10737     \let\vtex@trans@special\hvtex@trans@code
10738   \else\if R\hvtex@trans@code
10739     \let\vtex@trans@special\hvtex@trans@code
10740   \else\if G\hvtex@trans@code
10741     \edef\vtex@trans@special{%
10742       \hvtex@trans@code\hvtex@param@direction
10743     }%
10744   \fi\fi\fi\fi\fi\fi
10745   \ifx\vtex@trans@special\@empty
10746     \else
10747       \ifx\hvtex@param@duration\@empty
10748       \else
10749         \setlength{\dimen@}{\hvtex@param@duration\p@}%

```

I'm not guilty of possible overflow.

```

10750     \multiply\dimen@\@m
10751     \edef\vtex@trans@special{%
10752       \vtex@trans@special,\strip@pt\dimen@
10753     }%
10754   \fi

```

And all the mess is just for this.

```

10755 \special{!trans \vtex@trans@special}%
10756 \fi
10757 }%
10758 \def\hyper@pageduration{%
10759 \ifx\@pdfpageduration\relax
10760 \else
10761 \ifx\@pdfpageduration\@empty
10762 \special{!duration-}%
10763 \else
10764 \special{!duration \@pdfpageduration}%
10765 \fi
10766 \fi
10767 }%
10768 \g@addto@macro\Hy@EveryPageBoxHook{%
10769 \hyper@pagetransition
10770 \hyper@pageduration
10771 }%
10772 \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

```

10773 \ifx\@pdfproducer\relax
10774 \def\@pdfproducer{VTeX}%
10775 \ifnum\Hy@VTeXversion>\z@
10776 \count@\VTeXversion
10777 \divide\count@ 100 %
10778 \edef\@pdfproducer{\@pdfproducer\space v\the\count@}%
10779 \multiply\count@ -100 %
10780 \advance\count@\VTeXversion
10781 \edef\@pdfproducer{%
10782 \@pdfproducer
10783 .\ifnum\count@<10 0\fi\the\count@
10784 \ifx\VTeXOS\@undefined\else
10785 \ifnum\VTeXOS>0 %
10786 \ifnum\VTeXOS<6 %
10787 \space(
10788 \ifcase\VTeXOS
10789 \or Windows\or Linux\or OS/2\or MacOS\or MacOS/X%
10790 \fi
10791 )%
10792 \fi
10793 \fi
10794 \fi
10795 ,\space

```

```

10796 \ifnum\OpMode=\@ne PDF\else PS\fi
10797 \space backend%
10798 \ifx\gexmode\@undefined\else
10799 \ifnum\gexmode>\z@\space with GeX\fi
10800 \fi
10801 }%
10802 \fi
10803 \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).

```

10804 \def\PDF@SetupDoc{%
10805 \ifx\@pdfpagescrop\@empty
10806 \else
10807 \special{!pdfinfo b=<\@pdfpagescrop>}%
10808 \fi
10809 \ifx\@pdfstartpage\@empty
10810 \else
10811 \ifx\@pdfstartview\@empty
10812 \else
10813 \special{!onopen Page\@pdfstartpage}%
10814 \fi
10815 \fi
10816 \special{!pdfinfo p=</\@pdfpagemode>}%
10817 \ifx\@baseurl\@empty
10818 \else
10819 \special{!pdfinfo u=<<</Base (\@baseurl)>>>}%
10820 \fi
10821 \special{!pdfinfo v=<<<%
10822 \ifHy@pdftoolbar\else /HideToolbar true\fi
10823 \ifHy@pdfmenubar\else /HideMenubar true\fi
10824 \ifHy@pdfwindowui\else /HideWindowUI true\fi
10825 \ifHy@pdfwindow /FitWindow true\fi
10826 \ifHy@pdfcenterwindow /CenterWindow true\fi
10827 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
10828 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
10829 \Hy@UseNameKey{Direction}\@pdfdirection
10830 \Hy@UseNameKey{ViewArea}\@pdfviewarea
10831 \Hy@UseNameKey{ViewClip}\@pdfviewclip
10832 \Hy@UseNameKey{PrintArea}\@pdfprintarea
10833 \Hy@UseNameKey{PrintClip}\@pdfprintclip

```

```

10834 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
10835 \Hy@UseNameKey{Duplex}\@pdfduplex
10836 \ifx\@pdfpicktraybypdfsize\@empty
10837 \else
10838 /PickTrayByPDFSize \@pdfpicktraybypdfsize
10839 \fi
10840 \ifx\@pdfprintpagerange\@empty
10841 \else
10842 /PrintPageRange[\@pdfprintpagerange]%
10843 \fi
10844 \ifx\@pdfnumcopies\@empty
10845 \else
10846 /NumCopies \@pdfnumcopies
10847 \fi
10848 >>>}%
10849 \ifx\@pdfpagelayout\@empty
10850 \else
10851 \special{!pdfinfo l=</\@pdfpagelayout\space>}%
10852 \fi
10853 }%
10854 \HyInfo@AddonUnsupportedtrue
10855 \define@key{Hyp}{pdfcreationdate}{%
10856 \Hy@Warning{%
10857 VTeX does not support pdfcreationdate.\MessageBreak
10858 Therefore its setting is ignored%
10859 }%
10860 }
10861 \define@key{Hyp}{pdfmoddate}{%
10862 \Hy@Warning{%
10863 VTeX does not support pdfmoddate.\MessageBreak
10864 Therefore its setting is ignored%
10865 }%
10866 }
10867 \def\PDF@FinishDoc{%
10868 \Hy@UseMaketitleInfos
10869 \HyInfo@TrappedUnsupported
10870 \special{!pdfinfo a=<\@pdfauthor>}%
10871 \special{!pdfinfo t=<\@pdftitle>}%
10872 \special{!pdfinfo s=<\@pdfsubject>}%
10873 \special{!pdfinfo c=<\@pdfcreator>}%
10874 \ifx\@pdfproducer\relax
10875 \else
10876 \special{!pdfinfo r=<\@pdfproducer>}%
10877 \fi
10878 \special{!pdfinfo k=<\@pdfkeywords>}%
10879 \Hy@DisableOption{pdfauthor}%
10880 \Hy@DisableOption{pdftitle}%
10881 \Hy@DisableOption{pdfsubject}%
10882 \Hy@DisableOption{pdfcreator}%
10883 \Hy@DisableOption{addtopdfcreator}%
10884 \Hy@DisableOption{pdfcreationdate}%
10885 \Hy@DisableOption{pdfcreationdate}%
10886 \Hy@DisableOption{pdfmoddate}%
10887 \Hy@DisableOption{pdfproducer}%

```

```

10888 \Hy@DisableOption{pdfkeywords}%
10889 \Hy@DisableOption{pdftrapped}%
10890 \Hy@DisableOption{pdfinfo}%
10891 }
10892 </vtex>

```

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.

```

10893 <dviwindo>\def\literalps@out#1{\special{ps:#1}}%
10894 <packageEnd>\providecommand*{\Hy@DistillerDestFix}{%
10895 *pdfmark | dviwindo)
10896 \def\Hy@DistillerDestFix{%
10897 \begingroup
10898 \let\x\literalps@out

```

The fix has to be passed unchanged through GeX, if VTeX in PostScript mode with GeX is used.

```

10899 \ifnum \@ifundefined{OpMode}{0}{%
10900 \ifundefined{gexmode}{0}{%
10901 \ifnum\gexmode>0 \OpMode\else 0\fi
10902 }>1 %
10903 \def\x##1{%
10904 \immediate\special{!=##1}%
10905 }%
10906 \fi
10907 \x{%
10908 /product where{%
10909 pop %
10910 product(Distiller)search{%
10911 pop pop pop %
10912 version(.)search{%
10913 exch pop exch pop%
10914 (3011)eq{%
10915 gsave %
10916 newpath 0 0 moveto closepath clip%
10917 /Courier findfont 10 scalefont setfont %
10918 72 72 moveto(.)show %
10919 grestore%
10920 }if%
10921 }{pop}ifelse%
10922 }{pop}ifelse%
10923 }if%
10924 }%
10925 \endgroup

```

```

10926 }
10927 </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

```

```

10928 <*pdfmark>
10929 \Hy@breaklinks@unsupported
10930 \def\HyPat@ObjRef{%
10931   \{[-{}]+\}%
10932 }
10933 \Hy@WrapperDef\hyper@anchor#1{%
10934   \Hy@SaveLastskip
10935   \Hy@VerboseAnchor{#1}%
10936   \begingroup
10937     \pdfmark[\anchor@spot]{%
10938       pdfmark=/DEST,%
10939       linktype=anchor,%
10940       View=/\@pdfview \@pdfviewparams,%
10941       DestAnchor={#1}%
10942     }%
10943   \endgroup
10944   \Hy@RestoreLastskip
10945 }
10946 \ltx@ifundefined{hyper@anchorstart}{\endinput}
10947 \Hy@WrapperDef\hyper@anchorstart#1{%
10948   \Hy@SaveLastskip
10949   \Hy@VerboseAnchor{#1}%
10950   \literalps@out{H.S}%
10951   \Hy@AllowHyphens
10952   \xdef\hyper@currentanchor{#1}%
10953   \Hy@activeanchortrue
10954 }
10955 \def\hyper@anchorend{%
10956   \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.A}%
10957   \pdfmark{%
10958     pdfmark=/DEST,%
10959     linktype=anchor,%
10960     View=/\@pdfview \@pdfviewparams,%
10961     DestAnchor=\hyper@currentanchor,%
10962   }%
10963   \Hy@activeanchorfalse

```

```

10964 \Hy@RestoreLastskip
10965 }
10966 \def\hyper@linkstart#1#2{%
10967 \Hy@VerboseLinkStart{#1}{#2}%
10968 \ifHy@breaklinks
10969 \else
10970 \leavevmode
10971 \ifmmode
10972 \def\Hy@LinkMath{$}%
10973 \else
10974 \let\Hy@LinkMath\ltx@empty
10975 \fi
10976 \Hy@SaveSpaceFactor
10977 \hbox\bgroup
10978 \Hy@RestoreSpaceFactor
10979 \Hy@LinkMath
10980 \fi
10981 \expandafter\Hy@colorlink\csname @#1color\endcsname
10982 \literalps@out{H.S}%
10983 \Hy@AllowHyphens
10984 \xdef\hyper@currentanchor{#2}%
10985 \gdef\hyper@currentlinktype{#1}%
10986 }
10987 \def\hyper@linkend{%
10988 \literalps@out{\strip@pt@and@otherjunk\baselineskip\space H.L}%
10989 \ltx@ifundefined{@\hyper@currentlinktype bordercolor}{%
10990 \let\Hy@tempcolor\relax
10991 }{%
10992 \edef\Hy@tempcolor{%
10993 \csname @\hyper@currentlinktype bordercolor\endcsname
10994 }%
10995 }%
10996 \pdfmark{%
10997 pdfmark=/ANN,%
10998 linktype=link,%
10999 Subtype=/Link,%
11000 PDFAFlags=4,%
11001 Dest=\hyper@currentanchor,%
11002 AcroHighlight=\@pdfhighlight,%
11003 Border=\@pdfborder,%
11004 BorderStyle=\@pdfborderstyle,%
11005 Color=\Hy@tempcolor,%
11006 Raw=H.B%
11007 }%
11008 \Hy@endcolorlink
11009 \ifHy@breaklinks
11010 \else
11011 \Hy@LinkMath
11012 \Hy@SaveSpaceFactor
11013 \egroup
11014 \Hy@RestoreSpaceFactor
11015 \fi
11016 }

```

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.

```

11017 \begingroup
11018 \catcode`P=12 %
11019 \catcode`T=12 %
11020 \lowercase{\endgroup
11021 \gdef\rem@ptetc#1.#2PT#3!{#1\ifnum#2>\z@.#2\fi}%
11022 }
11023 \def\strip@pt@and@otherjunk#1{\expandafter\rem@ptetc\the#1!}

```

\hyper@pagetransition

```

11024 \def\hyper@pagetransition{%
11025 \ifx\@pdfpagetransition\relax
11026 \else
11027 \ifx\@pdfpagetransition\@empty
11028 % 1. Does an old entry have to be deleted?
11029 % 2. If 1=yes, how to delete?
11030 \else
11031 \pdfmark{%
11032 pdfmark=/PUT,%
11033 Raw={%
11034 \string{ThisPage\string}%
11035 <</Trans << /S /\@pdfpagetransition\space >> >>%
11036 }%
11037 }%
11038 \fi
11039 \fi
11040 }

```

\hyper@pageduration

```

11041 \def\hyper@pageduration{%
11042 \ifx\@pdfpageduration\relax
11043 \else
11044 \ifx\@pdfpageduration\@empty
11045 % 1. Does an old entry have to be deleted?
11046 % 2. If 1=yes, how to delete?
11047 \else
11048 \pdfmark{%
11049 pdfmark=/PUT,%
11050 Raw={%
11051 \string{ThisPage\string}%
11052 <</Dur \@pdfpageduration>>%
11053 }%
11054 }%
11055 \fi
11056 \fi
11057 }

11058 \g@addto@macro\Hy@EveryPageBoxHook{%
11059 \hyper@pagetransition
11060 \hyper@pageduration
11061 }

11062 \def\hyper@image#1#2{%

```

```

11063 \hyper@linkurl{#2}{#1}%
11064 }
11065 \def\Hy@undefinedname{UNDEFINED}
11066 \def\hyper@link#1#2#3{%
11067 \Hy@VerboseLinkStart{#1}{#2}%
11068 \ltx@ifundefined{#1bordercolor}{%
11069 \let\Hy@tempcolor\relax
11070 }{%
11071 \edef\Hy@tempcolor{\csname @#1bordercolor\endcsname}%
11072 }%
11073 \begingroup
11074 \protected@edef\Hy@testname{#2}%
11075 \ifx\Hy@testname\@empty
11076 \Hy@Warning{%
11077 Empty destination name,\MessageBreak
11078 using `\'Hy@undefinedname'%
11079 }%
11080 \let\Hy@testname\Hy@undefinedname
11081 \fi
11082 \pdfmark[{#3}]{%
11083 Color=\Hy@tempcolor,%
11084 linktype={#1},%
11085 AcroHighlight=\@pdfhighlight,%
11086 Border=\@pdfborder,%
11087 BorderStyle=\@pdfborderstyle,%
11088 pdfmark=/ANN,%
11089 Subtype=/Link,%
11090 PDFAMFlags=4,%
11091 Dest=\Hy@testname
11092 }%
11093 \endgroup
11094 }
11095 \newtoks\pdf@docset
11096 \def\PDF@FinishDoc{%
11097 \Hy@UseMaketitleInfos
11098 \Hy@Info@GenerateAddons
11099 \let\Hy@temp\@empty
11100 \ifx\@pdfcreationdate\@empty
11101 \else
11102 \def\Hy@temp{CreationDate=\@pdfcreationdate,}%
11103 \fi
11104 \ifx\@pdfmoddate\@empty
11105 \else
11106 \expandafter\def\expandafter\Hy@temp\expandafter{%
11107 \Hy@temp
11108 ModDate=\@pdfmoddate,%
11109 }%
11110 \fi
11111 \ifx\@pdfproducer\relax
11112 \else
11113 \expandafter\def\expandafter\Hy@temp\expandafter{%
11114 \Hy@temp
11115 Producer=\@pdfproducer,%
11116 }%

```

```

11117 \fi
11118 \expandafter
11119 \pdfmark\expandafter{%
11120   \Hy@temp
11121   pdfmark=/DOCINFO,%
11122   Title=\@pdftitle,%
11123   Subject=\@pdfsubject,%
11124   Creator=\@pdfcreator,%
11125   Author=\@pdfauthor,%
11126   Keywords=\@pdfkeywords,%
11127   Trapped=\@pdftrapped
11128 }%
11129 \ifx\HyInfo@Addons\@empty
11130 \else
11131   \pdfmark{%
11132     pdfmark=/DOCINFO,%
11133     Raw={\HyInfo@Addons}%
11134   }%
11135 \fi
11136 \Hy@DisableOption{pdfauthor}%
11137 \Hy@DisableOption{pdftitle}%
11138 \Hy@DisableOption{pdfsubject}%
11139 \Hy@DisableOption{pdfcreator}%
11140 \Hy@DisableOption{addtopdfcreator}%
11141 \Hy@DisableOption{pdfcreationdate}%
11142 \Hy@DisableOption{pdfcreationdate}%
11143 \Hy@DisableOption{pdfmoddate}%
11144 \Hy@DisableOption{pdfproducer}%
11145 \Hy@DisableOption{pdfkeywords}%
11146 \Hy@DisableOption{pdftrapped}%
11147 \Hy@DisableOption{pdfinfo}%
11148 }
11149 \def\PDF@SetupDoc{%
11150   \def\Hy@temp{}%
11151   \ifx\@pdfstartpage\@empty
11152   \else
11153     \ifx\@pdfstartview\@empty
11154     \else
11155       \edef\Hy@temp{%
11156         ,Page=\@pdfstartpage
11157         ,View=\@pdfstartview
11158       }%
11159     \fi
11160   \fi
11161   \edef\Hy@temp{%
11162     \noexpand\pdfmark{%
11163       pdfmark=/DOCVIEW,%
11164       PageMode=/\@pdfpagemode
11165     }\Hy@temp
11166   }%
11167 }%
11168 \Hy@temp
11169 \ifx\@pdfpagescrop\@empty
11170 \else

```

```

11171 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
11172 \fi
11173 \edef\Hy@temp{%
11174 \ifHy@pdftoolbar\else /HideToolbar true\fi
11175 \ifHy@pdfmenubar\else /HideMenubar true\fi
11176 \ifHy@pdfwindowui\else /HideWindowUI true\fi
11177 \ifHy@pdfwindow /FitWindow true\fi
11178 \ifHy@pdfcenterwindow /CenterWindow true\fi
11179 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
11180 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
11181 \Hy@UseNameKey{Direction}\@pdfdirection
11182 \Hy@UseNameKey{ViewArea}\@pdfviewarea
11183 \Hy@UseNameKey{ViewClip}\@pdfviewclip
11184 \Hy@UseNameKey{PrintArea}\@pdfprintarea
11185 \Hy@UseNameKey{PrintClip}\@pdfprintclip
11186 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
11187 \Hy@UseNameKey{Duplex}\@pdfduplex
11188 \ifx\@pdfpicktraybypdfsize\@empty
11189 \else
11190 /PickTrayByPDFSize \@pdfpicktraybypdfsize
11191 \fi
11192 \ifx\@pdfprintpagerange\@empty
11193 \else
11194 /PrintPageRange[\@pdfprintpagerange]%
11195 \fi
11196 \ifx\@pdfnumcopies\@empty
11197 \else
11198 /NumCopies \@pdfnumcopies
11199 \fi
11200 }%
11201 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
11202 \pdfmark{%
11203 pdfmark=/PUT,%
11204 Raw={%
11205 \string{Catalog\string}<<%
11206 \ifx\Hy@temp\@empty
11207 \else
11208 /ViewerPreferences<<\Hy@temp>>%
11209 \fi
11210 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
11211 \ifx\@pdflang\relax
11212 \else
11213 /Lang(\@pdflang)%
11214 \fi
11215 \ifx\@baseurl\@empty
11216 \else
11217 /URI<</Base(\Hy@pstringB)>>%
11218 \fi
11219 >>%
11220 }%
11221 }%
11222 }
11223 \pdfmark
11224 \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.

```

11225 \newif\ifHy@pdfmarkerror
11226 \def\pdfmark{\@ifnextchar{\pdfmark@}{\pdfmark@[]}}
11227 \def\pdfmark@[#1]#2{%
11228   \Hy@pdfmarkerrorfalse
11229   \edef\@processme{\noexpand\pdf@toks={\the\pdf@defaulttoks}}%
11230   \@processme
11231   \let\pdf@type\relax
11232   \let\pdf@objdef\ltx@empty
11233   \kvsetkeys{PDF}{#2}%
11234   \ifHy@pdfmarkerror
11235   \else
11236     \ifx\pdf@type\relax
11237       \Hy@WarningNoLine{no pdfmark type specified in #2!!}%
11238       \ifx\\#1\\%
11239       \else
11240         \pdf@rect{#1}%
11241       \fi
11242     \else
11243       \ifx\\#1\\%
11244         \literalps@out{%
11245           [%
11246             \ifx\pdf@objdef\ltx@empty
11247             \else
11248               /_objdef\string{\pdf@objdef\string}%
11249             \fi
11250             \the\pdf@toks\space\pdf@type\space pdfmark%
11251           ]%
11252         \else
11253           \ltx@ifundefined{@\pdf@linktype color}{%
11254             \Hy@colorlink\@linkcolor
11255           }{%
11256             \expandafter\Hy@colorlink
11257               \csname @\pdf@linktype color\endcsname
11258           }%
11259           \pdf@rect{#1}%
11260         \literalps@out{%
11261           [%
11262             \ifx\pdf@objdef\ltx@empty
11263             \else
11264               /_objdef\string{\pdf@objdef\string}%
11265             \fi
11266             \the\pdf@toks\space\pdf@type\space pdfmark%
11267           ]%
11268           \Hy@endcolorlink
11269         \fi
11270       \fi
11271     \fi

```

11272 }

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}
```

```
11273 \newsavebox{\pdf@box}
11274 \providecommand*{\Hy@setouterhbox}{\sbox}
11275 \providecommand*{\Hy@breaklinksunhbox}{\unhbox}
11276 \def\Hy@DEST{/DEST}
11277 \def\pdf@rect#1{%
11278   \begingroup
11279   \chardef\x=1 %
11280   \def\Hy@temp{#1}%
11281   \ifx\Hy@temp\ltx@empty
11282     \chardef\x=0 %
11283   \else
11284     \def\y{\anchor@spot}%
11285     \ifx\Hy@temp\y
11286       \def\y{\relax}%
11287       \ifx\anchor@spot\y
11288         \chardef\x=0 %
11289       \fi
11290     \fi
11291   \fi
11292   \expandafter\endgroup
11293   \ifcase\x
11294     \literalps@out{H.S}%
11295     \literalps@out{H.R}%
11296   \else
11297     \leavevmode
11298     \Hy@SaveSpaceFactor
11299     \ifmmode
11300       \def\Hy@LinkMath{$}%
11301     \else
11302       \let\Hy@LinkMath\ltx@empty
11303     \fi
11304     \ifHy@breaklinks
11305       \Hy@setouterhbox\pdf@box{%
11306         \Hy@RestoreSpaceFactor
11307         \Hy@LinkMath
11308         \Hy@AllowHyphens#1\Hy@xspace@end
11309         \Hy@LinkMath
11310         \Hy@SaveSpaceFactor
11311       }%
```

```

11312 \else
11313 \sbox\pdf@box{%
11314 \Hy@RestoreSpaceFactor
11315 \Hy@LinkMath
11316 #1\Hy@xspace@end
11317 \Hy@LinkMath
11318 \Hy@SaveSpaceFactor
11319 }%
11320 \fi
11321 \dimen@ht\pdf@box
11322 \ifdim\dp\pdf@box=\z@
11323 \literalps@out{H.S}%
11324 \else
11325 \lower\dp\pdf@box\hbox{\literalps@out{H.S}}%
11326 \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...).

```

11327 \ifHy@breaklinks
11328 \ifhmode
11329 \Hy@breaklinksunhbox\pdf@box
11330 \else
11331 \box\pdf@box
11332 \fi
11333 \else
11334 \expandafter\box\pdf@box
11335 \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

11336 \ifdim\dimen@=\z@
11337 \literalps@out{H.R}%
11338 \else
11339 \raise\dimen@\hbox{\literalps@out{H.R}}%
11340 \fi
11341 \Hy@RestoreSpaceFactor
11342 \fi
11343 \ifx\pdf@type\Hy@DEST
11344 \else
11345 \pdf@addtoksx{H.B}%
11346 \fi
11347 }

```

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.

```

11348 \newtoks\pdf@toks
11349 \newtoks\pdf@defaulttoks
11350 \pdf@defaulttoks={}%
11351 \def\pdf@addtoks#1#2{%
11352 \edef\@processme{\pdf@toks{\the\pdf@toks/#2 #1}}%

```

```

11353 \@processme
11354 }
11355 \def\pdf@addtoksx#1{%
11356 \edef\@processme{\pdf@toks{\the\pdf@toks\space #1}}%
11357 \@processme
11358 }
11359 \def\PDFdefaults#1{%
11360 \pdf@defaulttoks={#1}%
11361 }

```

This is the list of allowed keys. See the Acrobat manual for an explanation.

```

11362 % what is the type of pdfmark?
11363 \define@key{PDF}{pdfmark}{\def\pdf@type{#1}}
11364 % what is the link type?
11365 \define@key{PDF}{linktype}{\def\pdf@linktype{#1}}
11366 \def\pdf@linktype{link}
11367 % named object?
11368 \define@key{PDF}{objdef}{\edef\pdf@objdef{#1}}
11369 \let\pdf@objdef\ltx@empty
11370 % parameter is a stream of PDF
11371 \define@key{PDF}{Raw}{\pdf@addtoksx{#1}}
11372 % parameter is a name
11373 \define@key{PDF}{Action}{\pdf@addtoks{#1}{Action}}
11374 % parameter is a array
11375 \define@key{PDF}{Border}{%
11376 \edef\Hy@temp{#1}%
11377 \ifx\Hy@temp\@empty
11378 \else
11379 \pdf@addtoks{[#1]\Hy@BorderArrayPatch}{Border}% hash-ok
11380 \fi
11381 }
11382 \let\Hy@BorderArrayPatch\@empty
11383 % parameter is a dictionary
11384 \define@key{PDF}{BorderStyle}{%
11385 \edef\Hy@temp{#1}%
11386 \ifx\Hy@temp\@empty
11387 \else
11388 \pdf@addtoks{<<#1>>}{BS}%
11389 \fi
11390 }
11391 % parameter is a array
11392 \define@key{PDF}{Color}{%
11393 \ifx\relax#1\relax
11394 \else
11395 \pdf@addtoks{[#1]}{Color}% hash-ok
11396 \fi
11397 }
11398 % parameter is a string
11399 \define@key{PDF}{Contents}{\pdf@addtoks{(#1)}{Contents}}
11400 % parameter is a integer
11401 \define@key{PDF}{Count}{\pdf@addtoks{#1}{Count}}
11402 % parameter is a array
11403 \define@key{PDF}{CropBox}{\pdf@addtoks{[#1]}{CropBox}}% hash-ok
11404 % parameter is a string
11405 \define@key{PDF}{DOSFile}{\pdf@addtoks{(#1)}{DOSFile}}

```

```

11406 % parameter is a string or file
11407 \define@key{PDF}{DataSource}{\pdf@addtoks{(#1)}{DataSource}}
11408 % parameter is a destination
11409 \define@key{PDF}{Dest}{%
11410   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11411   \ifx\Hy@pstringDest\@empty
11412     \Hy@pdfmarkerrortrue
11413     \Hy@Warning{Destination with empty name ignored}%
11414   \else
11415     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11416   \fi
11417 }
11418 \define@key{PDF}{DestAnchor}{%
11419   \Hy@pstringdef\Hy@pstringDest{\HyperDestNameFilter{#1}}%
11420   \ifx\Hy@pstringDest\@empty
11421     \Hy@pdfmarkerrortrue
11422     \Hy@Warning{Destination with empty name ignored}%
11423   \else
11424     \pdf@addtoks{(\Hy@pstringDest) cvn}{Dest}%
11425   \fi
11426 }
11427 % parameter is a string
11428 \define@key{PDF}{Dir}{\pdf@addtoks{(#1)}{Dir}}
11429 % parameter is a string
11430 \define@key{PDF}{File}{\pdf@addtoks{(#1)}{File}}
11431 % parameter is a int
11432 \define@key{PDF}{Flags}{\pdf@addtoks{#1}{Flags}}
11433 \define@key{PDF}{PDFAFlags}{%
11434   \ifHy@pdfa
11435     \pdf@addtoks{#1}{F}%
11436   \fi
11437 }
11438 % parameter is a name
11439 \define@key{PDF}{AcroHighlight}{%
11440   \begingroup
11441     \edef\x{#1}%
11442     \expandafter\endgroup\ifx\x\@empty
11443     \else
11444       \pdf@addtoks{#1}{H}%
11445     \fi
11446 }
11447 % parameter is a string
11448 \define@key{PDF}{ID}{\pdf@addtoks{[#1]}{ID}}% hash-ok
11449 % parameter is a string
11450 \define@key{PDF}{MacFile}{\pdf@addtoks{(#1)}{MacFile}}
11451 % parameter is a string
11452 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11453 % parameter is a string
11454 \define@key{PDF}{Op}{\pdf@addtoks{(#1)}{Op}}
11455 % parameter is a Boolean
11456 \define@key{PDF}{Open}{\pdf@addtoks{#1}{Open}}
11457 % parameter is a integer or name
11458 \define@key{PDF}{Page}{\pdf@addtoks{#1}{Page}}
11459 % parameter is a name

```

```

11460 \define@key{PDF}{PageMode}{\pdf@addtoks{#1}{PageMode}}
11461 % parameter is a string
11462 \define@key{PDF}{Params}{\pdf@addtoks{(#1)}{Params}}
11463 % parameter is a array
11464 \define@key{PDF}{Rect}{\pdf@addtoks{[#1]}{Rect}}% hash-ok
11465 % parameter is a integer
11466 \define@key{PDF}{SrcPg}{\pdf@addtoks{#1}{SrcPg}}
11467 % parameter is a name
11468 \define@key{PDF}{Subtype}{\pdf@addtoks{#1}{Subtype}}
11469 % parameter is a string
11470 \define@key{PDF}{Title}{\pdf@addtoks{(#1)}{Title}}
11471 % parameter is a string
11472 \define@key{PDF}{Unix}{\pdf@addtoks{(#1)}{Unix}}
11473 % parameter is a string
11474 \define@key{PDF}{UnixFile}{\pdf@addtoks{(#1)}{UnixFile}}
11475 % parameter is an array
11476 \define@key{PDF}{View}{\pdf@addtoks{[#1]}{View}}% hash-ok
11477 % parameter is a string
11478 \define@key{PDF}{WinFile}{\pdf@addtoks{(#1)}{WinFile}}

```

These are the keys used in the DOCINFO section.

```

11479 \define@key{PDF}{Author}{\pdf@addtoks{(#1)}{Author}}
11480 \define@key{PDF}{Creator}{\pdf@addtoks{(#1)}{Creator}}
11481 \define@key{PDF}{CreationDate}{\pdf@addtoks{(#1)}{CreationDate}}
11482 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11483 \define@key{PDF}{Producer}{\pdf@addtoks{(#1)}{Producer}}
11484 \define@key{PDF}{Subject}{\pdf@addtoks{(#1)}{Subject}}
11485 \define@key{PDF}{Keywords}{\pdf@addtoks{(#1)}{Keywords}}
11486 \define@key{PDF}{ModDate}{\pdf@addtoks{(#1)}{ModDate}}
11487 \define@key{PDF}{Base}{\pdf@addtoks{(#1)}{Base}}
11488 \define@key{PDF}{URI}{\pdf@addtoks{#1}{URI}}
11489 \define@key{PDF}{Trapped}{%
11490   \edef\Hy@temp{#1}%
11491   \ifx\Hy@temp\@empty
11492     \else
11493       \pdf@addtoks{/#1}{Trapped}%
11494     \fi
11495 }
11496
11497 </pdfmarkbase>
11498 <*pdfmark>
11499 \def\Acrobatmenu#1#2{%
11500   \EdefEscapeName\Hy@temp@menu{#1}%
11501   \Hy@Acrobatmenu{#1}{#2}{%
11502     \pdfmark[{#2]}{%
11503       linktype=menu,%
11504       pdfmark=/ANN,%
11505       AcroHighlight=\@pdfhighlight,%
11506       Border=\@pdfborder,%
11507       BorderStyle=\@pdfborderstyle,%
11508       Color=\@menubordercolor,%
11509       Action={<</Subtype/Named/N/\Hy@temp@menu>>},%
11510       Subtype=/Link,%
11511       PDFANFlags=4%
11512     }%

```

```

11513 }%
11514 }

```

And now for some useful examples:

```

11515 \def\PDFNextPage{\@ifnextchar{\PDFNextPage@}{\PDFNextPage@[]}}
11516 \def\PDFNextPage@[#1]#2{%
11517   \pdfmark[#{#2}]{%
11518     #1,%
11519     Border=\@pdfborder,%
11520     BorderStyle=\@pdfborderstyle,%
11521     Color=.2 .1 .5,%
11522     pdfmark=/ANN,%
11523     Subtype=/Link,%
11524     PDFAFlags=4,%
11525     Page=/Next%
11526   }%
11527 }
11528 \def\PDFPreviousPage{%
11529   \@ifnextchar{\PDFPreviousPage@}{\PDFPreviousPage@[]}%
11530 }
11531 \def\PDFPreviousPage@[#1]#2{%
11532   \pdfmark[#{#2}]{%
11533     #1,%
11534     Border=\@pdfborder,%
11535     BorderStyle=\@pdfborderstyle,%
11536     Color=.4 .4 .1,%
11537     pdfmark=/ANN,%
11538     Subtype=/Link,%
11539     PDFAFlags=4,%
11540     Page=/Prev%
11541   }%
11542 }
11543 \def\PDFOpen#1{%
11544   \pdfmark{#1,pdfmark=/DOCVIEW}%
11545 }

```

This will only work if you use Distiller 2.1 or higher.

```

11546 \def\hyper@linkurl#1#2{%
11547   \begingroup
11548     \Hy@pstringdef\Hy@pstringURI{#2}%
11549     \hyper@chars
11550     \leavevmode
11551     \pdfmark[#{#1}]{%
11552       pdfmark=/ANN,%
11553       linktype=url,%
11554       AcroHighlight=\@pdfhighlight,%
11555       Border=\@pdfborder,%
11556       BorderStyle=\@pdfborderstyle,%
11557       Color=\@urlbordercolor,%
11558       Action={<<%
11559         /Subtype/URI%
11560         /URI(\Hy@pstringURI)%
11561         \ifHy@href@ismap
11562           /IsMap true%
11563         \fi

```

```

11564     >>},%
11565     Subtype=/Link,%
11566     PDFAFlags=4%
11567 }%
11568 \endgroup
11569 }
11570 \def\hyper@linkfile#1#2#3{%
11571 \begingroup
11572 \def\Hy@pstringF{#2}%
11573 \Hy@CleanupFile\Hy@pstringF
11574 \Hy@pstringdef\Hy@pstringF\Hy@pstringF
11575 \Hy@pstringdef\Hy@pstringD{#3}%
11576 \Hy@MakeRemoteAction
11577 \leavevmode
11578 \pdfmark[{#1}]{%
11579 pdfmark=/ANN,%
11580 Subtype=/Link,%
11581 PDFAFlags=4,%
11582 AcroHighlight=\@pdfhighlight,%
11583 Border=\@pdfborder,%
11584 BorderStyle=\@pdfborderstyle,%
11585 linktype=file,%
11586 Color=\@filebordercolor,%
11587 Action={%
11588 <<%
11589 /S/GoToR%
11590 \Hy@SetNewWindow
11591 /F(\Hy@pstringF)%
11592 /D%
11593 \ifx\#3\%
11594 [\Hy@href@page\@pdfremotestartview]%
11595 \else
11596 (\Hy@pstringD)cvn%
11597 \fi
11598 \Hy@href@nextactionraw
11599 >>%
11600 }%
11601 }%
11602 \endgroup
11603 }
11604 \def\@hyper@launch run:#1\#2#3{%
11605 \begingroup
11606 \Hy@pstringdef\Hy@pstringF{#1}%
11607 \Hy@pstringdef\Hy@pstringP{#3}%
11608 \leavevmode
11609 \pdfmark[{#2}]{%
11610 pdfmark=/ANN,%
11611 Subtype=/Link,%
11612 PDFAFlags=4,%
11613 AcroHighlight=\@pdfhighlight,%
11614 Border=\@pdfborder,%
11615 BorderStyle=\@pdfborderstyle,%
11616 linktype=run,%
11617 Color=\@runbordercolor,%

```

```

11618     Action={%
11619     <<%
11620     /S/Launch%
11621     \Hy@SetNewWindow
11622     /F(\Hy@pstringF)%
11623     \ifx\|#3\|%
11624     \else
11625     /Win<</P(\Hy@pstringP)/F(\Hy@pstringF)>>%
11626     \fi
11627     \Hy@href@nextactionraw
11628     >>%
11629     }%
11630     }%
11631 \endgroup
11632 }
11633 \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.

```

11634 (*dvips)
11635 \providecommand*\XR@ext}{pdf}
11636 \let\Hy@raisedlink\ltx@empty
11637 \def\litalps@out#1{\special{ps:SDict begin #1 end}}}%
11638 \def\headerps@out#1{\special{! #1}}}%
11639 \input{pdfmark.def}%
11640 \ifx\@pdfproducer\relax
11641   \def\@pdfproducer{dvips + Distiller}%
11642 \fi
11643 \providecommand*\@pdfborder{0 0 1}
11644 \providecommand*\@pdfborderstyle{}
11645 \providecommand*\@pdfview{XYZ}
11646 \providecommand*\@pdfviewparams{ H.V}
11647 \def\Hy@BorderArrayPatch{BorderArrayPatch}
11648 \g@addto@macro\Hy@FirstPageHook{%
11649   \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.

```
11650 /DvipsToPDF{72.27 mul Resolution div} def%
11651 /PDFToDvips{72.27 div Resolution mul} def%
11652 /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.

```
11653 product (Ghostscript) search {pop pop pop revision 927 gt}%
11654 {pop false} ifelse%
11655 {%
11656 /BorderArrayPatch{} def%
11657 }%
11658 {%
11659 /BorderArrayPatch{%
11660 [exch{%
11661 dup dup type/integertype eq exch type/realtype eq or%
11662 {BPToDvips}if%
11663 }forall]%
11664 }def%
11665 } 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.

```
11666 /HyperBorder {1 PDFToDvips} def%
11667 /H.V {pdf@hoff pdf@voff null} def%
11668 /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

```
11669 /H.S {%
11670 currentpoint %
11671 HyperBorder add /pdf@lly exch def %
11672 dup DvipsToPDF 72 add /pdf@hoff exch def %
11673 HyperBorder sub /pdf@llx exch def%
11674 } 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

```
11675 /H.L {%
11676 2 sub dup%
11677 /HyperBasePt exch def %
11678 PDFToDvips /HyperBaseDvips exch def %
11679 currentpoint %
```

```

11680   HyperBaseDvips sub /pdf@ury exch def%
11681   /pdf@urx exch def%
11682   } def%
11683   /H.A {%
11684     H.L %
11685 % | /pdf@voff| = the distance from the top of the page to a point
11686 % | \baselineskip| above the current point in PDF coordinates
11687   currentpoint exch pop %
11688   vsize 72 sub exch DvipsToPDF %
11689   HyperBasePt sub % baseline skip
11690   sub /pdf@voff exch def%
11691   } def%
11692   /H.R {%
11693     currentpoint %
11694     HyperBorder sub /pdf@ury exch def %
11695     HyperBorder add /pdf@urx exch def %
11696 % | /pdf@voff| = the distance from the top of the page to the current point, in
11697 % PDF coordinates
11698   currentpoint exch pop vsize 72 sub %
11699   exch DvipsToPDF sub /pdf@voff exch def%
11700   } def%
11701 }%
11702 }
11703 \AtBeginShipoutFirst{%
11704   \ifHy@setpagesize
11705     \begingroup
11706       \@ifundefined{stockwidth}{%
11707         \ifdim\paperwidth>\z@
11708         \ifdim\paperheight>\z@
11709           \special{papersize=\the\paperwidth,\the\paperheight}%
11710         \fi
11711       \fi
11712     }{%
11713       \ifdim\stockwidth>\z@
11714       \ifdim\stockheight>\z@
11715         \special{papersize=\the\stockwidth,\the\stockheight}%
11716       \fi
11717     \fi
11718   }%
11719   \endgroup
11720 \fi
11721 \Hy@DisableOption{setpagesize}%
11722 }

11723 \def\setpdfinkmargin#1{%
11724   \begingroup
11725     \setlength{\dimen@}{#1}%
11726     \literalps@out{%
11727       /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
11728     }%
11729   \endgroup
11730 }
11731 </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.

```

11732 (*vtexpdfmark)
11733 \providecommand*\XR@ext}{pdf}
11734 \let\Hy@raisedlink\ltx@empty
11735 \def\literalps@out#1{\special{pS:#1}}%
11736 \def\headerps@out#1{\immediate\special{pS:#1}}%
11737 \input{pdfmark.def}%
11738 \ifx\@pdfproducer\relax
11739   \ifnum\OpMode=\@ne
11740     \def\@pdfproducer{VTeX}%
11741   \else
11742     \def\@pdfproducer{VTeX + Distiller}%
11743   \fi
11744 \fi
11745 \providecommand*\@pdfborder{0 0 1}
11746 \providecommand*\@pdfborderstyle{}
11747 \providecommand*\@pdfview{XYZ}
11748 \providecommand*\@pdfviewparams{ H.V}

11749 \g@addto@macro\Hy@FirstPageHook{%
11750   \headerps@out{%
11751     /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.

```

11752   /HyperBorder {1} def%
11753   /H.V {pdf@hoff pdf@voff null} def%
11754   /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: $\text{pdf@lly} = Y_c - \text{HyperBorder}$, $\text{pdf@hoff} = X_c + 72$, $\text{pdf@llx} = X_c - \text{HyperBorder}$

```

11755   /H.S {%
11756     currentpoint %
11757     HyperBorder sub%
11758     /pdf@lly exch def %
11759     dup 72 add /pdf@hoff exch def %
11760     HyperBorder sub%
11761     /pdf@llx exch def%
11762   } def%

```

The x and y coordinates of the current point, minus the $\backslash\text{baselineskip}$: $\text{pdf@ury} = Y_c + \text{HyperBasePt} + \text{HyperBorder}$, $\text{pdf@urx} = X_c + \text{HyperBorder}$

```

11763   /H.L {%
11764     2 sub%
11765     /HyperBasePt exch def %
11766     currentpoint %
11767     HyperBasePt add HyperBorder add%
11768     /pdf@ury exch def %
11769     HyperBorder add%

```

```

11770    /pdf@urx exch def%
11771    } def%
11772    /H.A {%
11773        H.L %
11774        currentpoint exch pop %
11775        vsize 72 sub exch %
11776        HyperBasePt add add%
11777        /pdf@voff exch def%
11778    } def%

pdf@ury =  $Y_c$  + HyperBorder, pdf@urx =  $X_c$  + HyperBorder
11779    /H.R {%
11780        currentpoint %
11781        HyperBorder add%
11782        /pdf@ury exch def %
11783        HyperBorder add%
11784        /pdf@urx exch def %
11785        currentpoint exch pop vsize 72 sub add%
11786        /pdf@voff exch def%
11787    } def%
11788    }%
11789 }

11790 \def\setpdfinkmargin#1{%
11791     \begingroup
11792     \setlength{\dimen@}{#1}%
11793     \literalps@out{%
11794         /HyperBorder{\strip@pt\dimen@}def%
11795     }%
11796     \endgroup
11797 }

11798 </vtxpdfmark>

```

43.11 Textures

```

11799 <*textures>
11800 \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.

```

11801 \begingroup
11802 \obeylines %
11803 \gdef\Hy@ps@CR{\noexpand
11804 }%
11805 \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`.

```
11806 \def\literalps@out#1{%
11807   \special{postscript 0 0 transform}%
11808   \special{rawpostscript itransform moveto\Hy@ps@CR #1}%
11809 }%
11810 %
```

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.

```
11811 \def\headerps@out#1{%
11812   \special{%
11813     prepostscript TeXdict begin\Hy@ps@CR
11814       #1\Hy@ps@CR
11815     end%
11816   }%
11817 }%
11818 %
```

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.

```
11819 \g@addto@macro\Hy@FirstPageHook{%
11820   \headerps@out{%
11821     /betterpdfmark {%
11822       systemdict begin %
11823         dup /BP eq%
11824         {cleartomark gsave nulldevice []}%
11825         {dup /EP eq%
11826           {cleartomark cleartomark grestore}%
11827           {cleartomark}%
11828         }ifelse%
11829       }ifelse %
11830     end%
11831   }def\Hy@ps@CR
11832   ____pdfmark__ not{/pdfmark /betterpdfmark load def}if%
11833 }% end of \headerps@out
11834 }% end of \AtBeginShipoutFirst
11835 %
11836 \input{pdfmark.def}%
11837 %
11838 \ifx\@pdfproducer\relax
11839   \def\@pdfproducer{Textures + Distiller}%
11840 \fi
11841 \providecommand*\@pdfborder{0 0 1}
11842 \providecommand*\@pdfborderstyle{}
```

```

11843 \providecommand*\@pdfview{XYZ}
11844 \providecommand*\@pdfviewparams{ H.V}
11845 %

```

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 .

```

11846 \Hy@AtBeginDocument{%
11847   \headerps@out{%

```

Textures lives in normal points, I think. So conversion from one coordinate system to another involves doing nothing.

```

11848   /vsize {\Hy@pageheight} def%
11849   /DvipsToPDF {} def%
11850   /PDFToDvips {} def%
11851   /BPToDvips {} def%
11852   /HyperBorder { 1 PDFToDvips } def\Hy@ps@CR
11853   /H.V {pdf@hoff pdf@voff null} def\Hy@ps@CR
11854   /H.B {/Rect[pdf@llx pdf@lly pdf@urx pdf@ury]} def\Hy@ps@CR
11855   /H.S {%
11856     currentpoint %
11857     HyperBorder add /pdf@lly exch def %
11858     dup DvipsToPDF 72 add /pdf@hoff exch def %
11859     HyperBorder sub /pdf@llx exch def%
11860   } def\Hy@ps@CR
11861   /H.L {%
11862     2 sub %
11863     PDFToDvips /HyperBase exch def %
11864     currentpoint %
11865     HyperBase sub /pdf@ury exch def%
11866     /pdf@urx exch def%
11867   } def\Hy@ps@CR
11868   /H.A {%
11869     H.L %
11870     currentpoint exch pop %
11871     vsize 72 sub exch DvipsToPDF %
11872     HyperBase sub % baseline skip
11873     sub /pdf@voff exch def%
11874   } def\Hy@ps@CR
11875   /H.R {%
11876     currentpoint %
11877     HyperBorder sub /pdf@ury exch def %
11878     HyperBorder add /pdf@urx exch def %
11879     currentpoint exch pop vsize 72 sub %
11880     exch DvipsToPDF sub /pdf@voff exch def%
11881   } def\Hy@ps@CR
11882 }%
11883 }

11884 \def\setpdfinkmargin#1{%
11885   \begingroup
11886     \setlength{\dimen@}{#1}%
11887     \literalps@out{%

```

```

11888 /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
11889 }%
11890 \endgroup
11891 }

11892 \Hy@AtBeginDocument{%
11893 \ifHy@colorlinks
11894 \headerps@out{/PDFBorder{/Border [0 0 0]}def}%
11895 \fi
11896 }

```

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.

```

11897 \expandafter\let\expandafter\keepPDF@SetupDoc
11898 \csname PDF@SetupDoc\endcsname
11899 \def\PDF@SetupDoc{%
11900 \ifx\@baseurl\@empty
11901 \else
11902 \special{html:<base href="\@baseurl">}%
11903 \fi
11904 \keepPDF@SetupDoc
11905 }

11906 \Hy@WrapperDef\hyper@anchor#1{%
11907 \Hy@SaveLastskip
11908 \Hy@VerboseAnchor{#1}%
11909 \begingroup
11910 \let\protect=\string
11911 \special{html:<a name=%
11912 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11913 \endgroup
11914 \Hy@activeanchortrue
11915 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
11916 \special{html:</a>}%
11917 \Hy@activeanchorfalse
11918 \Hy@RestoreLastskip
11919 }

11920 \Hy@WrapperDef\hyper@anchorstart#1{%
11921 \Hy@SaveLastskip
11922 \Hy@VerboseAnchor{#1}%
11923 \begingroup
11924 \hyper@chars
11925 \special{html:<a name=%
11926 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}%
11927 \endgroup
11928 \Hy@activeanchortrue
11929 }

11930 \def\hyper@anchorend{%
11931 \special{html:</a>}%
11932 \Hy@activeanchorfalse
11933 \Hy@RestoreLastskip
11934 }

11935 \def\@urltype{url}
11936 \def\hyper@linkstart#1#2{%
11937 \Hy@VerboseLinkStart{#1}{#2}%

```

```

11938 \expandafter\Hy@colorlink\csname @#1color\endcsname
11939 \def\Hy@tempa{#1}%
11940 \ifx\Hy@tempa\@urlltype
11941   \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11942 \else
11943   \begingroup
11944     \hyper@chars
11945     \special{%
11946       html:<a href=
11947         \hyper@quote\#\Hy@HyperDestNameFilter{#2}\hyper@quote>%
11948     }%
11949   \endgroup
11950 \fi
11951 }
11952 \def\hyper@linkend{%
11953   \special{html:</a>}%
11954   \Hy@endcolorlink
11955 }
11956 \def\hyper@linkfile#1#2#3{%
11957   \hyper@linkurl{#1}{%
11958     \Hy@linkfileprefix#2\ifx\#3\\\else\#3\fi
11959   }%
11960 }
11961 \def\hyper@linkurl#1#2{%
11962   \leavevmode
11963   \ifHy@raiselinks
11964     \Hy@SaveSpaceFactor
11965     \Hy@SaveSavedSpaceFactor
11966     \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
11967     \Hy@RestoreSavedSpaceFactor
11968     \@linkdim\dp\@tempboxa
11969     \lower\@linkdim\hbox{%
11970       \hyper@chars
11971       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11972     }%
11973     \Hy@colorlink\@urlcolor
11974     \Hy@RestoreSpaceFactor
11975     #1\Hy@xspace@end
11976     \Hy@SaveSpaceFactor
11977     \@linkdim\ht\@tempboxa
11978     \advance\@linkdim by -6.5\p@
11979     \raise\@linkdim\hbox{\special{html:</a>}}%
11980     \Hy@endcolorlink
11981     \Hy@RestoreSpaceFactor
11982   \else
11983     \begingroup
11984       \hyper@chars
11985       \special{html:<a href=\hyper@quote#2\hyper@quote>}%
11986       \Hy@colorlink\@urlcolor#1\Hy@xspace@end
11987       \special{html:</a>}%
11988       \Hy@endcolorlink
11989     \endgroup
11990   \fi
11991 }

```

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

```

11992 \def\hyper@link#1#2#3{%
11993   \Hy@VerboseLinkStart{#1}{#2}%
11994   \hyper@linkurl{#3}{\# \HyperDestNameFilter{#2}}%
11995 }
11996 \def\hyper@image#1#2{%
11997   \begingroup
11998   \hyper@chars
11999   \special{html:<img src=\hyper@quote#1\hyper@quote>}%
12000   \endgroup
12001 }
12002 </textures>

```

43.12 dvipsone

```

12003 % \subsection{dvipsone driver}
12004 % Over-ride the default setup macro in pdfmark driver to use Y\&Y
12005 % | \special| commands.
12006 < *dvipsone>
12007 \providecommand*{\XR@ext}{pdf}
12008 \let\Hy@raisedlink\ltx@empty
12009 \providecommand*\@pdfborder{0 0 1}
12010 \providecommand*\@pdfborderstyle{}
12011 \def\literalps@out#1{\special{ps:#1}}%
12012 \def\headerps@out#1{\special{headertext=#1}}%
12013 \input{pdfmark.def}%
12014 \HyInfo@AddonUnsupportedtrue
12015 \def\PDF@FinishDoc{%
12016   \Hy@UseMaketitleInfos
12017   \HyInfo@TrappedUnsupported
12018   \special{PDF: Keywords \@pdfkeywords}%
12019   \special{PDF: Title \@pdftitle}%
12020   \special{PDF: Creator \@pdfcreator}%
12021   \ifx\@pdfcreationdate\@empty
12022   \else
12023     \special{PDF: CreationDate \@pdfcreationdate}%
12024   \fi
12025   \ifx\@pdfmoddate\@empty
12026   \else
12027     \special{PDF: ModDate \@pdfmoddate}%
12028   \fi
12029   \special{PDF: Author \@pdfauthor}%
12030   \ifx\@pdfproducer\relax
12031   \else
12032     \special{PDF: Producer \@pdfproducer}%
12033   \fi
12034   \special{PDF: Subject \@pdfsubject}%
12035   \Hy@DisableOption{pdfauthor}%
12036   \Hy@DisableOption{pdftitle}%
12037   \Hy@DisableOption{pdfsubject}%
12038   \Hy@DisableOption{pdfcreator}%
12039   \Hy@DisableOption{addtopdfcreator}%
12040   \Hy@DisableOption{pdfcreationdate}%
12041   \Hy@DisableOption{pdfcreationdate}%

```

```

12042 \Hy@DisableOption{pdfmoddate}%
12043 \Hy@DisableOption{pdfproducer}%
12044 \Hy@DisableOption{pdfkeywords}%
12045 \Hy@DisableOption{pdftrapped}%
12046 \Hy@DisableOption{pdfinfo}%
12047 }
12048 \def\PDF@SetupDoc{%
12049 \def\Hy@temp{}%
12050 \ifx\@pdfstartpage\@empty
12051 \else
12052 \ifx\@pdfstartview\@empty
12053 \else
12054 \edef\Hy@temp{%
12055 ,Page=\@pdfstartpage
12056 ,View=\@pdfstartview
12057 }%
12058 \fi
12059 \fi
12060 \edef\Hy@temp{%
12061 \noexpand\pdfmark{%
12062 pdfmark=/DOCVIEW,%
12063 PageMode=/\@pdfpagemode
12064 \Hy@temp
12065 }%
12066 }%
12067 \Hy@temp
12068 \ifx\@pdfpagescrop\@empty
12069 \else
12070 \pdfmark{pdfmark=/PAGES,CropBox=\@pdfpagescrop}%
12071 \fi
12072 \edef\Hy@temp{%
12073 \ifHy@pdftoolbar\else /HideToolbar true\fi
12074 \ifHy@pdfmenubar\else /HideMenubar true\fi
12075 \ifHy@pdfwindowui\else /HideWindowUI true\fi
12076 \ifHy@pdfwindow /FitWindow true\fi
12077 \ifHy@pdfcenterwindow /CenterWindow true\fi
12078 \ifHy@pdfdisplaydoctitle /DisplayDocTitle true\fi
12079 \Hy@UseNameKey{NonFullScreenPageMode}\@pdfnonfullscreenpagemode
12080 \Hy@UseNameKey{Direction}\@pdfdirection
12081 \Hy@UseNameKey{ViewArea}\@pdfviewarea
12082 \Hy@UseNameKey{ViewClip}\@pdfviewclip
12083 \Hy@UseNameKey{PrintArea}\@pdfprintarea
12084 \Hy@UseNameKey{PrintClip}\@pdfprintclip
12085 \Hy@UseNameKey{PrintScaling}\@pdfprintscaling
12086 \Hy@UseNameKey{Duplex}\@pdfduplex
12087 \ifx\@pdfpicktraybypdfsize\@empty
12088 \else
12089 /PickTrayByPDFSize \@pdfpicktraybypdfsize
12090 \fi
12091 \ifx\@pdfprintpagerange\@empty
12092 \else
12093 /PrintPageRange[\@pdfprintpagerange]%
12094 \fi
12095 \ifx\@pdfnumcopies\@empty

```

```

12096 \else
12097 /NumCopies \@pdfnumcopies
12098 \fi
12099 }%
12100 \Hy@pstringdef\Hy@pstringB{\@baseurl}%
12101 \pdfmark{%
12102 pdfmark=/PUT,%
12103 Raw={%
12104 \string{Catalog\string}<<%
12105 \ifx\Hy@temp\@empty
12106 \else
12107 /ViewerPreferences<<\Hy@temp>>%
12108 \fi
12109 \Hy@UseNameKey{PageLayout}\@pdfpagelayout
12110 \ifx\@pdflang\relax
12111 \else
12112 /Lang(\@pdflang)%
12113 \fi
12114 \ifx\@baseurl\@empty
12115 \else
12116 /URI<</Base(\Hy@pstringB)>>%
12117 \fi
12118 >>%
12119 }%
12120 }%
12121 }
12122 \providecommand*\@pdfview{XYZ}
12123 \providecommand*\@pdfviewparams{ %
12124 gsave revscl currentpoint grestore %
12125 72 add exch pop null exch null%
12126 }
12127 \def\Hy@BorderArrayPatch{BorderArrayPatch}

```

These are called at the start and end of unboxed links; their job is to leave available PS variables called `pdf@llx pdf@lly pdf@urx pdf@ury`, which are the coordinates of the bounding rectangle of the link, and `pdf@hoff pdf@voff` which are the PDF page offsets. These latter are currently not used in the dvipsone setup. The Rect pair are called at the LL and UR corners of a box known to T_EX.

```

12128 \g@addto@macro\Hy@FirstPageHook{%
12129 \headerps@out{%

```

dvipsone lives in scaled points; does this mean 65536 or 65781?

```

12130 /DvipsToPDF { 65781 div } def%
12131 /PDFToDvips { 65781 mul } def%
12132 /BPToDvips{65781 mul}def%
12133 /HyperBorder { 1 PDFToDvips } def%
12134 /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.

```

12135 /BorderArrayPatch{%
12136 [exch{%
12137 dup dup type/integertype eq exch type/realtype eq or%
12138 {BPToDvips}if%

```

```

12139 }forall]%
12140 }def%
12141 /H.S {%
12142   currentpoint %
12143   HyperBorder add /pdf@lly exch def %
12144   dup DvipsToPDF 72 add /pdf@hoff exch def %
12145   HyperBorder sub /pdf@llx exch def%
12146 } def%
12147 /H.L {%
12148   2 sub %
12149   PDFToDvips /HyperBase exch def %
12150   currentpoint %
12151   HyperBase sub /pdf@ury exch def%
12152   /pdf@urx exch def%
12153 } def%
12154 /H.A {%
12155   H.L %
12156   currentpoint exch pop %
12157   HyperBase sub % baseline skip
12158   DvipsToPDF /pdf@voff exch def%
12159 } def%
12160 /H.R {%
12161   currentpoint %
12162   HyperBorder sub /pdf@ury exch def %
12163   HyperBorder add /pdf@urx exch def %
12164   currentpoint exch pop DvipsToPDF /pdf@voff exch def%
12165 } def%
12166 }%
12167 }

12168 \def\setpdfinkmargin#1{%
12169   \begingroup
12170   \setlength{\dimen@}{#1}%
12171   \literalps@out{%
12172     /HyperBorder{\strip@pt\dimen@\space PDFToDvips}def%
12173   }%
12174   \endgroup
12175 }

12176 </dvipsone>

```

43.13 TeX4ht

```

12177 <*tex4ht>
12178 \providecommand*{\XR@ext}{html}
12179 \let\Hy@raisedlink\ltx@empty
12180 \@ifpackageloaded{tex4ht}{%
12181   \Hy@InfoNoLine{tex4ht is already loaded}%
12182 }{%
12183   \RequirePackage[hTeX4ht]{tex4ht}%
12184 }
12185 \hyperlinkfileprefix{}
12186 \let\PDF@FinishDoc\ltx@empty
12187 \def\PDF@SetupDoc{%
12188   \ifx\@baseurl\@empty
12189     \else

```

```

12190 \special{t4ht=<base href="\@baseurl">}}%
12191 \fi
12192 }
12193 \Hy@WrapperDef\hyper@anchor#1{%
12194 \Hy@SaveLastskip
12195 \Hy@VerboseAnchor{#1}%
12196 \begingroup
12197 \let\protect=\string
12198 \special{t4ht=<a name=%
12199 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
12200 \endgroup
12201 \Hy@activeanchortrue
12202 \Hy@colorlink\@anchorcolor\anchor@spot\Hy@endcolorlink
12203 \special{t4ht=</a>}}%
12204 \Hy@activeanchorfalse
12205 \Hy@RestoreLastskip
12206 }
12207 \Hy@WrapperDef\hyper@anchorstart#1{%
12208 \Hy@SaveLastskip
12209 \Hy@VerboseAnchor{#1}%
12210 \begingroup
12211 \hyper@chars\special{t4ht=<a name=%
12212 \hyper@quote\HyperDestNameFilter{#1}\hyper@quote>}}%
12213 \endgroup
12214 \Hy@activeanchortrue
12215 }
12216 \def\hyper@anchorend{%
12217 \special{t4ht=</a>}}%
12218 \Hy@activeanchorfalse
12219 \Hy@RestoreLastskip
12220 }
12221 \def\@urltype{url}
12222 \def\hyper@linkstart#1#2{%
12223 \Hy@VerboseLinkStart{#1}{#2}%
12224 \expandafter\Hy@colorlink\csname @#1color\endcsname
12225 \def\Hy@tempa{#1}%
12226 \ifx\Hy@tempa\@urltype
12227 \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}}%
12228 \else
12229 \begingroup
12230 \hyper@chars
12231 \special{t4ht=<a href=%
12232 \hyper@quote\#\HyperDestNameFilter{#2}\hyper@quote>}}%
12233 \endgroup
12234 \fi
12235 }
12236 \def\hyper@linkend{%
12237 \special{t4ht=</a>}}%
12238 \Hy@endcolorlink
12239 }
12240 \def\hyper@linkfile#1#2#3{%
12241 \hyper@linkurl{#1}{\Hy@linkfileprefix#2\ifx\\#3\\\else\##3\fi}%
12242 }
12243 \def\hyper@linkurl#1#2{%

```

```

12244 \leavevmode
12245 \ifHy@raiselinks
12246   \Hy@SaveSpaceFactor
12247   \Hy@SaveSavedSpaceFactor
12248   \sbox\@tempboxa{\Hy@RestoreSpaceFactor#1}%
12249   \Hy@RestoreSavedSpaceFactor
12250   \@linkdim\dp\@tempboxa
12251   \lower\@linkdim\hbox{%
12252     \begingroup
12253       \hyper@chars
12254       \special{%
12255         t4ht=<a href=\hyper@quote#2\hyper@quote>%
12256       }%
12257     \endgroup
12258   }%
12259   \Hy@colorlink\@urlcolor
12260   \Hy@RestoreSpaceFactor
12261   #1\Hy@xspace@end
12262   \Hy@SaveSpaceFactor
12263   \Hy@endcolorlink
12264   \@linkdim\ht\@tempboxa
12265   \advance\@linkdim by -6.5\p@
12266   \raise\@linkdim\hbox{\special{t4ht=</a>}}%
12267   \Hy@RestoreSpaceFactor
12268 \else
12269   \begingroup
12270     \hyper@chars
12271     \special{t4ht=<a href=\hyper@quote#2\hyper@quote>}%
12272     \Hy@colorlink\@urlcolor
12273     #1\Hy@xspace@end
12274     \Hy@endcolorlink
12275     \special{t4ht=</a>}%
12276   \endgroup
12277 \fi
12278 }

Poor implementation of \hyper@link without considering #1.
12279 \def\hyper@link#1#2#3{%
12280   \Hy@VerboseLinkStart{#1}{#2}%
12281   \hyper@linkurl{#3}{\#\Hy@HyperDestNameFilter{#2}}%
12282 }
12283 \def\hyper@image#1#2{%
12284   \begingroup
12285     \hyper@chars
12286     \special{t4ht=<img src=\hyper@quote#1\hyper@quote>}%
12287   \endgroup
12288 }
12289 \let\autoref\ref
12290 \ifx \rEfLiNK \UnDef
12291   \def\rEfLiNK #1#2{#2}%
12292 \fi
12293 \let\backref\ltx@gobble
Fix for tex4ht.
12294 \AtBeginDocument{%

```

```

12295 \expandafter
12296 \let\expandafter\Hy@OrgMakeLabel\csname Make:Label\endcsname
12297 \expandafter\def\csname Make:Label\endcsname#1#2{%
12298   \ifhmode
12299     \Hy@SaveSpaceFactor
12300   \else
12301     \global\Hy@SavedSpaceFactor=1000 %
12302   \fi
12303   \Hy@OrgMakeLabel{#1}{%
12304     \Hy@RestoreSpaceFactor
12305     #2\Hy@xspace@end%
12306     \Hy@SaveSpaceFactor
12307   }%
12308   \Hy@RestoreSpaceFactor
12309 }%
12310 }
12311 </tex4ht>
12312 <*tex4htcfg>
12313 \IfFileExists{\jobname.cfg}{\endinput}{}
12314 \Preamble{html}
12315   \begin{document}%
12316 \EndPreamble
12317 \def\TeX{\TeX}
12318 \def\OMEGA{\Omega}
12319 \def\LaTeX{\LaTeX}
12320 \def\LaTeXe{\LaTeXe}
12321 \def\eTeX{e-TeX}
12322 \def\MF{Metafont}
12323 \def\MP{MetaPost}
12324 </tex4htcfg>

```

44 Driver-specific form support

44.1 pdfmarks

change 2020-06-20: added /Euro to encoding

```

12325 <*pdfmark>
12326 \long\def\@Form[#1]{%
12327 \g@addto@macro\Hy@FirstPageHook{%
12328   \headerps@out{%
12329 [%
12330   /_objdef{pdfDocEncoding}%
12331   /type/dict%
12332   /OBJ pdfmark%
12333 [%
12334   {pdfDocEncoding}%
12335   <<%
12336   /Type/Encoding%
12337   /Differences[%
12338     24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring%
12339     /tilde %
12340     39/quotesingle %
12341     96/grave %
12342     128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%

```

12343 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
12344 /quotedblbase/quotedblleft/quotedblright/quoteleft%
12345 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE/Scaron%
12346 /Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
12347 160/Euro %
12348 164/currency %
12349 166/brokenbar %
12350 168/dieresis/copyright/ordfeminine %
12351 172/logicalnot/.notdef/registered/macron/degree/plusminus%
12352 /twosuperior/threesuperior/acute/mu %
12353 183/periodcentered/cedilla/onesuperior/ordmasculine %
12354 188/onequarter/onehalf/threequarters %
12355 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
12356 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%
12357 /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
12358 /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
12359 /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
12360 /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
12361 /ccedilla/egrave/eacute/ecircumflex/edieresis/igrave%
12362 /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
12363 /ocircumflex/otilde/odieresis/divide/oshlash/ugrave/uacute%
12364 /ucircumflex/udieresis/yacute/thorn/ydieresis%
12365]%
12366 >>%
12367 /PUT pdfmark%
12368 [%
12369 /__objdef{ZaDb}%
12370 /type/dict%
12371 /OBJ pdfmark%
12372 [%
12373 {ZaDb}%
12374 <<%
12375 /Type/Font%
12376 /Subtype/Type1%
12377 /Name/ZaDb%
12378 /BaseFont/ZapfDingbats%
12379 >>%
12380 /PUT pdfmark%
12381 [%
12382 /__objdef{Helv}%
12383 /type/dict%
12384 /OBJ pdfmark%
12385 [%
12386 {Helv}%
12387 <<%
12388 /Type/Font%
12389 /Subtype/Type1%
12390 /Name/Helv%
12391 /BaseFont/Helvetica%
12392 /Encoding{pdfDocEncoding}%
12393 >>%
12394 /PUT pdfmark%
12395 [%
12396 /__objdef{aform}%

```

12397 /type/dict%
12398 /OBJ pdfmark%
12399 [%
12400 /__objdef{afields}%
12401 /type/array%
12402 /OBJ pdfmark%
12403 [%
12404 /__objdef{corder}%
12405 /type/array%
12406 /OBJ pdfmark%
12407 {%
12408 [%
12409 /BBox[0 0 100 100]%
12410 /__objdef{Check}%
12411 /BP pdfmark %
12412 1 0 0 setrgbcolor%
12413 /ZapfDingbats 80 selectfont %
12414 20 20 moveto%
12415 (4)show%
12416 [/EP pdfmark%
12417 [%
12418 /BBox[0 0 100 100]%
12419 /__objdef{Cross}%
12420 /BP pdfmark %
12421 1 0 0 setrgbcolor%
12422 /ZapfDingbats 80 selectfont %
12423 20 20 moveto%
12424 (8)show%
12425 [/EP pdfmark%
12426 [%
12427 /BBox[0 0 250 100]%
12428 /__objdef{Submit}%
12429 /BP pdfmark %
12430 0.6 setgray %
12431 0 0 250 100 rectfill %
12432 1 setgray %
12433 2 2 moveto %
12434 2 98 lineto %
12435 248 98 lineto %
12436 246 96 lineto %
12437 4 96 lineto %
12438 4 4 lineto %
12439 fill %
12440 0.34 setgray %
12441 248 98 moveto %
12442 248 2 lineto %
12443 2 2 lineto %
12444 4 4 lineto %
12445 246 4 lineto %
12446 246 96 lineto %
12447 fill%
12448 /Helvetica 76 selectfont %
12449 0 setgray %
12450 8 22.5 moveto%

```

```

12451 (Submit)show%
12452 [/EP pdfmark%
12453 [%
12454   /BBox[0 0 250 100]%
12455   /__objdef{SubmitP}%
12456 /BP pdfmark %
12457 0.6 setgray %
12458 0 0 250 100 rectfill %
12459 0.34 setgray %
12460 2 2 moveto %
12461 2 98 lineto %
12462 248 98 lineto %
12463 246 96 lineto %
12464 4 96 lineto %
12465 4 4 lineto %
12466 fill %
12467 1 setgray %
12468 248 98 moveto %
12469 248 2 lineto %
12470 2 2 lineto %
12471 4 4 lineto %
12472 246 4 lineto %
12473 246 96 lineto %
12474 fill%
12475 /Helvetica 76 selectfont %
12476 0 setgray %
12477 10 20.5 moveto%
12478 (Submit)show%
12479 [/EP pdfmark%
12480 } ?pdfmark%
12481 [%
12482 {aform}%
12483 <<%
12484   /Fields{afields}%
12485   /DR<<%
12486     /Font<<%
12487       /ZaDb{ZaDb}%
12488       /Helv{Helv}%
12489     >>%
12490   >>%
12491   /DA(/Helv 10 Tf 0 g)%
12492   /CO{corder}%
12493   \ifHy@pdfa
12494   \else
12495     \ifHyField@NeedAppearances
12496     /NeedAppearances true%
12497     \fi
12498   \fi
12499 >>%
12500 /PUT pdfmark%
12501 [%
12502 {Catalog}%
12503 <<%
12504   /AcroForm{aform}%

```

```

12505 >>%
12506 /PUT pdfmark%
12507 }}%
12508 \kvsetkeys{Form}{#1}%
12509 }
12510 \let\@endForm\ltx@empty
12511 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12512 \Hy@Message{Sorry, pdfmark drivers do not support FORM gauges}%
12513 }

12514 \newcount\HyField@AnnotCount
12515 \HyField@AnnotCount=\z@
12516 \def\HyField@AdvanceAnnotCount{%
12517 \global\advance\HyField@AnnotCount\@ne
12518 }
12519 \def\HyField@TheAnnotCount{%
12520 \the\HyField@AnnotCount
12521 }

12522 \edef\Fld@pageobjref{/P\string{ThisPage\string}}
12523 \def\HyField@AddToFields#1{%
12524 \pdfmark{%
12525 pdfmark=/APPEND,%
12526 Raw={%
12527 \string{afields\string}%
12528 \string{#1\HyField@TheAnnotCount\string}%
12529 }%
12530 }%
12531 \ifx\Fld@calculate@code\ltx@empty
12532 \else
12533 \pdfmark{%
12534 pdfmark=/APPEND,%
12535 Raw={%
12536 \string{corder\string}%
12537 \string{#1\HyField@TheAnnotCount\string}%
12538 }%
12539 }%
12540 \fi
12541 }

12542 \def\@TextField[#1]#2{% parameters, label
12543 \def\Fld@name{#2}%
12544 \let\Fld@default\ltx@empty
12545 \let\Fld@value\@empty
12546 \def\Fld@width{\DefaultWidthofText}%
12547 \def\Fld@height{%
12548 \ifFld@multiline
12549 \DefaultHeightofTextMultiline
12550 \else
12551 \DefaultHeightofText
12552 \fi
12553 }%
12554 \begingroup
12555 \expandafter\HyField@SetKeys\expandafter{%
12556 \DefaultOptionsofText,#1%
12557 }%

```

```

12558 \HyField@FlagsText
12559 \ifFld@hidden\def\Fld@width{1sp}\fi
12560 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
12561 \HyField@AdvanceAnnotCount
12562 \LayoutTextField{#2}{%
12563   \leavevmode
12564   \Hy@escapeform\PDFForm@Text
12565   \pdfmark[\MakeTextField{\Fld@width}{\Fld@height}]{%
12566     pdfmark=/ANN,%
12567     objdef=text\HyField@TheAnnotCount,%
12568     Raw={\PDFForm@Text}%
12569   }%
12570 }%
12571 \HyField@AddToFields{text}%
12572 \endgroup
12573 }
12574 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12575   \def\Fld@name{#2}%
12576   \let\Fld@default\relax
12577   \let\Fld@value\relax
12578   \def\Fld@width{\DefaultWidthofChoiceMenu}%
12579   \def\Fld@height{\DefaultHeightofChoiceMenu}%
12580   \begingroup
12581     \Fld@menulength=0 %
12582     \@tempdima\z@
12583     \@for\@curropt:=#3\do{%
12584       \expandafter\Fld@checkequals\@curropt==\\%
12585       \Hy@StepCount\Fld@menulength
12586       \settowidth{\@tempdimb}{\@currDisplay}%
12587       \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
12588     }%
12589     \advance\@tempdima by 15\p@
12590     \begingroup
12591       \HyField@SetKeys{#1}%
12592     \edef\x{\endgroup
12593       \noexpand\expandafter
12594       \noexpand\HyField@SetKeys
12595       \noexpand\expandafter{%
12596         \expandafter\noexpand\csname DefaultOptionsof%
12597           \ifFld@radio
12598             Radio%
12599           \else
12600             \ifFld@combo
12601               \ifFld@popdown
12602                 PopdownBox%
12603               \else
12604                 ComboBox%
12605             \fi
12606           \else
12607             ListBox%
12608           \fi
12609         \endcsname
12610       }%

```

```

12612 } \x
12613 \HyField@SetKeys{#1}%
12614 \ifFld@hidden\def\Fld@width{1sp}\fi
12615 \ifx\Fld@value\relax
12616 \let\Fld@value\Fld@default
12617 \fi
12618 \LayoutChoiceField{#2}{%
12619 \ifFld@radio
12620 \HyField@FlagsRadioButton
12621 \@@Radio{#3}%
12622 \else
12623 \begingroup
12624 \HyField@FlagsChoice
12625 \ifdim\Fld@width<\@tempdima
12626 \ifdim\@tempdima<1cm\@tempdima1cm\fi
12627 \edef\Fld@width{\the\@tempdima}%
12628 \fi
12629 \ifFld@combo
12630 \else
12631 \@tempdima=\the\Fld@menulength\Fld@charsize
12632 \advance\@tempdima by \Fld@borderwidth bp %
12633 \advance\@tempdima by \Fld@borderwidth bp %
12634 \edef\Fld@height{\the\@tempdima}%
12635 \fi
12636 \@@ListBox{#3}%
12637 \endgroup
12638 \fi
12639 }%
12640 \endgroup
12641 }
12642 \def\@@Radio#1{%
12643 \Fld@listcount=0 %
12644 \EdefEscapeName\Fld@default{\Fld@default}%
12645 \@for\@curropt:=#1\do{%
12646 \expandafter\Fld@checkequals\@curropt==\%
12647 \EdefEscapeName\@currValue{\@currValue}%
12648 \Hy@StepCount\Fld@listcount
12649 \@currDisplay\space
12650 \Hy@escapeform\PDFForm@Radio
12651 \ifnum\Fld@listcount=1 %
12652 \HyField@AdvanceAnnotCount
12653 \fi
12654 \pdfmark[\MakeRadioField{\Fld@width}{\Fld@height}]{%
12655 pdfmark=/ANN,%
12656 objdef=\ifnum\Fld@listcount=1 radio\HyField@TheAnnotCount\fi,%
12657 Raw={%
12658 \PDFForm@Radio /AP <</N <</\@currValue\space {Check}>> >>%
12659 }%
12660 } % deliberate space between radio buttons
12661 \ifnum\Fld@listcount=1 %
12662 \HyField@AddToFields{radio}%
12663 \fi
12664 }%
12665 }

```

```

12666 \newcount\Fld@listcount
12667 \def\@@ListBox#1{%
12668   \HyField@PDFChoices{#1}%
12669   \Hy@escapeform\PDFForm@List
12670   \HyField@AdvanceAnnotCount
12671   \pdfmark[\MakeChoiceField{\Fld@width}{\Fld@height}]{%
12672     pdfmark=/ANN,%
12673     objdef=list\HyField@TheAnnotCount,%
12674     Raw={\PDFForm@List}%
12675   }%
12676   \HyField@AddToFields{list}%
12677 }
12678 \def\@PushButton[#1]#2{% parameters, label
12679   \def\Fld@name{#2}%
12680   \begingroup
12681     \expandafter\HyField@SetKeys\expandafter{%
12682       \DefaultOptionsofPushButton,#1%
12683     }%
12684     \ifHy@pdfa
12685       \Hy@Error{%
12686         PDF/A: Push button with JavaScript is prohibited%
12687       }\@ehc
12688       \LayoutPushButtonField{%
12689         \leavevmode
12690         \MakeButtonField{#2}%
12691       }%
12692     \else
12693       \HyField@FlagsPushButton
12694       \ifFld@hidden\def\Fld@width{1sp}\fi
12695       \HyField@AdvanceAnnotCount
12696       \LayoutPushButtonField{%
12697         \leavevmode
12698         \Hy@escapeform\PDFForm@Push
12699         \pdfmark[\MakeButtonField{#2}]{%
12700           pdfmark=/ANN,%
12701           objdef=push\HyField@TheAnnotCount,%
12702           Raw={\PDFForm@Push}%
12703         }%
12704       }%
12705       \HyField@AddToFields{push}%
12706     \fi
12707   \endgroup
12708 }
12709 \def\@Submit[#1]#2{%
12710   \def\Fld@width{\DefaultWidthofSubmit}%
12711   \def\Fld@height{\DefaultHeightofSubmit}%
12712   \begingroup
12713     \expandafter\HyField@SetKeys\expandafter{%
12714       \DefaultOptionsofSubmit,#1%
12715     }%
12716     \HyField@FlagsPushButton
12717     \HyField@FlagsSubmit
12718     \ifFld@hidden\def\Fld@width{1sp}\fi
12719     \Hy@escapeform\PDFForm@Submit

```

```

12720 \HyField@AdvanceAnnotCount
12721 \pdfmark[\MakeButtonField{#2}]{%
12722 pdfmark=/ANN,%
12723 objdef=submit\HyField@TheAnnotCount,%
12724 Raw={\PDFForm@Submit /AP<</N{Submit}/D{SubmitP}>>}}%
12725 }%
12726 \HyField@AddToFields{submit}%
12727 \endgroup
12728 }
12729 \def\@Reset[#1]#2{%
12730 \def\Fld@width{\DefaultWidthofReset}%
12731 \def\Fld@height{\DefaultHeightofReset}%
12732 \begingroup
12733 \expandafter\HyField@SetKeys\expandafter{%
12734 \DefaultOptionsofReset,#1%
12735 }%
12736 \leavevmode
12737 \ifHy@pdfa
12738 \Hy@Error{%
12739 PDF/A: Reset action is prohibited%
12740 }\@ehc
12741 \MakeButtonField{#2}%
12742 \else
12743 \HyField@FlagsPushButton
12744 \ifFld@hidden\def\Fld@width{1sp}\fi
12745 \Hy@escapeform\PDFForm@Reset
12746 \HyField@AdvanceAnnotCount
12747 \pdfmark[\MakeButtonField{#2}]{%
12748 pdfmark=/ANN,%
12749 objdef=reset\HyField@TheAnnotCount,%
12750 Raw={\PDFForm@Reset}%
12751 }%
12752 \HyField@AddToFields{reset}%
12753 \fi
12754 \endgroup
12755 }%
12756 \def\@CheckBox[#1]#2{% parameters, label
12757 \def\Fld@name{#2}%
12758 \def\Fld@default{0}%
12759 \begingroup
12760 \def\Fld@width{\DefaultWidthofCheckBox}%
12761 \def\Fld@height{\DefaultHeightofCheckBox}%
12762 \expandafter\HyField@SetKeys\expandafter{%
12763 \DefaultOptionsofCheckBox,#1%
12764 }%
12765 \HyField@FlagsCheckBox
12766 \ifFld@hidden\def\Fld@width{1sp}\fi
12767 \HyField@AdvanceAnnotCount
12768 \LayoutCheckField{#2}{%
12769 \leavevmode
12770 \Hy@escapeform\PDFForm@Check
12771 \pdfmark[\MakeCheckField{\Fld@width}{\Fld@height}]{%
12772 pdfmark=/ANN,%
12773 objdef=check\HyField@TheAnnotCount,%

```

```

12774     Raw={\PDFForm@Check}%
12775     }%
12776     }%
12777     \HyField@AddToFields{check}%
12778 \endgroup
12779 }
12780 </pdfmark>

```

44.2 HyperTeX

```

12781 <*hypertex>
12782 \def\@Form[#1]{%
12783   \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12784 }
12785 \let\@endForm\ltx@empty
12786 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12787   \Hy@Message{Sorry, HyperTeX does not support FORM gauges}%
12788 }
12789 \def\@TextField[#1]#2{% parameters, label
12790   \Hy@Message{Sorry, HyperTeX does not support FORM text fields}%
12791 }
12792 \def\@CheckBox[#1]#2{% parameters, label
12793   \Hy@Message{Sorry, HyperTeX does not support FORM checkboxes}%
12794 }
12795 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12796   \Hy@Message{Sorry, HyperTeX does not support FORM choice menus}%
12797 }
12798 \def\@PushButton[#1]#2{% parameters, label
12799   \Hy@Message{Sorry, HyperTeX does not support FORM pushbuttons}%
12800 }
12801 \def\@Reset[#1]#2{%
12802   \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12803 }
12804 \def\@Submit[#1]#2{%
12805   \Hy@Message{Sorry, HyperTeX does not support FORMs}%
12806 }
12807 </hypertex>

```

44.3 TeX4ht

```

12808 <*tex4ht>
12809 \def\@Form[#1]{%
12810   \kvsetkeys{Form}{#1}%
12811   \HCode{<form action="\Form@action" method="\Form@method">}%
12812 }
12813 \def\@endForm{\HCode{</form>}}
12814 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12815   \Hy@Message{Sorry, TeX4ht does not support gauges}%
12816 }
12817 \def\@TextField[#1]#2{% parameters, label
12818   \let\Hy@reserved@a\@empty
12819   \def\Fld@name{#2}%
12820   \let\Fld@default\ltx@empty
12821   \bgroup
12822   \Field@toks={ }%

```

```

12823 \kvsetkeys{Field}{#1}%
12824 \HCode{<label for="\Fld@name">#2</label>}%
12825 \ifFld@password
12826 \@@PasswordField
12827 \else
12828 \@@TextField
12829 \fi
12830 \egroup
12831 }
12832 \def\@@PasswordField{%
12833 \HCode{%
12834 <input type="password" %
12835 id="\Fld@name" %
12836 name="\Fld@name" %
12837 \ifFld@hidden type="hidden" \fi
12838 value="\Fld@default" %
12839 \the\Field@toks
12840 >%
12841 }%
12842 }
12843 \def\@@TextField{%
12844 \ifFld@multiline
12845 \HCode{<textarea %
12846 \ifFld@readonly readonly \fi
12847 id="\Fld@name" %
12848 name="\Fld@name" %
12849 \ifFld@hidden type="hidden" \fi
12850 \the\Field@toks>%
12851 }%
12852 \Fld@default
12853 \HCode{</textarea>}%
12854 \else
12855 \HCode{<input type="text" %
12856 \ifFld@readonly readonly \fi
12857 id="\Fld@name" %
12858 name="\Fld@name" %
12859 \ifFld@hidden type="hidden" \fi
12860 value="\Fld@default" %
12861 \the\Field@toks>%
12862 }%
12863 \fi
12864 }
12865 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
12866 \def\Fld@name{#2}%
12867 \let\Fld@default\ltx@empty
12868 \let\Hy@reserved@a\relax
12869 \begingroup
12870 \expandafter\Fld@findlength#3\\%
12871 \Field@toks={ }%
12872 \kvsetkeys{Field}{#1}%
12873 #2%
12874 \ifFld@radio
12875 \expandafter\@@Radio#3\\%
12876 \else

```

```

12877     \expandafter\@@Menu#3\\%
12878     \fi
12879 \endgroup
12880 }
12881 \def\Fld@findlength#1\\{%
12882   \Fld@menulength=0 %
12883   \@for\@curropt:=#1\do{\Hy@StepCount\Fld@menulength}%
12884 }
12885 \def\@@Menu#1\\{%
12886   \HCode{<select size="\the\Fld@menulength" %
12887     name="\Fld@name" %
12888     \the\Field@toks>%
12889   }%
12890   \@for\@curropt:=#1\do{%
12891     \expandafter\Fld@checkequals\@curropt==\\%
12892     \HCode{<option %
12893       \ifx\@curropt\Fld@default selected \fi
12894       value="\@currValue">\@currDisplay</option>%
12895     }%
12896   }%
12897   \HCode{</select>}%
12898 }
12899 \def\@@Radio#1\\{%
12900   \@for\@curropt:=#1\do{%
12901     \expandafter\Fld@checkequals\@curropt==\\%
12902     \HCode{<input type="radio" %
12903       \ifx\@curropt\Fld@default checked \fi
12904       name="\Fld@name" %
12905       value="\@currValue" %
12906       \the\Field@toks>%
12907     }%
12908     \@currDisplay
12909   }%
12910 }
12911 \def\@PushButton[#1]#2{% parameters, label
12912   \def\Fld@name{#2}%
12913   \bgroup
12914     \Field@toks={ }%
12915     \kvsetkeys{Field}{#1}%
12916     \HCode{<input type="button" %
12917       name="\Fld@name" %
12918       value="#2" %
12919       \the\Field@toks>%
12920     }%
12921     \HCode{</button>}%
12922   \egroup
12923 }
12924 \def\@Submit[#1]#2{%
12925   \HCode{<button type="submit">#2</button>}%
12926 }
12927 \def\@Reset[#1]#2{%
12928   \HCode{<button type="reset">#2</button>}%
12929 }
12930 \def\@CheckBox[#1]#2{% parameters, label

```

```

12931 \let\Hy@reserved@a\@empty
12932 \def\Fld@name{#2}%
12933 \def\Fld@default{0}%
12934 \bgroup
12935 \Field@toks={ }%
12936 \kvsetkeys{Field}{#1}%
12937 \HCode{<input type="checkbox" %
12938 \ifFld@checked checked \fi
12939 \ifFld@disabled disabled \fi
12940 \ifFld@readonly readonly \fi
12941 name="\Fld@name" %
12942 \ifFld@hidden type="hidden" \fi
12943 value="\Fld@default" %
12944 \the\Field@toks>%
12945 #2%
12946 }%
12947 \egroup
12948 }
12949 </tex4ht>

```

44.4 pdfTeX

```

12950 (*pdfTeX)
12951 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
12952 \Hy@Message{Sorry, pdfTeX does not support FORM gauges}%
12953 }
12954 \def\MakeFieldObject#1#2{\sbox0{#1}%
12955 \immediate\pdfxform0 %
12956 \expandafter\edef\csname #2Object\endcsname{%
12957 \the\pdflastxform\space 0 R%
12958 }%
12959 % \hbox to 0pt{\hskip-\maxdimen{\pdfrefxform \the\pdflastxform}}}%
12960 }%
12961 \let\HyField@afields\ltx@empty
12962 \let\HyField@cofields\ltx@empty
12963 \@ifundefined{pdflastlink}
12964 {%
12965 \let\HyField@AddToFields\relax
12966 \PackageInfo{hyperref}{%
12967 You need pdfTeX 1.40.0 for setting the /Fields entry.%
12968 \MessageBreak
12969 Adobe Reader/Acrobat accepts an empty /Field array,%
12970 \MessageBreak
12971 but other PDF viewers might complain%
12972 }}%
12973 {%
12974 \let\HyField@AuxAddToFields\ltx@gobble
12975 \let\HyField@AuxAddToCoFields\ltx@gobbletwo
12976 \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.

```

12977 \def\HyField@ABD@AuxAddToCoFields#1#2{%
12978 \begingroup
12979 \Hy@safe@activetrue

```

```

12980 \let\ltx@secondoftwo\relax
12981 \ifx\HyField@cofields\ltx@empty
12982 \xdef\HyField@cofields{%
12983 \ltx@secondoftwo{#1}{ #2 0 R}%
12984 }%
12985 \else
12986 \let\ltx@secondoftwo\relax
12987 \def\HyField@AddCoField##1##2##3{%
12988 \ifx##1\ltx@empty
12989 \ltx@secondoftwo{#1}{ #2 0 R}%
12990 \expandafter\ltx@gobble
12991 \else
12992 \ifnum\pdfstrcmp{##2}{#1}>\ltx@zero
12993 \ltx@secondoftwo{#1}{ #2 0 R}%
12994 \ltx@secondoftwo{##2}{##3}%
12995 \expandafter\expandafter\expandafter\ltx@gobble
12996 \else
12997 \ltx@secondoftwo{##2}{##3}%
12998 \fi
12999 \fi
13000 \HyField@AddCoField
13001 }%
13002 \xdef\HyField@cofields{%
13003 \expandafter\HyField@AddCoField
13004 \HyField@cofields\ltx@empty\ltx@empty\ltx@empty
13005 }%
13006 \fi
13007 \endgroup
13008 }%
13009 \Hy@AtBeginDocument{%
13010 \if@files
13011 \immediate\write\@mainaux{%
13012 \string\providecommand\string\HyField@AuxAddToFields[1]{}%
13013 }%
13014 \immediate\write\@mainaux{%
13015 \string\providecommand\string\HyField@AuxAddToCoFields[2]{}%
13016 }%
13017 \fi
13018 \let\HyField@AfterAuxOpen\@firstofone
13019 \def\HyField@AuxAddToFields#1{%
13020 \xdef\HyField@afields{%
13021 \ifx\HyField@afields\@empty
13022 \else
13023 \HyField@afields
13024 \space
13025 \fi
13026 #1 0 R%
13027 }%
13028 }%
13029 \let\HyField@AuxAddToCoFields\HyField@ABD@AuxAddToCoFields
13030 }%
13031 \def\HyField@AddToFields{%
13032 \expandafter\HyField@@AddToFields\expandafter{%
13033 \the\pdfastlink

```

```

13034 }%
13035 \ifx\Fld@calculate@code\ltx@empty
13036 \else
13037 \begingroup
13038 \Hy@safe@activetrue
13039 \edef\Hy@temp{%
13040 \endgroup
13041 \if@filesw
13042 \write\@mainaux{%
13043 \string\HyField@AuxAddToCoFields{%
13044 \Fld@calculate@sortkey
13045 }{%
13046 \the\pdfastlink
13047 }%
13048 }%
13049 \fi
13050 }%
13051 \Hy@temp
13052 \fi
13053 }%
13054 \def\HyField@@AddToFields#1{%
13055 \HyField@AfterAuxOpen{%
13056 \if@filesw
13057 \write\@mainaux{%
13058 \string\HyField@AuxAddToFields{#1}%
13059 }%
13060 \fi
13061 }%
13062 }%
13063 }
13064 \def\@Form[#1]{%
13065 \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13066 \kvsetkeys{Form}{#1}%
13067 \pdf@ifdraftmode{}{%
13068 \Hy@FormObjects
13069 \ifnum\pdfTeXversion>13 %
13070 \pdfrefobj\OBJ@pdfdocencoding
13071 \pdfrefobj\OBJ@ZaDb
13072 \pdfrefobj\OBJ@Helv
13073 \fi
13074 \AtVeryEndDocument{%
13075 \immediate\pdfobj{%
13076 <<%
13077 /Fields[\HyField@afields]%
13078 \ifx\HyField@cofields\ltx@empty
13079 \else
13080 /CO[\romannumeral-`\Q\HyField@cofields]%
13081 \fi
13082 /DR<<%
13083 /Font<<%
13084 /ZaDb \OBJ@ZaDb\space 0 R%
13085 /Helv \OBJ@Helv\space 0 R%
13086 >>%
13087 >>%

```

```

13088      /DA(/Helv 10 Tf 0 g)%
13089      \ifHy@pdfa
13090      \else
13091        \ifHyField@NeedAppearances
13092          /NeedAppearances true%
13093        \fi
13094      \fi
13095    >>%
13096  }%
13097  \edef\OBJ@acroform{\the\pdfflastobj}%
13098  \pdfcatalog{/AcroForm \OBJ@acroform\space 0 R}%
13099  }%
13100 }%
13101 \MakeFieldObject{%
Same as \ding{123} of package pifont.
13102 \begingroup
13103   \fontfamily{pzd}%
13104   \fontencoding{U}%
13105   \fontseries{m}%
13106   \fontshape{n}%
13107   \selectfont
13108   \char123 %
13109 \endgroup
13110 }{Ding}%
13111 \MakeFieldObject{%
13112   \fbox{\textcolor{yellow}{\textsf{Submit}}}%
13113 }{Submit}%
13114 \MakeFieldObject{%
13115   \fbox{\textcolor{yellow}{\textsf{SubmitP}}}%
13116 }{SubmitP}%
13117 }
13118 \let\@endForm\ltx@empty
13119 \let\HyAnn@AbsPageLabel\ltx@empty
13120 \let\Fld@pageobjref\ltx@empty
13121 \ltx@ifundefined{pdfpageref}{%
13122 }{%
13123   \ltx@ifpackageloaded{zref-abspage}{%
13124     \newcount\HyAnn@Count
13125     \HyAnn@Count=\ltx@zero
13126     \def\HyAnn@AbsPageLabel{%
13127       \global\advance\HyAnn@Count by\ltx@one
13128       \zref@labelbyprops{HyAnn@\the\HyAnn@Count}{abspage}%
13129       \zref@refused{HyAnn@\the\HyAnn@Count}%
13130     }%
13131     \def\Fld@pageobjref{%
13132       \zref@ifrefundefined{HyAnn@\the\HyAnn@Count}{%
13133       }{%
13134         \zref@ifrefcontainsprop{HyAnn@\the\HyAnn@Count}{abspage}{%
13135           /P \pdfpageref
13136           \zref@extractdefault{HyAnn@\the\HyAnn@Count}{abspage}{1} %
13137           \space 0 R%
13138         }{%
13139         }%
13140       }%

```

```

13141 }%
13142 }{%
13143 }%
13144 }

13145 \def\@TextField[#1]#2{% parameters, label
13146 \def\Fld@name{#2}%
13147 \let\Fld@default\ltx@empty
13148 \let\Fld@value\@empty
13149 \def\Fld@width{\DefaultWidthofText}%
13150 \def\Fld@height{%
13151 \ifFld@multiline
13152 \DefaultHeightofTextMultiline
13153 \else
13154 \DefaultHeightofText
13155 \fi
13156 }%
13157 \begingroup
13158 \expandafter\HyField@SetKeys\expandafter{%
13159 \DefaultOptionsofText,#1%
13160 }%
13161 \PDFForm@Name
13162 \HyField@FlagsText
13163 \ifFld@hidden\def\Fld@width{1sp}\fi
13164 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13165 \LayoutTextField{#2}{%
13166 \leavevmode
13167 \HyAnn@AbsPageLabel
13168 \Hy@escapeform\PDFForm@Text
13169 \pdfstartlink user {\PDFForm@Text}\relax
13170 \MakeTextField{\Fld@width}{\Fld@height}\pdfendlink
13171 \HyField@AddToFields
13172 }%
13173 \endgroup
13174 }

13175 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13176 \def\Fld@name{#2}%
13177 \let\Fld@default\relax
13178 \let\Fld@value\relax
13179 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13180 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13181 \begingroup
13182 \Fld@menulength=0 %
13183 \@tempdima\z@
13184 \@for\@curropt:=#3\do{%
13185 \expandafter\Fld@checkequals\@curropt==\%
13186 \Hy@StepCount\Fld@menulength
13187 \settowidth{\@tempdimb}{\@currDisplay}%
13188 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13189 }%
13190 \advance\@tempdima by 15\p@
13191 \begingroup
13192 \HyField@SetKeys{#1}%
13193 \edef\x{\endgroup
13194 \noexpand\expandafter

```

```

13195 \noexpand\HyField@SetKeys
13196 \noexpand\expandafter{%
13197 \expandafter\noexpand\csname DefaultOptionsof%
13198 \ifFld@radio
13199 Radio%
13200 \else
13201 \ifFld@combo
13202 \ifFld@popdown
13203 PopdownBox%
13204 \else
13205 ComboBox%
13206 \fi
13207 \else
13208 ListBox%
13209 \fi
13210 \fi
13211 \endcsname
13212 }%
13213 }\x
13214 \HyField@SetKeys{#1}%
13215 \PDFForm@Name
13216 \ifFld@hidden\def\Fld@width{1sp}\fi
13217 \ifx\Fld@value\relax
13218 \let\Fld@value\Fld@default
13219 \fi
13220 \LayoutChoiceField{#2}{%
13221 \ifFld@radio
13222 \HyField@FlagsRadioButton
13223 \@@Radio{#3}%
13224 \else
13225 \begingroup
13226 \HyField@FlagsChoice
13227 \ifdim\Fld@width<\@tempdima
13228 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13229 \edef\Fld@width{\the\@tempdima}%
13230 \fi
13231 \ifFld@combo
13232 \else
13233 \@tempdima=\the\Fld@menulength\Fld@charsize
13234 \advance\@tempdima by \Fld@borderwidth bp %
13235 \advance\@tempdima by \Fld@borderwidth bp %
13236 \edef\Fld@height{\the\@tempdima}%
13237 \fi
13238 \@@ListBox{#3}%
13239 \endgroup
13240 \fi
13241 }%
13242 \endgroup
13243 }
13244 \def\@@Radio#1{%
13245 \Fld@listcount=0 %
13246 \EdefEscapeName\Fld@default{\Fld@default}%
13247 \@for\@curropt:=#1\do{%
13248 \expandafter\Fld@checkequals\@curropt==\%

```

```

13249 \EdefEscapeName\@currValue{\@currValue}%
13250 \Hy@StepCount\Fld@listcount
13251 \@currDisplay\space
13252 \leavevmode
13253 \HyAnn@AbsPageLabel
13254 \Hy@escapeform\PDFForm@Radio
13255 \pdfstartlink user {%
13256 \PDFForm@Radio
13257 /AP<<%
13258 /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.

```

13259 \/\@currValue\space \DingObject
13260 >>%
13261 >>%
13262 }%
13263 \relax
13264 \MakeRadioField{\Fld@width}{\Fld@height}\pdfendlink
13265 \ifnum\Fld@listcount=1 %
13266 \HyField@AddToFields
13267 \fi
13268 \space % deliberate space between radio buttons
13269 }%
13270 }
13271 \newcount\Fld@listcount
13272 \def\@@ListBox#1{%
13273 \HyField@PDFChoices{#1}%
13274 \leavevmode
13275 \HyAnn@AbsPageLabel
13276 \Hy@escapeform\PDFForm@List
13277 \pdfstartlink user {\PDFForm@List}\relax
13278 \MakeChoiceField{\Fld@width}{\Fld@height}%
13279 \pdfendlink
13280 \HyField@AddToFields
13281 }
13282 \def\@PushButton[#1]#2{% parameters, label
13283 \def\Fld@name{#2}%
13284 \begingroup
13285 \expandafter\HyField@SetKeys\expandafter{%
13286 \DefaultOptionsofPushButton,#1%
13287 }%
13288 \PDFForm@Name
13289 \ifHy@pdfa
13290 \Hy@Error{%
13291 PDF/A: Push button with JavaScript is prohibited%
13292 }\@ehc
13293 \LayoutPushButtonField{%
13294 \leavevmode
13295 \MakeButtonField{#2}%
13296 }%
13297 \else
13298 \HyField@FlagsPushButton

```

```

13299     \ifFld@hidden\def\Fld@width{1sp}\fi
13300     \LayoutPushButtonField{%
13301         \leavevmode
13302         \HyAnn@AbsPageLabel
13303         \Hy@escapeform\PDFForm@Push
13304         \pdfstartlink user {\PDFForm@Push}\relax
13305         \MakeButtonField{#2}%
13306         \pdfendlink
13307         \HyField@AddToFields
13308     }%
13309     \fi
13310 \endgroup
13311 }
13312 \def\@Submit[#1]#2{%
13313     \def\Fld@width{\DefaultWidthofSubmit}%
13314     \def\Fld@height{\DefaultHeightofSubmit}%
13315     \begingroup
13316         \expandafter\HyField@SetKeys\expandafter{%
13317             \DefaultOptionsofSubmit,#1%
13318         }%
13319         \HyField@FlagsPushButton
13320         \HyField@FlagsSubmit
13321         \ifFld@hidden\def\Fld@width{1sp}\fi
13322         \leavevmode
13323         \HyAnn@AbsPageLabel
13324         \Hy@escapeform\PDFForm@Submit
13325         \pdfstartlink user {%
13326             \PDFForm@Submit
13327             /AP<</N \SubmitObject/D \SubmitPObject>>%
13328         }%
13329         \relax
13330         \MakeButtonField{#2}%
13331         \pdfendlink
13332         \HyField@AddToFields
13333     \endgroup
13334 }
13335 \def\@Reset[#1]#2{%
13336     \def\Fld@width{\DefaultWidthofReset}%
13337     \def\Fld@height{\DefaultHeightofReset}%
13338     \begingroup
13339         \expandafter\HyField@SetKeys\expandafter{%
13340             \DefaultOptionsofReset,#1%
13341         }%
13342         \leavevmode
13343         \ifHy@pdfa
13344             \Hy@Error{%
13345                 PDF/A: Reset action is prohibited%
13346             }\@ehc
13347             \MakeButtonField{#2}%
13348         \else
13349             \HyField@FlagsPushButton
13350             \ifFld@hidden\def\Fld@width{1sp}\fi
13351             \HyAnn@AbsPageLabel
13352             \Hy@escapeform\PDFForm@Reset

```

```

13353 \pdfstartlink user {\PDFForm@Reset}\relax
13354 \MakeButtonField{#2}%
13355 \pdfendlink
13356 \HyField@AddToFields
13357 \fi
13358 \endgroup
13359 }
13360 \def\@CheckBox[#1]#2{% parameters, label
13361 \def\Fld@name{#2}%
13362 \def\Fld@default{0}%
13363 \begingroup
13364 \def\Fld@width{\DefaultWidthofCheckBox}%
13365 \def\Fld@height{\DefaultHeightofCheckBox}%
13366 \expandafter\HyField@SetKeys\expandafter{%
13367 \DefaultOptionsofCheckBox,#1%
13368 }%
13369 \PDFForm@Name
13370 \HyField@FlagsCheckBox
13371 \ifFld@hidden\def\Fld@width{1sp}\fi
13372 \LayoutCheckField{#2}{%
13373 \leavevmode
13374 \HyAnn@AbsPageLabel
13375 \Hy@escapeform\PDFForm@Check
13376 \pdfstartlink user {\PDFForm@Check}\relax
13377 \MakeCheckField{\Fld@width}{\Fld@height}%
13378 \pdfendlink
13379 \HyField@AddToFields
13380 }%
13381 \endgroup
13382 }
13383 \def\Hy@FormObjects{%
13384 \pdfobj {%
13385 <<%
13386 /Type/Encoding%
13387 /Differences[%
13388 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek%
13389 /ring/tilde %
13390 39/quotesingle %
13391 96/grave %
13392 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13393 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13394 /quotedblbase/quotedblleft/quotedblright/quoteleft%
13395 /quoteright/quotesinglbase/trademark/fi/fl/Lslash/OE%
13396 /Scaron/Ydieresis/Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13397 160/Euro %
13398 164/currency %
13399 166/brokenbar %
13400 168/dieresis/copyright/ordfeminine %
13401 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13402 /twosuperior/threesuperior/acute/mu %
13403 183/periodcentered/cedilla/onesuperior/ordmasculine %
13404 188/onequarter/onehalf/threequarters %
13405 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13406 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave%

```

```

13407      /Iacute/Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute%
13408      /Ocircumflex/Otilde/Odieresis/multiply/Oslash/Ugrave%
13409      /Uacute/Ucircumflex/Udieresis/Yacute/Thorn/germandbls%
13410      /agrave/aacute/acircumflex/atilde/adieresis/aring/ae%
13411      /cedilla/egrave/eacute/ecircumflex/edieresis/igrave%
13412      /iacute/icircumflex/idieresis/eth/ntilde/ograde/oacute%
13413      /ocircumflex/otilde/odieresis/divide/oslash/ugrave%
13414      /uacute/ucircumflex/udieresis/yacute/thorn/ydieresis%
13415      ]%
13416      >>%
13417      }%
13418      \xdef\OBJ@pdfdocencoding{\the\pdfflastobj}%
13419      \pdfobj{%
13420      <<%
13421      /Type/Font%
13422      /Subtype/Type1%
13423      /Name/ZaDb%
13424      /BaseFont/ZapfDingbats%
13425      >>%
13426      }%
13427      \xdef\OBJ@ZaDb{\the\pdfflastobj}%
13428      \pdfobj{%
13429      <<%
13430      /Type/Font%
13431      /Subtype/Type1%
13432      /Name/Helv%
13433      /BaseFont/Helvetica%
13434      /Encoding \OBJ@pdfdocencoding\space 0 R%
13435      >>%
13436      }%
13437      \xdef\OBJ@Helv{\the\pdfflastobj}%
13438      \global\let\Hy@FormObjects\relax
13439      }
13440      </pdfTeX>

```

44.5 dvipdfm, xetex

D. P. Story adapted the pdf \TeX forms part for dvipdfm, of which version 0.12.7b or higher is required because of a bug.

```
13441 <*\dvipdfm | xetex>
```

\@Gauge

```

13442 \def\@Gauge[#1]#2#3#4{% parameters, label, minimum, maximum
13443 \Hy@Message{Sorry, dvipdfm/XeTeX does not support FORM gauges}%
13444 }

```

\@Form

```

13445 \def\@Form[#1]{%
13446 \ifundefined{textcolor}{\let\textcolor\@gobble}{}%
13447 \kvsetkeys{Form}{#1}%
13448 \Hy@FormObjects
13449 \@pdfm@mark{obj @afields []}%
13450 \@pdfm@mark{obj @corder []}%
13451 \@pdfm@mark{%

```

```

13452     obj @aform <<%
13453     /Fields @afields%
13454     /DR<<%
13455     /Font<<%
13456     /ZaDb @OBJZaDb%
13457     /Helv @OBJHelv%
13458     >>%
13459     >>%
13460     /DA(/Helv 10 Tf 0 g)%
13461     /CO @corder%
13462     \ifHy@pdfa
13463     \else
13464     \ifHyField@NeedAppearances
13465     /NeedAppearances true%
13466     \fi
13467     \fi
13468     >>%
13469     }%
13470     \@pdfm@mark{put @catalog <</AcroForm @aform>>}%
13471 }

\@endForm

13472 \let\@endForm\ltx@empty

\dvipdfm@setdim \\\expandafter \cmd@to@cs \string \dvipdfm @setdim sets dimensions for ann
using \\\expandafter \cmd@to@cs \string \pdfm @box.
13473 \def\dvipdfm@setdim{%
13474   height \the\ht\pdfm@box\space
13475   width \the\wd\pdfm@box\space
13476   depth \the\dp\pdfm@box\space
13477 }

\HyField@AnnotCount

13478 \newcount\HyField@AnnotCount
13479 \HyField@AnnotCount=\z@

\HyField@AdvanceAnnotCount

13480 \def\HyField@AdvanceAnnotCount{%
13481   \global\advance\HyField@AnnotCount\@ne
13482 }

\HyField@TheAnnotCount

13483 \def\HyField@TheAnnotCount{%
13484   \the\HyField@AnnotCount
13485 }

\Fld@pageobjref

13486 \def\Fld@pageobjref{/P @thispage}%

\HyField@AddToFields

13487 \def\HyField@AddToFields#1{%
13488   \@pdfm@mark{put @afields @#1\HyField@TheAnnotCount}%
13489   \ifx\Fld@calculate@code\ltx@empty

```

```

13490 \else
13491 \@pdfm@mark{put @corder @#1\HyField@TheAnnotCount}%
13492 \fi
13493 }

```

\@TextField

```

13494 \def\@TextField[#1]#2{% parameters, label
13495 \def\Fld@name{#2}%
13496 \let\Fld@default\ltx@empty
13497 \let\Fld@value\@empty
13498 \def\Fld@width{\DefaultWidthofText}%
13499 \def\Fld@height{%
13500 \ifFld@multiline
13501 \DefaultHeightofTextMultiline
13502 \else
13503 \DefaultHeightofText
13504 \fi
13505 }%
13506 \begingroup
13507 \expandafter\HyField@SetKeys\expandafter{%
13508 \DefaultOptionsofText,#1%
13509 }%
13510 \PDFForm@Name
13511 \HyField@FlagsText
13512 \ifFld@hidden\def\Fld@width{1sp}\fi
13513 \ifx\Fld@value\@empty\def\Fld@value{\Fld@default}\fi
13514 \setbox\pdfm@box=\hbox{%
13515 \MakeTextField{\Fld@width}{\Fld@height}%
13516 }%
13517 \HyField@AdvanceAnnotCount
13518 \LayoutTextField{#2}{%
13519 \leavevmode
13520 \Hy@escapeform\PDFForm@Text
13521 \@pdfm@mark{%
13522 ann @text\HyField@TheAnnotCount\space
13523 \dvipdfm@setdim << \PDFForm@Text >>%
13524 }%
13525 }%
13526 \unhbox\pdfm@box
13527 \HyField@AddToFields{text}%
13528 % record in @afields array
13529 \endgroup
13530 }

```

\@ChoiceMenu

```

13531 \def\@ChoiceMenu[#1]#2#3{% parameters, label, choices
13532 \def\Fld@name{#2}%
13533 \let\Fld@default\relax
13534 \let\Fld@value\relax
13535 \def\Fld@width{\DefaultWidthofChoiceMenu}%
13536 \def\Fld@height{\DefaultHeightofChoiceMenu}%
13537 \begingroup
13538 \Fld@menulength=0 %
13539 \@tempdima\z@

```

```

13540 \@for\@curropt:=#3\do{%
13541 \expandafter\Fld@checkequals\@curropt==\\%
13542 \Hy@StepCount\Fld@menulength
13543 \settowidth{\@tempdimb}{\@currDisplay}%
13544 \ifdim\@tempdimb>\@tempdima\@tempdima\@tempdimb\fi
13545 }%
13546 \advance\@tempdima by 15\p@
13547 \begingroup
13548 \HyField@SetKeys{#1}%
13549 \edef\x{\endgroup
13550 \noexpand\expandafter
13551 \noexpand\HyField@SetKeys
13552 \noexpand\expandafter{%
13553 \expandafter\noexpand\csname DefaultOptionsof%
13554 \ifFld@radio
13555 Radio%
13556 \else
13557 \ifFld@combo
13558 \ifFld@popdown
13559 PopdownBox%
13560 \else
13561 ComboBox%
13562 \fi
13563 \else
13564 ListBox%
13565 \fi
13566 \fi
13567 \endcsname
13568 }%
13569 }\x
13570 \HyField@SetKeys{#1}%
13571 \PDFForm@Name
13572 \ifFld@hidden\def\Fld@width{1sp}\fi
13573 \ifx\Fld@value\relax
13574 \let\Fld@value\Fld@default
13575 \fi
13576 \LayoutChoiceField{#2}{%
13577 \ifFld@radio
13578 \HyField@FlagsRadioButton
13579 \@Radio{#3}%
13580 \else
13581 \begingroup
13582 \HyField@FlagsChoice
13583 \ifdim\Fld@width<\@tempdima
13584 \ifdim\@tempdima<1cm\@tempdima1cm\fi
13585 \edef\Fld@width{\the\@tempdima}%
13586 \fi
13587 \ifFld@combo
13588 \else
13589 \@tempdima=\the\Fld@menulength\Fld@charsize
13590 \advance\@tempdima by \Fld@borderwidth bp %
13591 \advance\@tempdima by \Fld@borderwidth bp %
13592 \edef\Fld@height{\the\@tempdima}%
13593 \fi

```

```

13594     \@@Listbox{#3}%
13595     \endgroup
13596     \fi
13597   }%
13598 \endgroup
13599 }

\@@Radio
13600 \def\@@Radio#1{%
13601   \Fld@listcount=0 %
13602   \EdefEscapeName\Fld@default{\Fld@default}%
13603   \setbox\pdfm@box=\hbox{%
13604     \MakeRadioField{\Fld@width}{\Fld@height}%
13605   }%
13606   \@for\@curropt:=#1\do{%
13607     \expandafter\Fld@checkequals\@curropt==\\%
13608     \EdefEscapeName\@currValue{\@currValue}%
13609     \Hy@StepCount\Fld@listcount
13610     \@currDisplay\space
13611     \leavevmode
13612     \Hy@escapeform\PDFForm@Radio
13613     \ifnum\Fld@listcount=1 %
13614       \HyField@AdvanceAnnotCount
13615     \fi
13616     \@pdfm@mark{%
13617       ann %
13618       \ifnum\Fld@listcount=1 %
13619         @radio\HyField@TheAnnotCount%
13620       \space
13621     \fi
13622     \dvipdfm@setdim
13623     <<%
13624     \PDFForm@Radio
13625     /AP<</N<</\@currValue /null>>>>%
13626     >>%
13627   }%
13628   \unhcopy\pdfm@box\space% deliberate space between radio buttons
13629   \ifnum\Fld@listcount=1 %
13630     \HyField@AddToFields{radio}%
13631   \fi
13632 }%
13633 }

\Fld@listcount
13634 \newcount\Fld@listcount

\@@Listbox
13635 \def\@@Listbox#1{%
13636   \HyField@PDFChoices{#1}%
13637   \setbox\pdfm@box=\hbox{%
13638     \MakeChoiceField{\Fld@width}{\Fld@height}%
13639   }%
13640   \leavevmode
13641   \Hy@escapeform\PDFForm@List

```

```

13642 \HyField@AdvanceAnnotCount
13643 \@pdfm@mark{%
13644   ann @list\HyField@TheAnnotCount\space
13645   \dvipdfm@setdim
13646   <<\PDFForm@List>>%
13647 }%
13648 \unhbox\pdfm@box
13649 \HyField@AddToFields{list}%
13650 }

```

\@PushButton

```

13651 \def\@PushButton[#1]#2{% parameters, label
13652 \def\Fld@name{#2}%
13653 \begingroup
13654 \expandafter\HyField@SetKeys\expandafter{%
13655   \DefaultOptionsofPushButton,#1%
13656 }%
13657 \PDFForm@Name
13658 \ifHy@pdfa
13659   \Hy@Error{%
13660     PDF/A: Push button with JavaScript is prohibited%
13661   }\@ehc
13662   \LayoutPushButtonField{%
13663     \leavevmode
13664     \MakeButtonField{#2}%
13665   }%
13666 \else
13667   \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13668   \HyField@FlagsPushButton
13669   \ifFld@hidden\def\Fld@width{1sp}\fi
13670   \HyField@AdvanceAnnotCount
13671   \LayoutPushButtonField{%
13672     \leavevmode
13673     \Hy@escapeform\PDFForm@Push
13674     \@pdfm@mark{%
13675       ann @push\HyField@TheAnnotCount\space
13676       \dvipdfm@setdim
13677       <<\PDFForm@Push>>%
13678     }%
13679   }%
13680   \unhbox\pdfm@box
13681   \HyField@AddToFields{push}%
13682 \fi
13683 \endgroup
13684 }

```

\@Submit

```

13685 \def\@Submit[#1]#2{%
13686 \def\Fld@width{\DefaultWidthofSubmit}%
13687 \def\Fld@height{\DefaultHeightofSubmit}%
13688 \begingroup
13689 \expandafter\HyField@SetKeys\expandafter{%
13690   \DefaultOptionsofSubmit,#1%
13691 }%

```

```

13692 \HyField@FlagsPushButton
13693 \HyField@FlagsSubmit
13694 \ifFld@hidden\def\Fld@width{1sp}\fi
13695 \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13696 \leavevmode
13697 \Hy@escapeform\PDFForm@Submit
13698 \HyField@AdvanceAnnotCount
13699 \@pdfm@mark{%
13700   ann @submit\HyField@TheAnnotCount\space
13701   \dvi pdfm@setdim
13702   <<\PDFForm@Submit>>%
13703 }%
13704 \unhbox\pdfm@box%
13705 \HyField@AddToFields{submit}%
13706 \endgroup
13707 }

```

\@Reset

```

13708 \def\@Reset[#1]#2{%
13709   \def\Fld@width{\DefaultWidthofReset}%
13710   \def\Fld@height{\DefaultHeightofReset}%
13711   \begingroup
13712     \expandafter\HyField@SetKeys\expandafter{%
13713       \DefaultOptionsofReset,#1%
13714     }%
13715     \leavevmode
13716     \ifHy@pdfa
13717       \Hy@Error{%
13718         PDF/A: Reset action is prohibited%
13719       }\@ehc
13720       \MakeButtonField{#2}%
13721     \else
13722       \HyField@FlagsPushButton
13723       \ifFld@hidden\def\Fld@width{1sp}\fi
13724       \setbox\pdfm@box=\hbox{\MakeButtonField{#2}}%
13725       \Hy@escapeform\PDFForm@Reset
13726       \HyField@AdvanceAnnotCount
13727       \@pdfm@mark{%
13728         ann @reset\HyField@TheAnnotCount\space
13729         \dvi pdfm@setdim
13730         <<\PDFForm@Reset>>%
13731       }%
13732       \unhbox\pdfm@box
13733       \HyField@AddToFields{reset}%
13734     \fi
13735   \endgroup
13736 }

```

\@CheckBox

```

13737 \def\@CheckBox[#1]#2{% parameters, label
13738   \def\Fld@name{#2}%
13739   \def\Fld@default{0}%
13740   \begingroup
13741     \def\Fld@width{\DefaultWidthofCheckBox}%

```

```

13742 \def\Fld@height{\DefaultHeightofCheckBox}%
13743 \expandafter\HyField@SetKeys\expandafter{%
13744 \DefaultOptionsofCheckBox,#1%
13745 }%
13746 \PDFForm@Name
13747 \HyField@FlagsCheckBox
13748 \ifFld@hidden\def\Fld@width{1sp}\fi
13749 \setbox\pdfm@box=\hbox{%
13750 \MakeCheckField{\Fld@width}{\Fld@height}%
13751 }%
13752 \HyField@AdvanceAnnotCount
13753 \LayoutCheckField{#2}{%
13754 \leavevmode
13755 \Hy@escapeform\PDFForm@Check
13756 \@pdfm@mark{%
13757 ann @check\HyField@TheAnnotCount\space
13758 \dvi pdfm@setdim
13759 <<\PDFForm@Check>>%
13760 }%
13761 \unhbox\pdfm@box
13762 \HyField@AddToFields{check}%
13763 }%
13764 \endgroup
13765 }

13766 \def\Hy@FormObjects{%
13767 \@pdfm@mark{obj @OBJpdfdocencoding%
13768 <<%
13769 /Type/Encoding%
13770 /Differences[%
13771 24/breve/caron/circumflex/dotaccent/hungarumlaut/ogonek/ring/tilde %
13772 39/quotesingle %
13773 96/grave %
13774 128/bullet/dagger/daggerdbl/ellipsis/emdash/endash/florin%
13775 /fraction/guilsinglleft/guilsinglright/minus/perthousand%
13776 /quotedblbase/quotedblleft/quotedblright/quoteleft/quoteright%
13777 /quotesinglbase/trademark/ff/fi/Lslash/OE/Scaron/Ydieresis%
13778 /Zcaron/dotlessi/lslash/oe/scaron/zcaron %
13779 160/Euro %
13780 164/currency %
13781 166/brokenbar %
13782 168/dieresis/copyright/ordfeminine %
13783 172/logicalnot/.notdef/registered/macron/degree/plusminus%
13784 /twosuperior/threesuperior/acute/mu %
13785 183/periodcentered/cedilla/onesuperior/ordmasculine %
13786 188/onequarter/onehalf/threequarters %
13787 192/Agrave/Aacute/Acircumflex/Atilde/Adieresis/Aring/AE%
13788 /Ccedilla/Egrave/Eacute/Ecircumflex/Edieresis/Igrave/Iacute%
13789 /Icircumflex/Idieresis/Eth/Ntilde/Ograve/Oacute/Ocircumflex%
13790 /Otilde/Odieresis/multiply/Oslash/Ugrave/Uacute/Ucircumflex%
13791 /Udieresis/Yacute/Thorn/germandbls/agrave/aacute/acircumflex%
13792 /atilde/adieresis/aring/ae/ccedilla/egrave/eacute%
13793 /ecircumflex/edieresis/igrave/iacute/icircumflex/idieresis%
13794 /eth/ntilde/ograve/oacute/ocircumflex/otilde/odieresis%

```

```

13795      /divide/oslash/ugrave/uacute/ucircumflex/udieresis/yacute%
13796      /thorn/ydieresis%
13797    ]%
13798  >>%
13799 }%
13800 \@pdfm@mark{obj @OBJZaDb%
13801   <<%
13802     /Type/Font%
13803     /Subtype/Type1%
13804     /Name/ZaDb%
13805     /BaseFont/ZapfDingbats%
13806   >>%
13807 }%
13808 \@pdfm@mark{obj @OBJHelv%
13809   <<%
13810     /Type/Font%
13811     /Subtype/Type1%
13812     /Name/Helv%
13813     /BaseFont/Helvetica%
13814     /Encoding @OBJpdfdocencoding%
13815   >>%
13816 }%
13817 \global\let\Hy@FormObjects\relax
13818 }
13819 </dvipdfm | xetex>

```

44.6 Common forms part

```

13820 (*pdfform)

\Fld@pageobjref

13821 \providecommand*{\Fld@pageobjref}{}

\Hy@escapestring

13822 \@ifundefined{pdf@escapestring}
13823 {%
13824   \let\Hy@escapestring\@firstofone
13825   \def\Hy@escapeform#1{%
13826     \ifHy@pdfescapeform
13827       \def\Hy@escapestring###1{%
13828         \noexpand\Hy@escapestring{\noexpand###1}%
13829       }%
13830     \edef\Hy@temp{#1}%
13831     \expandafter\Hy@@escapeform\Hy@temp\Hy@escapestring{}\@nil
13832     \def\Hy@escapestring###1{%
13833       \@ifundefined{Hy@esc@\string###1}{%
13834         ###1%
13835       }{
13836         \ThisShouldNotHappen
13837       }%
13837     \csname Hy@esc@\string###1\endcsname
13838     }%
13839   }%
13840 \else
13841   \let\Hy@escapestring\@firstofone

```

```

13842 \fi
13843 }%
13844 \def\Hy@@escapeform#1\Hy@escapestring#2#3\@nil{%
13845 \ifx\|#3\|
13846 \else
13847 \expandafter
13848 \Hy@pstringdef\csname Hy@esc@\string#2\endcsname{#2}%
13849 \ltx@ReturnAfterFi{%
13850 \Hy@@escapeform#3\@nil
13851 }%
13852 \fi
13853 }%
13854 }{%
13855 \def\Hy@escapeform#1{%
13856 \ifHy@pdfescapeform
13857 \let\Hy@escapestring\pdfescapestring
13858 \else
13859 \let\Hy@escapestring\@firstofone
13860 \fi
13861 }%
13862 \Hy@escapeform}%
13863 }

```

\PDFForm@Name

```

13864 \def\PDFForm@Name{%
13865 \PDFForm@@Name\Fld@name
13866 \ifx\Fld@altname\relax
13867 \else
13868 \PDFForm@@Name\Fld@altname
13869 \fi
13870 \ifx\Fld@mappingname\relax
13871 \else
13872 \PDFForm@@Name\Fld@mappingname
13873 \fi
13874 }

```

\PDFForm@@Name

```

13875 \def\PDFForm@@Name#1{%
13876 \begingroup
13877 \ifnum\Hy@pdf@major@minor@version<105 % implementation note 117, PDF spec 1.7
13878 \ifHy@unicode
13879 \Hy@unicodedefalse
13880 \fi
13881 \fi
13882 \pdfstringdef\Hy@gtemp#1%
13883 \endgroup
13884 \let#1\Hy@gtemp
13885 }

```

\Fld@additionalactions

```

13886 \def\Fld@@additionalactions{%
K input (keystroke) format
13887 \ifx\Fld@keystroke@code\empty

```

```

13888 \else
13889 /K<</S/JavaScript/JS(\Hy@escapestring{\Fld@keystroke@code})>>%
13890 \fi

F display format
13891 \ifx\Fld@format@code\@empty
13892 \else
13893 /F<</S/JavaScript/JS(\Hy@escapestring{\Fld@format@code})>>%
13894 \fi

V validation
13895 \ifx\Fld@validate@code\@empty
13896 \else
13897 /V<</S/JavaScript/JS(\Hy@escapestring{\Fld@validate@code})>>%
13898 \fi

C calculation
13899 \ifx\Fld@calculate@code\@empty
13900 \else
13901 /C<</S/JavaScript/JS(\Hy@escapestring{\Fld@calculate@code})>>%
13902 \fi

Fo receiving the input focus
13903 \ifx\Fld@onfocus@code\@empty
13904 \else
13905 /Fo<</S/JavaScript/JS(\Hy@escapestring{\Fld@onfocus@code})>>%
13906 \fi

Bl loosing the input focus (blurred)
13907 \ifx\Fld@onblur@code\@empty
13908 \else
13909 /Bl<</S/JavaScript/JS(\Hy@escapestring{\Fld@onblur@code})>>%
13910 \fi

D pressing the mouse button (down)
13911 \ifx\Fld@onmousedown@code\@empty
13912 \else
13913 /D<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmousedown@code})>>%
13914 \fi

U releasing the mouse button (up)
13915 \ifx\Fld@onmouseup@code\@empty
13916 \else
13917 /U<</S/JavaScript/JS(\Hy@escapestring{\Fld@onmouseup@code})>>%
13918 \fi

E cursor enters the annotation's active area.
13919 \ifx\Fld@onenter@code\@empty
13920 \else
13921 /E<</S/JavaScript/JS(\Hy@escapestring{\Fld@onenter@code})>>%
13922 \fi

X cursor exits the annotation's active area.
13923 \ifx\Fld@onexit@code\@empty
13924 \else
13925 /X<</S/JavaScript/JS(\Hy@escapestring{\Fld@onexit@code})>>%
13926 \fi
13927 }

```

```

13928 \def\Fld@additionalactions{%
13929   \if-\Fld@@additionalactions-%
13930   \else
13931     \ifHy@pdfa
13932     \else
13933       /AA<<\Fld@@additionalactions>>%
13934     \fi
13935   \fi
13936 }

```

\Fld@annotnames

```

13937 \def\Fld@annotnames{%
13938   /T(\Fld@name)%
13939   \ifx\Fld@altname\relax
13940   \else
13941     /TU(\Fld@altname)%
13942   \fi
13943   \ifx\Fld@mappingname\relax
13944   \else
13945     /TM(\Fld@mappingname)%
13946   \fi
13947 }

```

\PDFForm@Check

```

13948 \def\PDFForm@Check{%
13949   /Subtype/Widget%
13950   \Fld@annotflags
13951   \Fld@pageobjref
13952   \Fld@annotnames
13953   /FT/Btn%
13954   \Fld@flags
13955   /Q \Fld@align
13956   /BS<</W \Fld@borderwidth /S/\Fld@borderstyle>>%
13957   /AP<< /N <</Yes<<>>>> >> %new string /Yes is from below
13958   /MK<<%
13959     \ifnum\Fld@rotation=\z@
13960     \else
13961       /R \Fld@rotation
13962     \fi
13963     \ifx\Fld@bordercolor\relax
13964     \else
13965       /BC[\Fld@bordercolor]%
13966     \fi
13967     \ifx\Fld@bcolor\relax
13968     \else
13969       /BG[\Fld@bcolor]%
13970     \fi
13971     /CA(\Hy@escapestring{\Fld@cbsymbol})%
13972   >>%
13973   /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
13974     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
13975   /H/P%
13976   \ifFld@checked /V/Yes/AS/Yes\else /V/Off/AS/Off\fi
13977   \Fld@additionalactions

```

13978 }

\PDFForm@Push

```
13979 \ifHy@pdfa
13980 \else
13981 \def\PDFForm@Push{%
13982   /Subtype/Widget%
13983   \Fld@annotflags
13984   \Fld@pageobjref
13985   \Fld@annotnames
13986   /FT/Btn%
13987   \Fld@flags
13988   /H/P%
13989   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
13990   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
13991     \ifx\Fld@bordercolor\relax\else 1\fi
13992     \space
13993   \else
13994     /MK<<%
13995     \ifnum\Fld@rotation=\z@
13996     \else
13997       /R \Fld@rotation
13998     \fi
13999     \ifx\Fld@bordercolor\relax
14000     \else
14001       /BC[\Fld@bordercolor]%
14002     \fi
14003     >>%
14004   \fi
14005   /A<</S/JavaScript/JS(\Hy@escapestring{\Fld@onclick@code})>>%
14006   \Fld@additionalactions
14007 }%
14008 \fi
```

\PDFForm@List

```
14009 \def\PDFForm@List{%
14010   /Subtype/Widget%
14011   \Fld@annotflags
14012   \Fld@pageobjref
14013   \Fld@annotnames
14014   /FT/Ch%
14015   \Fld@flags
14016   /Q \Fld@align
14017   /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14018   \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14019     \ifx\Fld@bordercolor\relax\else 1\fi
14020     \ifx\Fld@bcolor\relax \else 1\fi
14021     \space
14022   \else
14023     /MK<<%
14024     \ifnum\Fld@rotation=\z@
14025     \else
14026       /R \Fld@rotation
14027     \fi
```

```

14028     \ifx\Fld@bordercolor\relax
14029     \else
14030         /BC[\Fld@bordercolor]%
14031     \fi
14032     \ifx\Fld@bcolor\relax
14033     \else
14034         /BG[\Fld@bcolor]%
14035     \fi
14036     >>%
14037 \fi
14038 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14039     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14040 \Fld@choices
14041 \Fld@additionalactions
14042 }

```

\PDFForm@Radio

```

14043 \def\PDFForm@Radio{%
14044     /Subtype/Widget%
14045     \Fld@annotflags
14046     \Fld@pageobjref
14047     \Fld@annotnames
14048     /FT/Btn%
14049     \Fld@flags
14050     /H/P%
14051     /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14052     /MK<<%
14053         \ifnum\Fld@rotation=\z@
14054         \else
14055             /R \Fld@rotation
14056         \fi
14057         \ifx\Fld@bordercolor\relax
14058         \else
14059             /BC[\Fld@bordercolor]%
14060         \fi
14061         \ifx\Fld@bcolor\relax
14062         \else
14063             /BG[\Fld@bcolor]%
14064         \fi
14065         /CA(\Hy@escapestring{\Fld@radiosymbol})%
14066     >>%
14067     /DA(/ZaDb \strip@pt\Fld@charsize\space Tf%
14068         \ifx\Fld@color\@empty\else\space\Fld@color\fi)%

```

New code, the default value is used for all buttons

```

14069     \ifx\Fld@default\@empty
14070         /V/Off%
14071         /DV/Off%
14072     \else
14073         /V/\Fld@default
14074         /DV/\Fld@default
14075     \fi
14076     \Fld@additionalactions
14077 }

```

\PDFForm@Text

```
14078 \def\PDFForm@Text{%
14079 /Subtype/Widget%
14080 \Fld@annotflags
14081 \Fld@pageobjref
14082 \Fld@annotnames
14083 /FT/Tx%
14084 \Fld@flags
14085 /Q \Fld@align
14086 /BS<</W \Fld@borderwidth\space /S /\Fld@borderstyle>>%
14087 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14088     \ifx\Fld@bordercolor\relax\else 1\fi
14089     \ifx\Fld@bcolor\relax \else 1\fi
14090     \space
14091 \else
14092 /MK<<%
14093     \ifnum\Fld@rotation=\z@
14094     \else
14095     /R \Fld@rotation
14096     \fi
14097     \ifx\Fld@bordercolor\relax
14098     \else
14099     /BC[\Fld@bordercolor]%
14100     \fi
14101     \ifx\Fld@bcolor\relax
14102     \else
14103     /BG[\Fld@bcolor]%
14104     \fi
14105 >>%
14106 \fi
14107 /DA(/Helv \strip@pt\Fld@charsize\space Tf%
14108     \ifx\Fld@color\@empty\else\space\Fld@color\fi)%
14109 /DV(\Hy@escapestring{\Fld@default})%
14110 /V(\Hy@escapestring{\Fld@value})%
14111 \Fld@additionalactions
14112 \ifnum\Fld@maxlen>\z@/MaxLen \Fld@maxlen \fi
14113 }
```

\PDFForm@Submit

```
14114 \def\PDFForm@Submit{%
14115 /Subtype/Widget%
14116 \Fld@annotflags
14117 \Fld@pageobjref
14118 \Fld@annotnames
14119 /FT/Btn%
14120 \Fld@flags
14121 /H/P%
14122 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14123 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14124     \ifx\Fld@bordercolor\relax\else 1\fi
14125     \space
14126 \else
14127 /MK<<%
14128     \ifnum\Fld@rotation=\z@
```

```

14129     \else
14130         /R \Fld@rotation
14131     \fi
14132     \ifx\Fld@bordercolor\relax
14133     \else
14134         /BC[\Fld@bordercolor]%
14135     \fi
14136     >>%
14137 \fi
14138 /A<<%
14139 /S/SubmitForm%
14140 /F<<%
14141 /FS/URL%
14142 /F(\Hy@escapestring{\Form@action})%
14143 >>%
14144 \Fld@submitflags
14145 >>%
14146 \Fld@additionalactions
14147 }

```

\PDFForm@Reset

```

14148 \ifHy@pdfa
14149 \else
14150 \def\PDFForm@Reset{%
14151 /Subtype/Widget%
14152 \Fld@annotflags
14153 \Fld@pageobjref
14154 \Fld@annotnames
14155 /FT/Btn%
14156 \Fld@flags
14157 /H/P%
14158 /DA(/Helv \strip@pt\Fld@charsize\space Tf 0 0 1 rg)%
14159 \ifcase0\ifnum\Fld@rotation=\z@ \else 1\fi
14160     \ifx\Fld@bordercolor\relax\else 1\fi
14161     \space
14162 \else
14163 /MK<<%
14164     \ifnum\Fld@rotation=\z@
14165     \else
14166         /R \Fld@rotation
14167     \fi
14168     \ifx\Fld@bordercolor\relax
14169     \else
14170         /BC[\Fld@bordercolor]%
14171     \fi
14172 % /CA (Clear)
14173 % /AC (Done)
14174 >>%
14175 \fi
14176 /BS<</W \Fld@borderwidth/S/\Fld@borderstyle>>%
14177 /A<</S/ResetForm>>%
14178 \Fld@additionalactions
14179 }%
14180 \fi

```

```

14181 </pdfform>
14182 <*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`

```

14183 \def\phantomsection{%
14184   \Hy@MakeCurrentHrefAuto{section*}%
14185   \Hy@raisedlink{\hyper@anchorstart{\@currentHref}\hyper@anchorend}%
14186 }
14187 </packageEnd>

```

45.1 Bookmarks

```

14188 <*outlines>

```

This section was written by Heiko Oberdiek; the code replaces an earlier version by David Carlisle.

The first part of bookmark code is in section 6. Further documentation is available as paper and slides of the talk, that Heiko Oberdiek has given at the EuroTeX'99 meeting in Heidelberg. See `paper.pdf` and `slides.pdf` in the `doc` directory of `hyperref`.

When using the right-to-left typesetting based on $\varepsilon\text{-TeX}$, the order of the `\BOOKMARK` commands written to the `\@outlinefile` could appear wrong, because of mis-feature of $\varepsilon\text{-TeX}$'s implementation (that it processes the shipped out lines left-to-right, instead of the order in which they appear in the document). The wrong order will appear when the file contains two bookmarks on the same line typeset right-to-left.

To work around this problem, the `bookmark@seq@number` counter is used to write the bookmark's sequential number into a comment in the `\@outlinefile`, which could be used to post-process it to achieve the proper ordering of `\BOOKMARK` commands in that file.

```

14189 \def\Hy@writebookmark#1#2#3#4#5{%
14190   % section number, text, label, level, file
14191   \ifx\WriteBookmarks\relax%
14192     \else
14193     \ifnum#4>\Hy@bookmarksdepth\relax
14194     \else
14195       \@writetorep{#1}{#2}{#3}{#4}{#5}%
14196     \fi
14197   \fi
14198 }
14199 \def\Hy@currentbookmarklevel{0}
14200 \def\Hy@numberline#1{#1 }

```

```

14201 \def\@@writetorep#1#2#3#4#5{%
14202   \begingroup
14203   \edef\Hy@tempa{#5}%
14204   \ifx\Hy@tempa\Hy@bookmarkstype
14205     \edef\Hy@level{#4}%
14206     \ifx\Hy@levelcheck Y%
14207       \@tempcnta\Hy@level\relax
14208       \advance\@tempcnta by -1 %
14209       \ifnum\Hy@currentbookmarklevel<\@tempcnta
14210         \advance\@tempcnta by -\Hy@currentbookmarklevel\relax
14211         \advance\@tempcnta by 1 %
14212         \Hy@Warning{%
14213           Difference (\the\@tempcnta) between bookmark levels is %
14214           greater \MessageBreak than one, level fixed%
14215         }%
14216         \@tempcnta\Hy@currentbookmarklevel
14217         \advance\@tempcnta by 1 %
14218         \edef\Hy@level{\the\@tempcnta}%
14219       \fi
14220     \else
14221       \global\let\Hy@levelcheck Y%
14222     \fi
14223     \global\let\Hy@currentbookmarklevel\Hy@level
14224     \@tempcnta\Hy@level\relax
14225     \expandafter\xdef\csname Parent\Hy@level\endcsname{#3}%
14226     \advance\@tempcnta by -1 %
14227     \edef\Hy@tempa{#3}%
14228     \edef\Hy@tempb{\csname Parent\the\@tempcnta\endcsname}%
14229     \ifx\Hy@tempa\Hy@tempb
14230       \Hy@Warning{%
14231         The anchor of a bookmark and its parent's must not%
14232         \MessageBreak be the same. Added a new anchor%
14233       }%
14234     \phantomsection
14235   \fi
14236   \ifHy@bookmarksnumbered
14237     \let\numberline\Hy@numberline
14238     \let\booknumberline\Hy@numberline
14239     \let\partnumberline\Hy@numberline
14240     \let\chapternumberline\Hy@numberline
14241   \else
14242     \let\numberline\@gobble
14243     \let\booknumberline\@gobble
14244     \let\partnumberline\@gobble
14245     \let\chapternumberline\@gobble
14246   \fi
14247   \pdfstringdef\Hy@tempa{#2}%
14248   \HyPsd@SanitizeForOutFile\Hy@tempa
14249   \if@filesw
14250     \stepcounter{bookmark@seq@number}%
14251     \@ifundefined{@outlinefile}{%
14252     }{%
14253       \protected@write\@outlinefile{}{%
14254         \protect\BOOKMARK

```

```

14255      [\Hy@level][\@bookmarkopenstatus{\Hy@level}]{#3}%
14256      {\Hy@tempa}{\Hy@tempb}%
14257      \@percentchar\space\thebookmark@seq@number
14258      }%
14259      }%
14260      \fi
14261      \fi
14262      \endgroup
14263  }
14264  \newcounter{bookmark@seq@number}

14265  \begingroup
14266  \lccode`(`=`{%
14267  \lccode`)`=`}%
14268  \lccode`1`=\z@
14269  \lccode`2`=\z@
14270  \lccode`3`=\z@
14271  \lccode`5`=\z@
14272  \lccode`7`=\z@
14273  \lccode`#\`=\z@
14274  \lccode`\`=\z@
14275  \lccode`\{`=\z@
14276  \lccode`\}`=\z@
14277  \lowercase{%
14278  \endgroup
14279  \def\HyPsd@SanitizeForOutFile#1{%
14280    \@onelevel@sanitize\Hy@tempa
14281    \escapechar`\\%
14282    \edef\Hy@tempa{%
14283      \expandafter\HyPsd@SanitizeOut@BraceLeft\Hy@tempa(\@nil
14284      }%
14285      \edef\Hy@tempa{%
14286        \expandafter\HyPsd@SanitizeOut@BraceRight\Hy@tempa)\@nil
14287      }%
14288    }%
14289    \def\HyPsd@SanitizeOut@BraceLeft#1(#2\@nil{%
14290      #1%
14291      \ifx\\#2\\%
14292        \expandafter\ltx@gobble
14293      \else
14294        \expandafter\ltx@firstofone
14295      \fi
14296      {%
14297        \string\173%
14298        \HyPsd@SanitizeOut@BraceLeft#2\@nil
14299      }%
14300    }%
14301    \def\HyPsd@SanitizeOut@BraceRight#1)#2\@nil{%
14302      #1%
14303      \ifx\\#2\\%
14304        \expandafter\ltx@gobble
14305      \else
14306        \expandafter\ltx@firstofone
14307      \fi
14308      {%

```

```

14309 \string\175%
14310 \HyPsd@SanitizeOut@BraceRight#2\@nil
14311 }%
14312 }%
14313 }

```

In the call of `\expandafter \cmd@to@cs \string \BOOKMARK` the braces around `#4` are omitted, because it is not likely, that the level number contains `]`.

```

14314 \newcommand{\currentpdfbookmark}{%
14315 \pdfbookmark[\Hy@currentbookmarklevel]%
14316 }
14317 \newcommand{\subpdfbookmark}{%
14318 \@tempcnta\Hy@currentbookmarklevel
14319 \Hy@StepCount\@tempcnta
14320 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]%
14321 }
14322 \newcommand{\belowpdfbookmark}[2]{%
14323 \@tempcnta\Hy@currentbookmarklevel
14324 \Hy@StepCount\@tempcnta
14325 \expandafter\pdfbookmark\expandafter[\the\@tempcnta]{#1}{#2}%
14326 \advance\@tempcnta by -1 %
14327 \xdef\Hy@currentbookmarklevel{\the\@tempcnta}%
14328 }

```

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.

```

14329 \renewcommand\pdfbookmark[3][0]{%
14330 \Hy@writebookmark{}{#2}{#3.#1}{#1}{toc}%
14331 \hyper@anchorstart{#3.#1}\hyper@anchorend
14332 }
14333 \def\BOOKMARK{%
14334 \@ifnextchar{\@BOOKMARK}{\@@BOOKMARK[1][-]}%
14335 }
14336 \def\@BOOKMARK[#1]{%
14337 \@ifnextchar{\@@BOOKMARK[{#1}]}{\@@BOOKMARK[{#1}][-]}%
14338 }

```

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`

```

14339 \RequirePackage{rerunfilecheck}[2009/12/10]
14340 \def\Hy@OutlineRerunCheck{%
14341 \RerunFileCheck{\jobname.out}{%
14342 \immediate\closeout\@outlinefile
14343 }{%
14344 Rerun to get outlines right\MessageBreak
14345 or use package `bookmark'%
14346 }%
14347 }

```

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.

14348 `*vtex`

14349 `\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.

14350 `\begingroup`

14351 `\catcode\'=12 %`

14352 `\ifnum\Hy@VTeXversion<650 %`

14353 `\catcode\"=12 %`

14354 `\gdef\hv@pdf@char#1#2#3{%`

14355 `\char`

14356 `\ifcase'#1#2#3 %`

14357 `"00\or"01\or"02\or"03\or"04\or"05\or"06\or"07%`

14358 `\or"08\or"09\or"0A\or"0B\or"0C\or"0D\or"0E\or"0F%`

14359 `\or"10\or"11\or"12\or"13\or"14\or"15\or"16\or"17%`

14360 `\or"18\or"19\or"1A\or"1B\or"1C\or"1D\or"1E\or"1F%`

14361 `\or"20\or"21\or"22\or"23\or"24\or"25\or"26\or"27%`

14362 `\or"28\or"29\or"2A\or"2B\or"2C\or"2D\or"2E\or"2F%`

14363 `\or"30\or"31\or"32\or"33\or"34\or"35\or"36\or"37%`

14364 `\or"38\or"39\or"3A\or"3B\or"3C\or"3D\or"3E\or"3F%`

14365 `\or"40\or"41\or"42\or"43\or"44\or"45\or"46\or"47%`

14366 `\or"48\or"49\or"4A\or"4B\or"4C\or"4D\or"4E\or"4F%`

14367 `\or"50\or"51\or"52\or"53\or"54\or"55\or"56\or"57%`

14368 `\or"58\or"59\or"5A\or"5B\or"5C\or"5D\or"5E\or"5F%`

14369 `\or"60\or"61\or"62\or"63\or"64\or"65\or"66\or"67%`

14370 `\or"68\or"69\or"6A\or"6B\or"6C\or"6D\or"6E\or"6F%`

14371 `\or"70\or"71\or"72\or"73\or"74\or"75\or"76\or"77%`

14372 `\or"78\or"79\or"7A\or"7B\or"7C\or"7D\or"7E\or"7F%`

14373 `\or"80\or"81\or"82\or"83\or"84\or"85\or"86\or"87%`

14374 `\or"88\or"89\or"8A\or"8B\or"8C\or"8D\or"8E\or"8F%`

14375 `\or"90\or"91\or"92\or"93\or"94\or"95\or"96\or"97%`

14376 `\or"98\or"99\or"9A\or"9B\or"9C\or"9D\or"9E\or"9F%`

14377 `\or"A0\or"A1\or"A2\or"A3\or"A4\or"A5\or"A6\or"A7%`

14378 `\or"A8\or"A9\or"AA\or"AB\or"AC\or"AD\or"AE\or"AF%`

14379 `\or"B0\or"B1\or"B2\or"B3\or"B4\or"B5\or"B6\or"B7%`

14380 `\or"B8\or"B9\or"BA\or"BB\or"BC\or"BD\or"BE\or"BF%`

14381 `\or"C0\or"C1\or"C2\or"C3\or"C4\or"C5\or"C6\or"C7%`

14382 `\or"C8\or"C9\or"CA\or"CB\or"CC\or"CD\or"CE\or"CF%`

14383 `\or"D0\or"D1\or"D2\or"D3\or"D4\or"D5\or"D6\or"D7%`

14384 `\or"D8\or"D9\or"DA\or"DB\or"DC\or"DD\or"DE\or"DF%`

14385 `\or"E0\or"E1\or"E2\or"E3\or"E4\or"E5\or"E6\or"E7%`

14386 `\or"E8\or"E9\or"EA\or"EB\or"EC\or"ED\or"EE\or"EF%`

14387 `\or"F0\or"F1\or"F2\or"F3\or"F4\or"F5\or"F6\or"F7%`

14388 `\or"F8\or"F9\or"FA\or"FB\or"FC\or"FD\or"FE\or"FF%`

14389 `\fi`

14390 `}%`

```

14391 \else
14392 \gdef\hv@pdf@char{\char'}%
14393 \fi
14394 \endgroup

```

\@@BOOKMARK

```

14395 \def\@@BOOKMARK[#1][#2]#3#4#5{%
14396 \expandafter\edef\csname @count@#3\endcsname{%
14397 \the\@serial@counter
14398 }%
14399 \edef\@mycount{\the\@serial@counter}%
14400 \Hy@StepCount\@serial@counter
14401 \edef\@parcount{%
14402 \expandafter\ifx\csname @count@#5\endcsname\relax
14403 0%
14404 \else
14405 \csname @count@#5\endcsname
14406 \fi
14407 }%
14408 \immediate\special{%
14409 !outline \HyperDestNameFilter{#3};p=\@parcount,i=\@mycount,%
14410 s=\ifx#2-c\else o\fi,t=#4%
14411 }%
14412 }%

```

\ReadBookmarks

```

14413 \def\ReadBookmarks{%
14414 \begingroup
14415 \def\0{\hv@pdf@char 0}%
14416 \def\1{\hv@pdf@char 1}%
14417 \def\2{\hv@pdf@char 2}%
14418 \def\3{\hv@pdf@char 3}%
14419 \def\({}%
14420 \def\)}%
14421 \def\do##1{%
14422 \ifnum\catcode`##1=\active
14423 \@makeother##1%
14424 \else
14425 \ifnum\catcode`##1=6 %
14426 \@makeother##1%
14427 \fi
14428 \fi
14429 }%
14430 \dospecials
14431 \Hy@safe@activetrue
14432 \InputIfFileExists{jobname.out}{\}{}%
14433 \endgroup
14434 \ifx\WriteBookmarks\relax
14435 \else
14436 \if@filesw
14437 \newwrite\@outlinefile
14438 \Hy@OutlineRerunCheck
14439 \immediate\openout\@outlinefile=jobname.out\relax
14440 \fi

```

```

14441 \fi
14442 }

14443 </vtex>
14444 <*\vtex>
14445 \def\ReadBookmarks{%
14446 \pdf@ifdraftmode{}{%
14447 \begingroup
14448 \def\do##1{%
14449 \ifnum\catcode`##1=\active
14450 \@makeother##1%
14451 \else
14452 \ifnum\catcode`##1=6 %
14453 \@makeother##1%
14454 \fi
14455 \fi
14456 }%
14457 \dospecials
14458 \Hy@safe@activetrue
14459 \escapechar=`\%
14460 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14461 \calc@bm@number{##5}%
14462 }%
14463 \InputIfFileExists{jobname.out}{\relax}{\relax}%
14464 \ifx\WriteBookmarks\relax
14465 \global\let\WriteBookmarks\relax
14466 \fi
14467 \def\@@BOOKMARK[##1][##2]##3##4##5{%
14468 \def\Hy@temp{##4}%
14469 <*\pdfTeX>
14470 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14471 \Hy@OutlineName{}\Hy@pstringName{%
14472 ##2\check@bm@number{##3}}%
14473 }{%
14474 \expandafter\strip@prefix\meaning\Hy@temp
14475 }%
14476 </pdfTeX>
14477 <*\pdfmark>
14478 \pdfmark{%
14479 pdfmark=/OUT,%
14480 Count={##2\check@bm@number{##3}},%
14481 Dest={##3},%
14482 Title=\expandafter\strip@prefix\meaning\Hy@temp
14483 }%
14484 </pdfmark>
14485 <*\dviPDFM|xetex>
14486 \Hy@pstringdef\Hy@pstringName{\HyperDestNameFilter{##3}}%
14487 \@pdfm@mark{%
14488 outline \ifHy@DvipdfmxOutlineOpen
14489 [%
14490 \ifnum##21>\z@
14491 \else
14492 -%
14493 \fi

```

```

14494         l %
14495         \fi
14496         ##1<<%
14497         /Title(\expandafter\strip@prefix\meaning\Hy@temp)%
14498         /A<<%
14499         /S/GoTo%
14500         /D(\Hy@pstringName)%
14501         >>%
14502         >>%
14503         }%
14504 </dvipdfm | xetex>
14505     }%
14506     \begingroup
14507     \def\WriteBookmarks{0}%
14508     \InputIfFileExists{\jobname.out}{-}{-}%
14509     \endgroup
14510     {%\escapechar\m@ne\InputIfFileExists{\jobname.out}{-}{-}}%
14511     \endgroup
14512 }%
14513 \ifx\WriteBookmarks\relax
14514 \else
14515     \if@files
14516     \newwrite\@outlinefile
14517     \Hy@OutlineRerunCheck
14518     \immediate\openout\@outlinefile=\jobname.out\relax
14519     \fi
14520 \fi
14521 }
14522 <*pdfTeX>
14523 \def\Hy@OutlineName#1#2#3#4{%
14524     \pdfoutline goto name{#2}count#3{#4}%
14525 }
14526 </pdfTeX>
14527 \def\check@bm@number#1{%
14528     \expandafter\ifx\csname B_#1\endcsname\relax
14529     0%
14530     \else
14531     \csname B_#1\endcsname
14532     \fi
14533 }
14534 \def\calc@bm@number#1{%
14535     \@tempcnta=\check@bm@number{#1}\relax
14536     \advance\@tempcnta by 1 %
14537     \expandafter\xdef\csname B_#1\endcsname{\the\@tempcnta}%
14538 }
14539 </!vTeX>
14540 \ifHy@implicit
14541 \else
14542     \expandafter\endinput
14543 \fi
14544 </outlines>
14545 <*outlines | hypertex>
14546 \newlength\Hy@SectionHShift

```

```

14547 \def\Hy@sectionAnchorHref#1{%
14548   \ifx\protect\@typeset@protect
14549     \Hy@@@sectionAnchor{#1}%
14550   \fi
14551 }
14552 \DeclareRobustCommand*{\Hy@@@sectionAnchor}[1]{%
14553   \leavevmode
14554   \hbox to 0pt{%
14555     \kern-\Hy@sectionHShift
14556     \Hy@raisedlink{%
14557       \hyper@anchorstart{#1}\hyper@anchorend
14558     }%
14559     \hss
14560   }%
14561 }
14562 \@ifundefined{hyper@nopatch@sectioning}
14563 {
14564   \let\H@old@ssect\@ssect
14565   \def\@ssect#1#2#3#4#5{%
14566     \Hy@MakeCurrentHrefAuto{section*}%
14567     \setlength{\Hy@sectionHShift}{#1}%
14568     \begingroup
14569       \toks@{\H@old@ssect{#1}{#2}{#3}{#4}}%
14570       \toks\tw@\expandafter{%
14571         \expandafter\Hy@sectionAnchorHref\expandafter{\@currentHref}%
14572         #5%
14573       }%
14574     \edef\x{\endgroup
14575       \the\toks@\the\toks\tw@}%
14576   }\x
14577 }
14578 \let\H@old@schapter\@schapter
14579 \def\@schapter#1{%
14580   \begingroup
14581     \let\@mkboth\@gobbletwo
14582     \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14583     \Hy@raisedlink{%
14584       \hyper@anchorstart{\@currentHref}\hyper@anchorend
14585     }%
14586   \endgroup
14587   \H@old@schapter{#1}%
14588 }

```

If there is no chapter number (`\expandafter \cmd@to@cs \string \frontmatter` or `\expandafter \cmd@to@cs \string \backmatter`) then the counting by `\refstepcounter{chapter}` is not executed, so there will be no destination for `\expandafter \cmd@to@cs \string addcontentsline`. So `\expandafter \cmd@to@cs \string \@chapter` is overloaded to avoid this:

```

14589 \ltx@ifundefined{@chapter}{-}{%
14590   \let\Hy@org@chapter\@chapter
14591   \def\@chapter{%
14592     \def\Hy@next{%
14593       \Hy@MakeCurrentHrefAuto{\Hy@chapapp*}%
14594       \Hy@raisedlink{%

```

```

14595     \hyper@anchorstart{\@currentHref}\hyper@anchorend
14596 }%
14597 }%
14598 \ifnum\c@secnumdepth>\m@ne
14599   \ltx@ifUndefined{if@mainmatter}%
14600   \iftrue{\csname if@mainmatter\endcsname}%
14601   \let\Hy@next\relax
14602   \fi
14603   \fi
14604   \Hy@next
14605   \Hy@org@chapter
14606 }%
14607 }

14608 \let\H@old@part\@part
14609 \@ifundefined{chapter}
14610   {\let\Hy@secnum@part\z@}
14611   {\let\Hy@secnum@part\m@ne}
14612 \def\@part{%
14613   \ifnum\Hy@secnum@part>\c@secnumdepth
14614     \phantomsection
14615   \fi
14616   \H@old@part
14617 }

14618 \let\H@old@spart\@spart
14619 \def\@spart#1{%
14620   \Hy@MakeCurrentHrefAuto{part*}%
14621   \Hy@raisedlink{%
14622     \hyper@anchorstart{\@currentHref}\hyper@anchorend
14623   }%
14624   \H@old@spart{#1}%
14625 }

14626 \let\H@old@sect\@sect
14627 \def\@sect#1#2#3#4#5#6[#7]#8{%
14628   \ifnum #2>\c@secnumdepth
14629     \expandafter\@firstoftwo
14630   \else
14631     \expandafter\@secondoftwo
14632   \fi
14633   {%
14634     \Hy@MakeCurrentHrefAuto{section*}%
14635     \setlength{\Hy@SectionHShift}{#3}%
14636     \begingroup
14637       \toks@{\H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}}%
14638       \toks\tw@\expandafter{%
14639         \expandafter\Hy@SectionAnchorHref\expandafter{\@currentHref}%
14640         #8%
14641       }%
14642       \edef\x{\endgroup
14643         \the\toks@\the\toks\tw@}%
14644       }\x
14645     }{%
14646       \H@old@sect{#1}{#2}{#3}{#4}{#5}{#6}{#7}{#8}%
14647     }%

```

```

14648 }
14649 }{}

14650 </outlines | hypertex>
14651 <*outlines>

14652 \expandafter\def\csname Parent-4\endcsname{}
14653 \expandafter\def\csname Parent-3\endcsname{}
14654 \expandafter\def\csname Parent-2\endcsname{}
14655 \expandafter\def\csname Parent-1\endcsname{}
14656 \expandafter\def\csname Parent0\endcsname{}
14657 \expandafter\def\csname Parent1\endcsname{}
14658 \expandafter\def\csname Parent2\endcsname{}
14659 \expandafter\def\csname Parent3\endcsname{}
14660 \expandafter\def\csname Parent4\endcsname{}

14661 </outlines>

```

46 Encoding definition files for encodings of PDF strings

This was contributed by Heiko Oberdiek.

46.1 PD1 encoding

```

14662 <*pd1enc>
14663 \DeclareFontEncoding{PD1}{}{}

Accents
14664 \DeclareTextAccent{\`}{PD1}{\textasciigrave}
14665 \DeclareTextAccent{\'}{PD1}{\textacute}
14666 \DeclareTextAccent{\~}{PD1}{\textasciicircum}
14667 \DeclareTextAccent{\~}{PD1}{\texttilde}
14668 \DeclareTextAccent{\"}{PD1}{\textasciidieresis}
14669 \DeclareTextAccent{\r}{PD1}{\textring}
14670 \DeclareTextAccent{\v}{PD1}{\textasciicaron}
14671 \DeclareTextAccent{\.}{PD1}{\textdotaccent}
14672 \DeclareTextAccent{\c}{PD1}{\textcedilla}
14673 \DeclareTextAccent{\=}{PD1}{\textasciimacron}
14674 \DeclareTextAccent{\b}{PD1}{\textmacronbelow}
14675 \DeclareTextAccent{\d}{PD1}{\textdotbelow}
14676 \DeclareTextCompositeCommand{\`}{PD1}{\@empty}{\textasciigrave}
14677 \DeclareTextCompositeCommand{\'}{PD1}{\@empty}{\textacute}
14678 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\textasciicircum}
14679 \DeclareTextCompositeCommand{\~}{PD1}{\@empty}{\texttilde}
14680 \DeclareTextCompositeCommand{\"}{PD1}{\@empty}{\textasciidieresis}
14681 \DeclareTextCompositeCommand{\r}{PD1}{\@empty}{\textring}
14682 \DeclareTextCompositeCommand{\v}{PD1}{\@empty}{\textasciicaron}
14683 \DeclareTextCompositeCommand{\.}{PD1}{\@empty}{\textdotaccent}
14684 \DeclareTextCompositeCommand{\c}{PD1}{\@empty}{\textcedilla}
14685 \DeclareTextCompositeCommand{\=}{PD1}{\@empty}{\textasciimacron}
14686 \DeclareTextCompositeCommand{\b}{PD1}{\@empty}{\textmacronbelow}
14687 \DeclareTextCompositeCommand{\d}{PD1}{\@empty}{\textdotbelow}
14688 \DeclareTextCompositeCommand{\`}{PD1}{\ }{\textasciigrave}
14689 \DeclareTextCompositeCommand{\'}{PD1}{\ }{\textacute}

```

```

14690 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\textasciicircum}
14691 \DeclareTextCompositeCommand{\~}{PD1}{\ }{\texttilde}
14692 \DeclareTextCompositeCommand{\"}{PD1}{\ }{\textasciidieresis}
14693 \DeclareTextCompositeCommand{\r}{PD1}{\ }{\textstring}
14694 \DeclareTextCompositeCommand{\v}{PD1}{\ }{\textasciicaron}
14695 \DeclareTextCompositeCommand{\.}{PD1}{\ }{\textdotaccent}
14696 \DeclareTextCompositeCommand{\c}{PD1}{\ }{\textcedilla}
14697 \DeclareTextCompositeCommand{\=}{PD1}{\ }{\textasciimacron}
14698 \DeclareTextCompositeCommand{\b}{PD1}{\ }{\textmacronbelow}
14699 \DeclareTextCompositeCommand{\d}{PD1}{\ }{\textdotbelow}
14700 \DeclareTextCommand{\k}{PD1}[1]{\TextSymbolUnavailable{\k{#1}}#1}
14701 \DeclareTextCommand{\t}{PD1}[1]{\TextSymbolUnavailable{\t{#1}}#1}
14702 \DeclareTextCommand{\newtie}{PD1}[1]{%
14703   \TextSymbolUnavailable{\newtie{#1}}#1%
14704 }

```

Special white space escape characters not for use in bookmarks but for other PDF strings.

```

14705 % U+0009 (CHARACTER TABULATION)
14706 \DeclareTextCommand{\textHT}{PD1}{\011}% U+0009
14707 % U+000A (LINE FEED)
14708 \DeclareTextCommand{\textLF}{PD1}{\012}% U+000A
14709 % U+000D (CARRIAGE RETURN)
14710 \DeclareTextCommand{\textCR}{PD1}{\015}% U+000D

```

Accent glyph names

```

14711 % U+02D8 BREVE; breve
14712 \DeclareTextCommand{\textasciibreve}{PD1}{\030}% U+02D8
14713 % U+02C7 CARON; caron
14714 \DeclareTextCommand{\textasciicaron}{PD1}{\031}% U+02C7
14715 % U+02C6 MODIFIER LETTER CIRCUMFLEX ACCENT; circumflex
14716 \DeclareTextCommand{\textcircumflex}{PD1}{\032}% U+02C6
14717 % U+02D9 DOT ABOVE; dotaccent
14718 \DeclareTextCommand{\textdotaccent}{PD1}{\033}% U+02D9
14719 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
14720 \DeclareTextCommand{\texthungarumlaut}{PD1}{\034}% U+02DD
14721 % U+02DB OGONEK; ogonek
14722 \DeclareTextCommand{\textogonek}{PD1}{\035}% U+02DB
14723 % U+02DA RING ABOVE; ring
14724 \DeclareTextCommand{\textring}{PD1}{\036}% U+02DA
14725 % U+02DC SMALL TILDE; ilde, *tilde
14726 \DeclareTextCommand{\texttilde}{PD1}{\037}% U+02DC

```

\040: U+0020 SPACE; *space, spacehackarabic

\041: U+0021 EXCLAMATION MARK; exclam

```

14727 % U+0022 QUOTATION MARK; quotedbl
14728 \DeclareTextCommand{\textquotedbl}{PD1}{"}% \042 U+0022
14729 % U+0023 NUMBER SIGN; numbersign
14730 \DeclareTextCommand{\textnumbersign}{PD1}{\043}% U+0023
14731 % U+0024 DOLLAR SIGN; dollar
14732 \DeclareTextCommand{\textdollar}{PD1}{\$}% U+0024
14733 % U+0025 PERCENT SIGN; percent
14734 \DeclareTextCommand{\textpercent}{PD1}{\045}% U+0025
14735 % U+0026 AMPERSAND; ampersand
14736 \DeclareTextCommand{\textampersand}{PD1}{\046}% U+0026

```

\047: U+0027 APOSTROPHE; quotesingle

 14737 % U+0028 LEFT PARENTHESIS; parenleft
 14738 \DeclareTextCommand{\textparenleft}{PD1}{\string\{}% \050 U+0028
 14739 % U+0029 RIGHT PARENTHESIS; parenright
 14740 \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
 14741 % U+002E FULL STOP; period
 14742 \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
 14743 % U+003C LESS-THAN SIGN; less
 14744 \DeclareTextCommand{\textless}{PD1}{<}% \074 U+003C
 \075: U+003D EQUALS SIGN; equal
 14745 % U+003E GREATER-THAN SIGN; greater
 14746 \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
 14747 % U+005C REVERSE SOLIDUS; backslash
 14748 \DeclareTextCommand{\textbackslash}{PD1}{\134}% U+005C
 14749 % "U+2216 SET MINUS" simulated by "U+005C REVERSE SOLIDUS"
 14750 \DeclareTextCommand{\textsetminus}{PD1}{\textbackslash}
 \135: U+005D RIGHT SQUARE BRACKET; bracketright
 14751 % U+005E CIRCUMFLEX ACCENT; asciicircum
 14752 \DeclareTextCommand{\textasciicircum}{PD1}{\136}% U+005E
 14753 % U+005F LOW LINE; underscore
 14754 \DeclareTextCommand{\textunderscore}{PD1}{\137}% U+005F
 14755 \DeclareTextCommand{\textmacronbelow}{PD1}{\137}% U+005F
 14756 % U+0060 GRAVE ACCENT; grave
 14757 \DeclareTextCommand{\textasciigrave}{PD1}{\140}% U+0060
 \141: U+0061 LATIN SMALL LETTER A; a

 ...
 \150: U+0068 LATIN SMALL LETTER H; h
 14758 % U+0069 LATIN SMALL LETTER I; i
 14759 \DeclareTextCompositeCommand{\.}{PD1}{i}{i}% \151 U+0069
 \152: U+006A LATIN SMALL LETTER J; j

 ...
 \172: U+007A LATIN SMALL LETTER Z; z

14760 % U+007B LEFT CURLY BRACKET; braceleft
 14761 \DeclareTextCommand{\textbraceleft}{PD1}{\173}% U+007B
 14762 % U+007C VERTICAL LINE; *bar, verticalbar
 14763 \DeclareTextCommand{\textbar}{PD1}{|}% U+007C
 14764 % U+007D RIGHT CURLY BRACKET; braceright
 14765 \DeclareTextCommand{\textbraceright}{PD1}{\175}% U+007D
 14766 % U+007E TILDE; asciitilde
 14767 \DeclareTextCommand{\textasciitilde}{PD1}{\176}% U+007E
 Slot \177 (0x7F) is undefined in PDFDocEncoding.
 14768 % U+2022 BULLET; bullet
 14769 \DeclareTextCommand{\textbullet}{PD1}{\200}% U+2022
 14770 % U+2020 DAGGER; dagger
 14771 \DeclareTextCommand{\textdagger}{PD1}{\201}% U+2020
 14772 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)
 14773 \DeclareTextCommand{\textdaggerdbl}{PD1}{\202}% U+2021
 14774 \DeclareTextCommand{\textddagger}{PD1}{\textddagger}
 14775 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 14776 \DeclareTextCommand{\textellipsis}{PD1}{\203}% U+2026
 14777 % U+2014 EM DASH; emdash
 14778 \DeclareTextCommand{\textemdash}{PD1}{\204}% U+2014
 14779 % U+2013 EN DASH; endash
 14780 \DeclareTextCommand{\textendash}{PD1}{\205}% U+2013
 14781 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 14782 \DeclareTextCommand{\textflorin}{PD1}{\206}% U+0192
 14783 % U+2044 FRACTION SLASH; fraction
 14784 \DeclareTextCommand{\textfractionsolidus}{PD1}{\207}% U+2044
 14785 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 left
 14786 \DeclareTextCommand{\guilsinglleft}{PD1}{\210}% U+2039
 14787 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
 singlright
 14788 \DeclareTextCommand{\guilsinglright}{PD1}{\211}% U+203A
 14789 % U+2212 MINUS SIGN; minus
 14790 \DeclareTextCommand{\textminus}{PD1}{\212}% U+2212
 14791 % U+2030 PER MILLE SIGN; perthousand
 14792 \DeclareTextCommand{\textperthousand}{PD1}{\213}% U+2030
 14793 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 14794 \DeclareTextCommand{\quotedblbase}{PD1}{\214}% U+201E
 14795 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 14796 \DeclareTextCommand{\textquotedblleft}{PD1}{\215}% U+201C
 14797 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 14798 \DeclareTextCommand{\textquotedblright}{PD1}{\216}% U+201D
 14799 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 14800 \DeclareTextCommand{\textquoteleft}{PD1}{\217}% U+2018
 14801 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 14802 \DeclareTextCommand{\textquoteright}{PD1}{\220}% U+2019
 14803 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 14804 \DeclareTextCommand{\quotesinglbase}{PD1}{\221}% U+201A
 14805 % U+2122 TRADE MARK SIGN; trademark
 14806 \DeclareTextCommand{\texttrademark}{PD1}{\222}% U+2122
 14807 % U+FB01 LATIN SMALL LIGATURE FI; fi
 14808 \DeclareTextCommand{\textfi}{PD1}{\223}% U+FB01
 14809 % U+FB02 LATIN SMALL LIGATURE FL; fl
 14810 \DeclareTextCommand{\textfl}{PD1}{\224}% U+FB02

14811 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
 14812 \DeclareTextCommand{\L}{PD1}{\225}% U+0141
 14813 % U+0152 LATIN CAPITAL LIGATURE OE; OE
 14814 \DeclareTextCommand{\OE}{PD1}{\226}% U+0152
 14815 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
 14816 \DeclareTextCompositeCommand{\v}{PD1}{S}{\227}% U+0160
 14817 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
 14818 \DeclareTextCompositeCommand{\Y}{PD1}{Y}{\230}% U+0178
 14819 \DeclareTextCommand{\IJ}{PD1}{IJ}% ligature U+0049 U+004A
 14820 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 14821 \DeclareTextCompositeCommand{\v}{PD1}{Z}{\231}% U+017D
 14822 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
 14823 \DeclareTextCommand{\i}{PD1}{\232}% U+0131
 14824 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
 14825 \DeclareTextCommand{\l}{PD1}{\233}% U+0142
 14826 % U+0153 LATIN SMALL LIGATURE OE; oe
 14827 \DeclareTextCommand{\oe}{PD1}{\234}% U+0153
 14828 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron
 14829 \DeclareTextCompositeCommand{\v}{PD1}{s}{\235}% U+0161
 14830 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 14831 \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.
 14832 % U+20AC EURO SIGN; *Euro, euro
 14833 \DeclareTextCommand{\texteuro}{PD1}{\240}% U+20AC
 14834 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
 14835 \DeclareTextCommand{\textexclamdown}{PD1}{\241}% U+00A1
 14836 % U+00A2 CENT SIGN; cent
 14837 \DeclareTextCommand{\textcent}{PD1}{\242}% U+00A2
 14838 % U+00A3 POUND SIGN; sterling
 14839 \DeclareTextCommand{\textsterling}{PD1}{\243}% U+00A3
 14840 % U+00A4 CURRENCY SIGN; currency
 14841 \DeclareTextCommand{\textcurrency}{PD1}{\244}% U+00A4
 14842 % U+00A5 YEN SIGN; yen
 14843 \DeclareTextCommand{\textyen}{PD1}{\245}% U+00A5
 14844 % U+00A6 BROKEN BAR; brokenbar
 14845 \DeclareTextCommand{\textbrokenbar}{PD1}{\246}% U+00A6
 14846 % U+00A7 SECTION SIGN; section
 14847 \DeclareTextCommand{\textsection}{PD1}{\247}% U+00A7
 14848 % U+00A8 DIAERESIS; dieresis
 14849 \DeclareTextCommand{\textasciidieresis}{PD1}{\250}% U+00A8
 14850 % U+00A9 COPYRIGHT SIGN; copyright
 14851 \DeclareTextCommand{\textcopyright}{PD1}{\251}% U+00A9
 14852 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
 14853 \DeclareTextCommand{\textordfeminine}{PD1}{\252}% U+00AA
 14854 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetleft
 14855 \DeclareTextCommand{\guillemotleft}{PD1}{\253}% U+00AB
 14856 \DeclareTextCommand{\guillemetleft}{PD1}{\253}% U+00AB
 14857 % U+00AC NOT SIGN; logicalnot
 14858 \DeclareTextCommand{\textlogicalnot}{PD1}{\254}% U+00AC
 14859 \DeclareTextCommand{\textlnot}{PD1}{\254}% logical not
 No glyph \255 in PDFDocEncoding.
 14860 % U+00AE REGISTERED SIGN; registered

14861 \DeclareTextCommand{\textregistered}{PD1}{\256}% U+00AE
14862 % U+00AF MACRON; *macron, overscore
14863 \DeclareTextCommand{\textasciimacron}{PD1}{\257}% U+00AF
14864 % U+00B0 DEGREE SIGN; degree
14865 \DeclareTextCommand{\textdegree}{PD1}{\260}% U+00B0
14866 % U+00B1 PLUS-MINUS SIGN; plusminus
14867 \DeclareTextCommand{\textplusminus}{PD1}{\261}% U+00B1
14868 % U+00B2 SUPERSCRIPT TWO; twosuperior
14869 \DeclareTextCommand{\texttwosuperior}{PD1}{\262}%* U+00B2
14870 % U+00B3 SUPERSCRIPT THREE; threesuperior
14871 \DeclareTextCommand{\textthreesuperior}{PD1}{\263}%* U+00B3
14872 % U+00B4 ACUTE ACCENT; acute
14873 \DeclareTextCommand{\textacute}{PD1}{\264}% U+00B4
14874 % U+00B5 MICRO SIGN; mu, mul
14875 \DeclareTextCommand{\textmu}{PD1}{\265}% U+00B5
14876 % U+00B6 PILCROW SIGN; paragraph
14877 \DeclareTextCommand{\textparagraph}{PD1}{\266}% U+00B6
14878 % U+00B7 MIDDLE DOT; middot, *periodcentered
14879 \DeclareTextCommand{\textperiodcentered}{PD1}{\267}% U+00B7
14880 % U+00B8 CEDILLA; cedilla
14881 \DeclareTextCommand{\textcedilla}{PD1}{\270}% U+00B8
14882 % U+00B9 SUPERSCRIPT ONE; onesuperior
14883 \DeclareTextCommand{\textonesuperior}{PD1}{\271}%* U+00B9
14884 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
14885 \DeclareTextCommand{\textordmasculine}{PD1}{\272}% U+00BA
14886 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetright
14887 \DeclareTextCommand{\guillemotright}{PD1}{\273}% U+00BB
14888 \DeclareTextCommand{\guillemetright}{PD1}{\273}% U+00BB
14889 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
14890 \DeclareTextCommand{\textonequarter}{PD1}{\274}% U+00BC
14891 % U+00BD VULGAR FRACTION ONE HALF; onehalf
14892 \DeclareTextCommand{\textonehalf}{PD1}{\275}% U+00BD
14893 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
14894 \DeclareTextCommand{\textthreequarters}{PD1}{\276}% U+00BE
14895 % U+00BF INVERTED QUESTION MARK; questiondown
14896 \DeclareTextCommand{\textquestiondown}{PD1}{\277}% U+00BF
14897 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
14898 \DeclareTextCompositeCommand{\`}{PD1}{A}{\300}% U+00C0
14899 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
14900 \DeclareTextCompositeCommand{\'}{PD1}{A}{\301}% U+00C1
14901 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
14902 \DeclareTextCompositeCommand{\^}{PD1}{A}{\302}% U+00C2
14903 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
14904 \DeclareTextCompositeCommand{\~}{PD1}{A}{\303}% U+00C3
14905 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
14906 \DeclareTextCompositeCommand{\"}{PD1}{A}{\304}% U+00C4
14907 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
14908 \DeclareTextCompositeCommand{\r}{PD1}{A}{\305}% U+00C5
14909 % U+00C6 LATIN CAPITAL LETTER AE; AE
14910 \DeclareTextCommand{\AE}{PD1}{\306}% U+00C6
14911 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
14912 \DeclareTextCompositeCommand{\c}{PD1}{C}{\307}% U+00C7
14913 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
14914 \DeclareTextCompositeCommand{\`}{PD1}{E}{\310}% U+00C8

14915 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
14916 \DeclareTextCompositeCommand{\'}{PD1}{E}{\311}% U+00C9
14917 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
14918 \DeclareTextCompositeCommand{\^}{PD1}{E}{\312}% U+00CA
14919 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
14920 \DeclareTextCompositeCommand{\"}{PD1}{E}{\313}% U+00CB
14921 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
14922 \DeclareTextCompositeCommand{\`}{PD1}{I}{\314}% U+00CC
14923 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
14924 \DeclareTextCompositeCommand{\'}{PD1}{I}{\315}% U+00CD
14925 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
14926 \DeclareTextCompositeCommand{\^}{PD1}{I}{\316}% U+00CE
14927 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
14928 \DeclareTextCompositeCommand{\"}{PD1}{I}{\317}% U+00CF
14929 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
14930 \DeclareTextCommand{\DH}{PD1}{\320}% U+00D0
14931 \DeclareTextCommand{\DJ}{PD1}{\320}% U+00D0
14932 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
14933 \DeclareTextCompositeCommand{\~}{PD1}{N}{\321}% U+00D1
14934 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
14935 \DeclareTextCompositeCommand{\`}{PD1}{O}{\322}% U+00D2
14936 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
14937 \DeclareTextCompositeCommand{\'}{PD1}{O}{\323}% U+00D3
14938 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
14939 \DeclareTextCompositeCommand{\^}{PD1}{O}{\324}% U+00D4
14940 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
14941 \DeclareTextCompositeCommand{\~}{PD1}{O}{\325}% U+00D5
14942 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
14943 \DeclareTextCompositeCommand{\"}{PD1}{O}{\326}% U+00D6
14944 % U+00D7 MULTIPLICATION SIGN; multiply
14945 \DeclareTextCommand{\textmultiply}{PD1}{\327}% U+00D7
14946 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
14947 \DeclareTextCommand{\O}{PD1}{\330}% U+00D8
14948 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
14949 \DeclareTextCompositeCommand{\`}{PD1}{U}{\331}% U+00D9
14950 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
14951 \DeclareTextCompositeCommand{\'}{PD1}{U}{\332}% U+00DA
14952 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
14953 \DeclareTextCompositeCommand{\^}{PD1}{U}{\333}% U+00DB
14954 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
14955 \DeclareTextCompositeCommand{\"}{PD1}{U}{\334}% U+00DC
14956 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
14957 \DeclareTextCompositeCommand{\'}{PD1}{Y}{\335}% U+00DD
14958 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)
14959 \DeclareTextCommand{\TH}{PD1}{\336}% U+00DE
14960 \DeclareTextCommand{\textThorn}{PD1}{\336}%* U+00DE
14961 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
14962 \DeclareTextCommand{\ss}{PD1}{\337}% U+00DF
14963 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
14964 \DeclareTextCompositeCommand{\`}{PD1}{a}{\340}% U+00E0
14965 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
14966 \DeclareTextCompositeCommand{\'}{PD1}{a}{\341}% U+00E1
14967 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
14968 \DeclareTextCompositeCommand{\^}{PD1}{a}{\342}% U+00E2

14969 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
14970 \DeclareTextCompositeCommand{\~}{PD1}{a}{\343}% U+00E3
14971 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
14972 \DeclareTextCompositeCommand{\"}{PD1}{a}{\344}% U+00E4
14973 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
14974 \DeclareTextCompositeCommand{\r}{PD1}{a}{\345}% U+00E5
14975 % U+00E6 LATIN SMALL LETTER AE; ae
14976 \DeclareTextCommand{\ae}{PD1}{\346}% U+00E6
14977 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
14978 \DeclareTextCompositeCommand{\c}{PD1}{c}{\347}% U+00E7
14979 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
14980 \DeclareTextCompositeCommand{\`}{PD1}{e}{\350}% U+00E8
14981 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
14982 \DeclareTextCompositeCommand{\'}{PD1}{e}{\351}% U+00E9
14983 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
14984 \DeclareTextCompositeCommand{\^}{PD1}{e}{\352}% U+00EA
14985 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
14986 \DeclareTextCompositeCommand{\"}{PD1}{e}{\353}% U+00EB
14987 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
14988 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC
14989 \DeclareTextCompositeCommand{\`}{PD1}{i}{\354}% U+00EC
14990 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
14991 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
14992 \DeclareTextCompositeCommand{\'}{PD1}{i}{\355}% U+00ED
14993 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
14994 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
14995 \DeclareTextCompositeCommand{\^}{PD1}{i}{\356}% U+00EE
14996 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
14997 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
14998 \DeclareTextCompositeCommand{\"}{PD1}{i}{\357}% U+00EF
14999 % U+00F0 LATIN SMALL LETTER ETH; eth
15000 \DeclareTextCommand{\dh}{PD1}{\360}% U+00F0
15001 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
15002 \DeclareTextCompositeCommand{\~}{PD1}{n}{\361}% U+00F1
15003 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
15004 \DeclareTextCompositeCommand{\`}{PD1}{o}{\362}% U+00F2
15005 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
15006 \DeclareTextCompositeCommand{\'}{PD1}{o}{\363}% U+00F3
15007 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
15008 \DeclareTextCompositeCommand{\^}{PD1}{o}{\364}% U+00F4
15009 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
15010 \DeclareTextCompositeCommand{\~}{PD1}{o}{\365}% U+00F5
15011 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
15012 \DeclareTextCompositeCommand{\"}{PD1}{o}{\366}% U+00F6
15013 % U+00F7 DIVISION SIGN; divide
15014 \DeclareTextCommand{\textdivide}{PD1}{\367}% U+00F7
15015 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
15016 \DeclareTextCommand{\o}{PD1}{\370}% U+00F8
15017 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
15018 \DeclareTextCompositeCommand{\`}{PD1}{u}{\371}% U+00F9
15019 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
15020 \DeclareTextCompositeCommand{\'}{PD1}{u}{\372}% U+00FA
15021 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
15022 \DeclareTextCompositeCommand{\^}{PD1}{u}{\373}% U+00FB

```

15023 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
15024 \DeclareTextCompositeCommand{"}{PD1}{u}{\374}% U+00FC
15025 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
15026 \DeclareTextCompositeCommand{'}{PD1}{y}{\375}% U+00FD
15027 % U+00FE LATIN SMALL LETTER THORN; thorn; \th, \thorn (wasysym)
15028 \DeclareTextCommand{\th}{PD1}{\376}% U+00FE
15029 \DeclareTextCommand{\textthorn}{PD1}{\376}%* U+00FE
15030 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
15031 \DeclareTextCompositeCommand{"}{PD1}{y}{\377}% U+00FF
15032 \DeclareTextCommand{\ij}{PD1}{ij}% ligature U+0069 U+006A

```

Glyphs that consist of several characters.

```

15033 \DeclareTextCommand{\SS}{PD1}{SS}%
15034 \DeclareTextCommand{\textcelsius}{PD1}{\textdegree C}%

```

Aliases (german.sty)

```

15035 \DeclareTextCommand{\textglqq}{PD1}{\quotedblbase}%
15036 \DeclareTextCommand{\textgrqq}{PD1}{\textquotedblleft}%
15037 \DeclareTextCommand{\textglq}{PD1}{\quotesinglbase}%
15038 \DeclareTextCommand{\textgrq}{PD1}{\textquoteleft}%
15039 \DeclareTextCommand{\textflqq}{PD1}{\guillemetleft}%
15040 \DeclareTextCommand{\textfrqq}{PD1}{\guillemetright}%
15041 \DeclareTextCommand{\textflq}{PD1}{\guilsinglleft}%
15042 \DeclareTextCommand{\textfrq}{PD1}{\guilsinglright}%

```

Aliases (math names)

```

15043 \DeclareTextCommand{\textneg}{PD1}{\textlogicalnot}%
15044 \DeclareTextCommand{\texttimes}{PD1}{\textmultiply}%
15045 \DeclareTextCommand{\textdiv}{PD1}{\textdivide}%
15046 \DeclareTextCommand{\textpm}{PD1}{\textplusminus}%
15047 \DeclareTextCommand{\textcdot}{PD1}{\textperiodcentered}%
15048 \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).

```

15049 \DeclareTextCompositeCommand{\k}{PD1}{a}{a}% aogonek
15050 \DeclareTextCompositeCommand{'}{PD1}{c}{c}% cacute
15051 \DeclareTextCompositeCommand{\k}{PD1}{e}{e}% eogonek
15052 \DeclareTextCompositeCommand{'}{PD1}{n}{n}% nacute
15053 \DeclareTextCompositeCommand{'}{PD1}{s}{s}% sacute
15054 \DeclareTextCompositeCommand{'}{PD1}{z}{z}% zacute
15055 \DeclareTextCompositeCommand{\.}{PD1}{z}{z}% zdot
15056 \DeclareTextCompositeCommand{\k}{PD1}{A}{A}% Aogonek
15057 \DeclareTextCompositeCommand{'}{PD1}{C}{C}% Cacute
15058 \DeclareTextCompositeCommand{\k}{PD1}{E}{E}% Eogonek
15059 \DeclareTextCompositeCommand{'}{PD1}{N}{N}% Nacute
15060 \DeclareTextCompositeCommand{'}{PD1}{S}{S}% Sacute
15061 \DeclareTextCompositeCommand{'}{PD1}{Z}{Z}% Zacute
15062 \DeclareTextCompositeCommand{\.}{PD1}{Z}{Z}% Zdot

```

```

15063 </pd1enc>

```

46.2 PU encoding

```

15064 <*puenc>
15065 \DeclareFontEncoding{PU}{}{}

```

46.2.1 NFSS2 accents

```

15066 % U+0300 COMBINING GRAVE ACCENT; gravecmb, *gravecomb
15067 \DeclareTextCommand{\`}{PU}[1]{#1\83\000}% U+0300
15068 % U+0301 COMBINING ACUTE ACCENT; acutecmb, *acutecomb
15069 \DeclareTextCommand{\'}{PU}[1]{#1\83\001}% U+0301
15070 % U+0302 COMBINING CIRCUMFLEX ACCENT; circumflexcmb
15071 \DeclareTextCommand{\^}{PU}[1]{#1\83\002}% U+0302
15072 % U+0303 COMBINING TILDE; tildecmb, *tildecmb
15073 \DeclareTextCommand{\~}{PU}[1]{#1\83\003}% U+0303
15074 % U+0304 COMBINING MACRON; macroncmb
15075 \DeclareTextCommand{\=}{PU}[1]{#1\83\004}% U+0304
15076 % U+0306 COMBINING BREVE; brevecmb
15077 \DeclareTextCommand{\u}{PU}[1]{#1\83\006}% U+0306
15078 \ifx\CYRDZE\@undefined \else
15079 \DeclareTextCommand{\U}{PU}[1]{#1\83\006}% U+0306
15080 \fi
15081 % U+0307 COMBINING DOT ABOVE; dotaccentcmb
15082 \DeclareTextCommand{\.}{PU}[1]{#1\83\007}% U+0307
15083 % U+0308 COMBINING DIAERESIS; dieresiscmb
15084 \DeclareTextCommand{\"}{PU}[1]{#1\83\010}% U+0308
15085 % U+030A COMBINING RING ABOVE; ringcmb
15086 \DeclareTextCommand{\r}{PU}[1]{#1\83\012}% U+030A
15087 % U+030B COMBINING DOUBLE ACUTE ACCENT; hungarumlautcmb
15088 \DeclareTextCommand{\H}{PU}[1]{#1\83\013}% U+030B
15089 % U+030C COMBINING CARON; caroncmb
15090 \DeclareTextCommand{\v}{PU}[1]{#1\83\014}% U+030C
15091 \puenc
15092 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
15093 \puextra\DeclareTextCommand{\G}{PU}[1]{#1\83\017}% U+030F
15094 \*puenc
15095 \ifx\CYRDZE\@undefined \else
15096 \DeclareTextCommand{\C}{PU}[1]{#1\83\017}% U+030F
15097 \fi
15098 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
15099 \DeclareTextCommand{\textinvbreve}{PU}[1]{#1\83\021}% U+0311
15100 \DeclareTextCommand{\newtie}{PU}[1]{#1\83\021}% U+0311
15101 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
15102 \DeclareTextCommand{\d}{PU}[1]{#1\83\043}% U+0323
15103 % U+0324 COMBINING DIAERESIS BELOW; dieresisbelowcmb; \textsubum-
    laut (tipa)
15104 \DeclareTextCommand{\textsubumlaut}{PU}[1]{#1\83\044}% U+0324
15105 % U+0325 COMBINING RING BELOW; ringbelowcmb; \textsubring (tipa)
15106 \DeclareTextCommand{\textsubring}{PU}[1]{#1\83\045}% U+0325
15107 % U+0327 COMBINING CEDILLA; cedillacmb
15108 \DeclareTextCommand{\c}{PU}[1]{#1\83\047}% U+0327
15109 % U+0328 COMBINING OGONEK; ogonekcmb
15110 \DeclareTextCommand{\k}{PU}[1]{#1\83\050}% U+0328
15111 % U+032D COMBINING CIRCUMFLEX ACCENT BELOW;
15112 % \textsubcircum (tipa)
15113 \DeclareTextCommand{\textsubcircum}{PU}[1]{#1\83\055}% U+032D
15114 % U+032E COMBINING BREVE BELOW; brevebelowcmb
15115 \DeclareTextCommand{\textsubbreve}{PU}[1]{#1\83\056}% U+032E
15116 % U+0330 COMBINING TILDE BELOW; tildebelowcmb; \textsubtilde (tipa)

```

```

15117 \DeclareTextCommand{\textsubtilde}{PU}[1]{#1\83\060}% U+0330
15118 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
15119 \DeclareTextCommand{\b}{PU}[1]{#1\83\061}% U+0331
15120 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddou-
      blecmb
15121 \DeclareTextCommand{\t}{PU}[1]{#1\83\141}% U+0361
15122 % U+20DD COMBINING ENCLOSING CIRCLE
15123 \DeclareTextCommand{\textcircled}{PU}[1]{#1\9040\335}% U+20DD

```

Double accents.

```

15124 \DeclareTextCommand{\textacutemacron}{PU}[1]{#1\83\001\83\004}% U+0301 U+0304
15125 \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.

```

15126 \DeclareTextCompositeCommand{\`}{PU}{\@empty}{\textasciigrave}%
15127 \DeclareTextCompositeCommand{\'}{PU}{\@empty}{\textacute}%
15128 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\textasciicircum}%
15129 \DeclareTextCompositeCommand{\~}{PU}{\@empty}{\texttilde}%
15130 \DeclareTextCompositeCommand{\"}{PU}{\@empty}{\textasciidieresis}%
15131 \DeclareTextCompositeCommand{\r}{PU}{\@empty}{\textring}%
15132 \DeclareTextCompositeCommand{\v}{PU}{\@empty}{\textasciicaron}%
15133 \DeclareTextCompositeCommand{\.}{PU}{\@empty}{\textdotaccent}%
15134 \DeclareTextCompositeCommand{\c}{PU}{\@empty}{\textcedilla}%
15135 \DeclareTextCompositeCommand{\u}{PU}{\@empty}{\textasciibreve}%
15136 (/puenc)
15137 ⟨puextra⟩\DeclareTextCompositeCommand{\G}{PU}{\@empty}{\textdoublegrave}%
15138 (*puenc)
15139 \DeclareTextCompositeCommand{\=}{PU}{\@empty}{\textasciimacron}%
15140 \DeclareTextCompositeCommand{\H}{PU}{\@empty}{\texthungarumlaut}%
15141 \DeclareTextCompositeCommand{\k}{PU}{\@empty}{\textogonek}%
15142 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\@empty}{\83\021}% U+0311
15143 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\@empty}{\83\044}% U+0324
15144 \DeclareTextCompositeCommand{\textsubring}{PU}{\@empty}{\textringlow}%
15145 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\@empty}{\textcircum-
      low}%
15146 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\@empty}{\83\056}% U+032E
15147 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\@empty}{\texttildebelow}%
15148 \DeclareTextCompositeCommand{\b}{PU}{\@empty}{\textmacronbelow}%
15149 \DeclareTextCompositeCommand{\d}{PU}{\@empty}{\textdotbelow}%
15150 \DeclareTextCompositeCommand{\t}{PU}{\@empty}{\texttie}%
15151 \DeclareTextCompositeCommand{\newtie}{PU}{\@empty}{\textnewtie}%
15152 \DeclareTextCompositeCommand{\textcircled}{PU}{\@empty}{\textbigcircle}%
15153 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\@empty}{\83\001\83\004}% U+0301 U
15154 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\@empty}{\83\000\83\004}% U+0300 U
15155 \DeclareTextCompositeCommand{\`}{PU}{\ }{\textasciigrave}%
15156 \DeclareTextCompositeCommand{\'}{PU}{\ }{\textacute}%
15157 \DeclareTextCompositeCommand{\~}{PU}{\ }{\textasciicircum}%
15158 \DeclareTextCompositeCommand{\~}{PU}{\ }{\texttilde}%
15159 \DeclareTextCompositeCommand{\"}{PU}{\ }{\textasciidieresis}%
15160 \DeclareTextCompositeCommand{\r}{PU}{\ }{\textring}%
15161 \DeclareTextCompositeCommand{\v}{PU}{\ }{\textasciicaron}%
15162 \DeclareTextCompositeCommand{\.}{PU}{\ }{\textdotaccent}%
15163 \DeclareTextCompositeCommand{\c}{PU}{\ }{\textcedilla}%
15164 \DeclareTextCompositeCommand{\u}{PU}{\ }{\textasciibreve}%

```

```

15165 </puenc>
15166 <puextra>\DeclareTextCompositeCommand{\G}{PU}{\ }{\textdoublegrave}%
15167 <*puenc>
15168 \DeclareTextCompositeCommand{\=}{PU}{\ }{\textasciimacron}%
15169 \DeclareTextCompositeCommand{\H}{PU}{\ }{\texthungarumlaut}%
15170 \DeclareTextCompositeCommand{\k}{PU}{\ }{\textogonek}%
15171 \DeclareTextCompositeCommand{\textinvbreve}{PU}{\ }{\{\ \83\021\}}% U+0311
15172 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{\ }{\{\ \83\044\}}% U+0324
15173 \DeclareTextCompositeCommand{\textsubring}{PU}{\ }{\textringlow}%
15174 \DeclareTextCompositeCommand{\textsubcircum}{PU}{\ }{\textcircumlow}%
15175 \DeclareTextCompositeCommand{\textsubbreve}{PU}{\ }{\{\ \83\056\}}% U+032E
15176 \DeclareTextCompositeCommand{\textsubtilde}{PU}{\ }{\texttildelow}%
15177 \DeclareTextCompositeCommand{\b}{PU}{\ }{\textmacronbelow}%
15178 \DeclareTextCompositeCommand{\d}{PU}{\ }{\textdotbelow}%
15179 \DeclareTextCompositeCommand{\t}{PU}{\ }{\texttie}%
15180 \DeclareTextCompositeCommand{\newtie}{PU}{\ }{\textnewtie}%
15181 \DeclareTextCompositeCommand{\textcircled}{PU}{\ }{\textbigcircle}%
15182 \DeclareTextCompositeCommand{\textacutemacron}{PU}{\ }{\{\ \83\001\83\004\}}% U+0301 U+0304
15183 \DeclareTextCompositeCommand{\textgravemacron}{PU}{\ }{\{\ \83\000\83\004\}}% U+0300 U+0304

```

Accents for capitals (see encoding TS1)

```

15184 \DeclareTextCommand{\capitalcedilla}{PU}[1]{\c{#1}}%
15185 \DeclareTextCommand{\capitalogonek}{PU}[1]{\k{#1}}%
15186 \DeclareTextCommand{\capitalgrave}{PU}[1]{\`{#1}}%
15187 \DeclareTextCommand{\capitalacute}{PU}[1]{\'{#1}}%
15188 \DeclareTextCommand{\capitalcircumflex}{PU}[1]{\^{#1}}%
15189 \DeclareTextCommand{\capitaltilde}{PU}[1]{\~{#1}}%
15190 \DeclareTextCommand{\capitaldieresis}{PU}[1]{\"{#1}}%
15191 \DeclareTextCommand{\capitalhungarumlaut}{PU}[1]{\H{#1}}%
15192 \DeclareTextCommand{\capitalring}{PU}[1]{\r{#1}}%
15193 \DeclareTextCommand{\capitalcaron}{PU}[1]{\v{#1}}%
15194 \DeclareTextCommand{\capitalbreve}{PU}[1]{\u{#1}}%
15195 \DeclareTextCommand{\capitalmacron}{PU}[1]{\={#1}}%
15196 \DeclareTextCommand{\capitaldotaccent}{PU}[1]{\.{#1}}%
15197 \DeclareTextCommand{\capitaltie}{PU}[1]{\t{#1}}%
15198 \DeclareTextCommand{\capitalnewtie}{PU}[1]{\newtie{#1}}%

```

46.2.2 Basic Latin: U+0000 to U+007F

Special white space escape characters.

```

15199 % U+0009 (CHARACTER TABULATION)
15200 \DeclareTextCommand{\textHT}{PU}{\80\011}% U+0009
15201 % U+000A (LINE FEED)
15202 \DeclareTextCommand{\textLF}{PU}{\80\012}% U+000A
15203 % U+000D (CARRIAGE RETURN)
15204 \DeclareTextCommand{\textCR}{PU}{\80\015}% U+000D

\80\040: U+0020 SPACE; space, spacehackarabic
\80\041: U+0021 EXCLAMATION MARK; exclam

15205 % U+0022 QUOTATION MARK; quotedbl
15206 \DeclareTextCommand{\textquotedbl}{PU}{"}% \80\042 U+0022
15207 % U+0023 NUMBER SIGN; numbersign
15208 \DeclareTextCommand{\textnumbersign}{PU}{\80\043}% U+0023
15209 % U+0024 DOLLAR SIGN; dollar
15210 \DeclareTextCommand{\textdollar}{PU}{\80\044}% U+0024
15211 %* \textdollar -> \mathdollar

```

15212 %* \textdollar -> \EyesDollar (marvosym)
15213 % U+0025 PERCENT SIGN; percent
15214 \DeclareTextCommand{\textpercent}{PU}{\80\045}% U+0025
15215 % U+0026 AMPERSAND; ampersand
15216 \DeclareTextCommand{\textampersand}{PU}{\80\046}% U+0026
15217 %* \textampersand -> \binampersand (stmaryrd)
15218 %* \textampersand -> \with (cml)
15219 % U+0027 APOSTROPHE; quotesingle
15220 \DeclareTextCommand{\textquotesingle}{PU}{\80\047}% U+0027
15221 % U+0028 LEFT PARENTHESIS; parenleft
15222 \DeclareTextCommand{\textparenleft}{PU}{\80\050}% U+0028
15223 % U+0029 RIGHT PARENTHESIS; parenright
15224 \DeclareTextCommand{\textparenright}{PU}{\80\051}% U+0029
15225 % U+002A ASTERISK; asterisk; (?)
15226 \DeclareTextCommand{\textasteriskcentered}{PU}{\80\052}% U+002A
15227 % U+002B PLUS SIGN; plus; \MVPlus (marvosym)
15228 \DeclareTextCommand{\textMVPlus}{PU}{\80\053}%* U+002B
15229 % U+002C COMMA; comma; \MVComma (marvosym)
15230 \DeclareTextCommand{\textMVComma}{PU}{\80\054}%* U+002C
15231 % U+002D HYPHEN-MINUS; hyphen; \MVMinus (marvosym)
15232 \DeclareTextCommand{\textMVMinus}{PU}{\80\055}%* U+002D
15233 % U+002E FULL STOP; period; \MVPeriod (marvosym)
15234 \DeclareTextCommand{\textMVPeriod}{PU}{\80\056}%* U+002E
15235 % U+002F SOLIDUS; slash; \MVDivision (marvosym)
15236 \DeclareTextCommand{\textMVDivision}{PU}{\80\057}%* U+002F
15237 % U+0030 DIGIT ZERO; zero; \MVZero (marvosym)
15238 \DeclareTextCommand{\textMVZero}{PU}{\80\060}%* U+0030
15239 % U+0031 DIGIT ONE; one; \MVOne (marvosym)
15240 \DeclareTextCommand{\textMVOne}{PU}{\80\061}%* U+0031
15241 % U+0032 DIGIT TWO; two; \MVTwo (marvosym)
15242 \DeclareTextCommand{\textMVTwo}{PU}{\80\062}%* U+0032
15243 % U+0033 DIGIT THREE; three; \MVThree (marvosym)
15244 \DeclareTextCommand{\textMVThree}{PU}{\80\063}%* U+0033
15245 % U+0034 DIGIT FOUR; four; \MVFour (marvosym)
15246 \DeclareTextCommand{\textMVFour}{PU}{\80\064}%* U+0034
15247 % U+0035 DIGIT FIVE; five; \MVFive (marvosym)
15248 \DeclareTextCommand{\textMVFive}{PU}{\80\065}%* U+0035
15249 % U+0036 DIGIT SIX; six; \MVSix (marvosym)
15250 \DeclareTextCommand{\textMVSix}{PU}{\80\066}%* U+0036
15251 % U+0037 DIGIT SEVEN; seven; \MVSeven (marvosym)
15252 \DeclareTextCommand{\textMVSeven}{PU}{\80\067}%* U+0037
15253 % U+0038 DIGIT EIGHT; eight; \MVEight (marvosym)
15254 \DeclareTextCommand{\textMVEight}{PU}{\80\070}%* U+0038
15255 % U+0039 DIGIT NINE; nine; \MVNine (marvosym)
15256 \DeclareTextCommand{\textMVNine}{PU}{\80\071}%* U+0039
\80\072: U+003A COLON; colon
\80\073: U+003B SEMICOLON; semicolon
15257 % U+003C LESS-THAN SIGN; less
15258 \DeclareTextCommand{\textless}{PU}{<}% \80\074 U+003C
\80\075: U+003D EQUALS SIGN; equal
15259 % U+003E GREATER-THAN SIGN; greater
15260 \DeclareTextCommand{\textgreater}{PU}{>}% \80\076 U+003E

$\backslash 80\backslash 077$: U+003F QUESTION MARK; question
15261 % U+0040 COMMERCIAL AT; at; $\backslash MVA$ t (marvosym)
15262 $\backslash \text{DeclareTextCommand}\{\backslash \text{textMVA}\}{PU}\{\backslash 80\backslash 100\}\%$ * U+0040
 $\backslash 80\backslash 101$: U+0041 LATIN CAPITAL LETTER A; A
...
 $\backslash 80\backslash 132$: U+005A LATIN CAPITAL LETTER Z; Z
 $\backslash 80\backslash 133$: U+005B LEFT SQUARE BRACKET; bracketleft
15263 % U+005C REVERSE SOLIDUS; backslash
15264 $\backslash \text{DeclareTextCommand}\{\backslash \text{textbackslash}\}{PU}\{\backslash 80\backslash 134\}\%$ U+005C
 $\backslash 80\backslash 135$: U+005D RIGHT SQUARE BRACKET; bracketright
15265 % U+005E CIRCUMFLEX ACCENT; asciicircum
15266 $\backslash \text{DeclareTextCommand}\{\backslash \text{textasciicircum}\}{PU}\{\backslash 80\backslash 136\}\%$ U+005E
15267 % U+005F LOW LINE; underscore
15268 $\backslash \text{DeclareTextCommand}\{\backslash \text{textunderscore}\}{PU}\{\backslash 80\backslash 137\}\%$ U+005F
15269 %* $\backslash \text{textunderscore} \rightarrow \backslash \text{mathunderscore}$ (LaTeX)
15270 % U+0060 GRAVE ACCENT; grave
15271 $\backslash \text{DeclareTextCommand}\{\backslash \text{textasciigrave}\}{PU}\{\backslash 80\backslash 140\}\%$ U+0060
 $\backslash 80\backslash 141$: U+0061 LATIN SMALL LETTER A; a
...
 $\backslash 80\backslash 150$: U+0068 LATIN SMALL LETTER H; h
15272 % U+0069 LATIN SMALL LETTER I; i
15273 $\backslash \text{DeclareTextCompositeCommand}\{.\}{PU}\{i\}{i}\%$ $\backslash 80\backslash 151$ U+0069
15274 $\backslash \text{DeclareTextCompositeCommand}\{.\}{PU}\{i\}{i}\%$ $\backslash 80\backslash 151$ U+0069
 $\backslash 80\backslash 152$: U+006A LATIN SMALL LETTER J; j
...
 $\backslash 80\backslash 172$: U+007A LATIN SMALL LETTER Z; z
15275 % U+007B LEFT CURLY BRACKET; braceleft
15276 $\backslash \text{DeclareTextCommand}\{\backslash \text{textbraceleft}\}{PU}\{\backslash 80\backslash 173\}\%$ U+007B
15277 % U+007C VERTICAL LINE; *bar, verticalbar
15278 $\backslash \text{DeclareTextCommand}\{\backslash \text{textbar}\}{PU}\{|\}\%$ $\backslash 80\backslash 174$ U+007C
15279 %* $\backslash \text{textbar} \rightarrow \backslash \text{textvtrline}$ (tipa)
15280 % U+007D RIGHT CURLY BRACKET; braceright
15281 $\backslash \text{DeclareTextCommand}\{\backslash \text{textbraceright}\}{PU}\{\backslash 80\backslash 175\}\%$ U+007D
15282 % U+007E TILDE; asciitilde
15283 $\backslash \text{DeclareTextCommand}\{\backslash \text{textasciitilde}\}{PU}\{\backslash 80\backslash 176\}\%$ U+007E

46.2.3 Latin-1 Supplement: U+0080 to U+00FF

$\backslash 80\backslash 240$: U+00A0 NO-BREAK SPACE; nbspace, nonbreakingspace
15284 % U+00A1 INVERTED EXCLAMATION MARK; exclamdown
15285 $\backslash \text{DeclareTextCommand}\{\backslash \text{textexclamdown}\}{PU}\{\backslash 80\backslash 241\}\%$ U+00A1
15286 % U+00A2 CENT SIGN; cent
15287 $\backslash \text{DeclareTextCommand}\{\backslash \text{textcent}\}{PU}\{\backslash 80\backslash 242\}\%$ U+00A2
15288 % U+00A3 POUND SIGN; sterling
15289 $\backslash \text{DeclareTextCommand}\{\backslash \text{textsterling}\}{PU}\{\backslash 80\backslash 243\}\%$ U+00A3
15290 %* $\backslash \text{textsterling} \rightarrow \backslash \text{mathsterling}$ (LaTeX)
15291 %* $\backslash \text{textsterling} \rightarrow \backslash \text{pounds}$ (LaTeX)
15292 % U+00A4 CURRENCY SIGN; currency
15293 $\backslash \text{DeclareTextCommand}\{\backslash \text{textcurrency}\}{PU}\{\backslash 80\backslash 244\}\%$ U+00A4
15294 % U+00A5 YEN SIGN; yen

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15295 \DeclareTextCommand{\textyen}{PU}{\80\245}% U+00A5
15296 % U+00A6 BROKEN BAR; brokenbar
15297 \DeclareTextCommand{\textbrokenbar}{PU}{\80\246}% U+00A6
15298 %* \textbrokenbar -> \brokenvert (wasysym)
15299 % U+00A7 SECTION SIGN; section
15300 \DeclareTextCommand{\textsection}{PU}{\80\247}% U+00A7
15301 %* \textsection -> \mathsection (LaTeX)
15302 %* \textsection -> \S (LaTeX)
15303 % U+00A8 DIAERESIS; dieresis
15304 \DeclareTextCommand{\textasciidieresis}{PU}{\80\250}% U+00A8
15305 % U+00A9 COPYRIGHT SIGN; copyright
15306 \DeclareTextCommand{\textcopyright}{PU}{\80\251}%* U+00A9
15307 % U+00AA FEMININE ORDINAL INDICATOR; ordfeminine
15308 \DeclareTextCommand{\textordfeminine}{PU}{\80\252}% U+00AA
15309 % U+00AB LEFT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetleft
15310 \DeclareTextCommand{\guillemotleft}{PU}{\80\253}% U+00AB
15311 \DeclareTextCommand{\guillemetleft}{PU}{\80\253}% U+00AB
15312 % U+00AC NOT SIGN; logicalnot
15313 \DeclareTextCommand{\textlogicalnot}{PU}{\80\254}% U+00AC
15314 \DeclareTextCommand{\textlnot}{PU}{\80\254}% U+00AC
\80\255: U+00AD SOFT HYPHEN; sfthyphen, softthyphen
15315 % U+00AE REGISTERED SIGN; registered
15316 \DeclareTextCommand{\textregistered}{PU}{\80\256}% U+00AE
15317 % U+00AF MACRON; *macron, overscore
15318 \DeclareTextCommand{\textasciimacron}{PU}{\80\257}% U+00AF
15319 % U+00B0 DEGREE SIGN; degree
15320 \DeclareTextCommand{\textdegree}{PU}{\80\260}% U+00B0
15321 % U+00B1 PLUS-MINUS SIGN; plusminus
15322 \DeclareTextCommand{\textplusminus}{PU}{\80\261}% U+00B1
15323 % U+00B2 SUPERSCRIPT TWO; twosuperior
15324 \DeclareTextCommand{\texttwosuperior}{PU}{\80\262}%* U+00B2
15325 % U+00B3 SUPERSCRIPT THREE; threesuperior
15326 \DeclareTextCommand{\textthreesuperior}{PU}{\80\263}%* U+00B3
15327 % U+00B4 ACUTE ACCENT; acute
15328 \DeclareTextCommand{\textacute}{PU}{\80\264}% U+00B4
15329 \DeclareTextCommand{\textasciiacute}{PU}{\80\264}% U+00B4
15330 % U+00B5 MICRO SIGN; mu, mu1
15331 \DeclareTextCommand{\textmu}{PU}{\80\265}% U+00B5
15332 % U+00B6 PILCROW SIGN; paragraph
15333 \DeclareTextCommand{\textparagraph}{PU}{\80\266}% U+00B6
15334 %* \textparagraph -> \mathparagraph (LaTeX)
15335 % U+00B7 MIDDLE DOT; middot, *periodcentered
15336 \DeclareTextCommand{\textperiodcentered}{PU}{\80\267}% U+00B7
15337 %* \textperiodcentered -> \MultiplicationDot (marvosym)
15338 %* \textperiodcentered -> \Squaredot (marvosym)
15339 % U+00B8 CEDILLA; cedilla
15340 \DeclareTextCommand{\textcedilla}{PU}{\80\270}% U+00B8
15341 % U+00B9 SUPERSCRIPT ONE; onesuperior
15342 \DeclareTextCommand{\textonesuperior}{PU}{\80\271}%* U+00B9
15343 % U+00BA MASCULINE ORDINAL INDICATOR; ordmasculine
15344 \DeclareTextCommand{\textordmasculine}{PU}{\80\272}% U+00BA
15345 % U+00BB RIGHT-POINTING DOUBLE ANGLE QUOTATION MARK; guillemetright
15346 \DeclareTextCommand{\guillemotright}{PU}{\80\273}% U+00BB
15347 \DeclareTextCommand{\guillemetright}{PU}{\80\273}% U+00BB

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15348 % U+00BC VULGAR FRACTION ONE QUARTER; onequarter
15349 \DeclareTextCommand{\textonequarter}{PU}{\80\274}% U+00BC
15350 % U+00BD VULGAR FRACTION ONE HALF; onehalf
15351 \DeclareTextCommand{\textonehalf}{PU}{\80\275}% U+00BD
15352 % U+00BE VULGAR FRACTION THREE QUARTERS; threequarters
15353 \DeclareTextCommand{\textthreequarters}{PU}{\80\276}% U+00BE
15354 % U+00BF INVERTED QUESTION MARK; questiondown
15355 \DeclareTextCommand{\textquestiondown}{PU}{\80\277}% U+00BF
15356 % U+00C0 LATIN CAPITAL LETTER A WITH GRAVE; Agrave
15357 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
15358 % U+00C1 LATIN CAPITAL LETTER A WITH ACUTE; Aacute
15359 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
15360 % U+00C2 LATIN CAPITAL LETTER A WITH CIRCUMFLEX; Acircumflex
15361 \DeclareTextCompositeCommand{\^}{PU}{A}{\80\302}% U+00C2
15362 % U+00C3 LATIN CAPITAL LETTER A WITH TILDE; Atilde
15363 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
15364 % U+00C4 LATIN CAPITAL LETTER A WITH DIAERESIS; Adieresis
15365 \DeclareTextCompositeCommand{\"}{PU}{A}{\80\304}% U+00C4
15366 % U+00C5 LATIN CAPITAL LETTER A WITH RING ABOVE; Aring
15367 \DeclareTextCompositeCommand{\r}{PU}{A}{\80\305}% U+00C5
15368 % U+00C6 LATIN CAPITAL LETTER AE; AE
15369 \DeclareTextCommand{\AE}{PU}{\80\306}% U+00C6
15370 % U+00C7 LATIN CAPITAL LETTER C WITH CEDILLA; Ccedilla
15371 \DeclareTextCompositeCommand{\c}{PU}{C}{\80\307}% U+00C7
15372 % U+00C8 LATIN CAPITAL LETTER E WITH GRAVE; Egrave
15373 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
15374 % U+00C9 LATIN CAPITAL LETTER E WITH ACUTE; Eacute
15375 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
15376 % U+00CA LATIN CAPITAL LETTER E WITH CIRCUMFLEX; Ecircumflex
15377 \DeclareTextCompositeCommand{\^}{PU}{E}{\80\312}% U+00CA
15378 % U+00CB LATIN CAPITAL LETTER E WITH DIAERESIS; Edieresis
15379 \DeclareTextCompositeCommand{\"}{PU}{E}{\80\313}% U+00CB
15380 % U+00CC LATIN CAPITAL LETTER I WITH GRAVE; Igrave
15381 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
15382 % U+00CD LATIN CAPITAL LETTER I WITH ACUTE; Iacute
15383 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
15384 % U+00CE LATIN CAPITAL LETTER I WITH CIRCUMFLEX; Icircumflex
15385 \DeclareTextCompositeCommand{\^}{PU}{I}{\80\316}% U+00CE
15386 % U+00CF LATIN CAPITAL LETTER I WITH DIAERESIS; Idieresis
15387 \DeclareTextCompositeCommand{\"}{PU}{I}{\80\317}% U+00CF
15388 % U+00D0 LATIN CAPITAL LETTER ETH; Eth
15389 \DeclareTextCommand{\DH}{PU}{\80\320}% U+00D0
15390 % U+00D1 LATIN CAPITAL LETTER N WITH TILDE; Ntilde
15391 \DeclareTextCompositeCommand{\~}{PU}{N}{\80\321}% U+00D1
15392 % U+00D2 LATIN CAPITAL LETTER O WITH GRAVE; Ograve
15393 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
15394 % U+00D3 LATIN CAPITAL LETTER O WITH ACUTE; Oacute
15395 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
15396 % U+00D4 LATIN CAPITAL LETTER O WITH CIRCUMFLEX; Ocircumflex
15397 \DeclareTextCompositeCommand{\^}{PU}{O}{\80\324}% U+00D4
15398 % U+00D5 LATIN CAPITAL LETTER O WITH TILDE; Otilde
15399 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
15400 % U+00D6 LATIN CAPITAL LETTER O WITH DIAERESIS; Odieresis
15401 \DeclareTextCompositeCommand{\"}{PU}{O}{\80\326}% U+00D6

15402 % U+00D7 MULTIPLICATION SIGN; multiply
15403 \DeclareTextCommand{\textmultiply}{PU}{\80\327}% U+00D7
15404 %* \textmultiply -> \vartimes (stmaryrd)
15405 %* \textmultiply -> \MVMultiplication (marvosym)
15406 % U+00D8 LATIN CAPITAL LETTER O WITH STROKE; Oslash
15407 \DeclareTextCommand{\O}{PU}{\80\330}% U+00D8
15408 % U+00D9 LATIN CAPITAL LETTER U WITH GRAVE; Ugrave
15409 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
15410 % U+00DA LATIN CAPITAL LETTER U WITH ACUTE; Uacute
15411 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
15412 % U+00DB LATIN CAPITAL LETTER U WITH CIRCUMFLEX; Ucircumflex
15413 \DeclareTextCompositeCommand{\^}{PU}{U}{\80\333}% U+00DB
15414 % U+00DC LATIN CAPITAL LETTER U WITH DIAERESIS; Udieresis
15415 \DeclareTextCompositeCommand{\"}{PU}{U}{\80\334}% U+00DC
15416 % U+00DD LATIN CAPITAL LETTER Y WITH ACUTE; Yacute
15417 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
15418 % U+00DE LATIN CAPITAL LETTER THORN; Thorn; \TH, \Thorn (wasysym)
15419 \DeclareTextCommand{\TH}{PU}{\80\336}% U+00DE
15420 \DeclareTextCommand{\textThorn}{PU}{\80\336}%* U+00DE
15421 % U+00DF LATIN SMALL LETTER SHARP S; germandbls
15422 \DeclareTextCommand{\ss}{PU}{\80\337}% U+00DF
15423 % U+00E0 LATIN SMALL LETTER A WITH GRAVE; agrave
15424 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
15425 % U+00E1 LATIN SMALL LETTER A WITH ACUTE; aacute
15426 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
15427 % U+00E2 LATIN SMALL LETTER A WITH CIRCUMFLEX; acircumflex
15428 \DeclareTextCompositeCommand{\^}{PU}{a}{\80\342}% U+00E2
15429 % U+00E3 LATIN SMALL LETTER A WITH TILDE; atilde
15430 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
15431 % U+00E4 LATIN SMALL LETTER A WITH DIAERESIS; adieresis
15432 \DeclareTextCompositeCommand{\"}{PU}{a}{\80\344}% U+00E4
15433 % U+00E5 LATIN SMALL LETTER A WITH RING ABOVE; aring
15434 \DeclareTextCompositeCommand{\r}{PU}{a}{\80\345}% U+00E5
15435 % U+00E6 LATIN SMALL LETTER AE; ae
15436 \DeclareTextCommand{\ae}{PU}{\80\346}% U+00E6
15437 % U+00E7 LATIN SMALL LETTER C WITH CEDILLA; ccedilla
15438 \DeclareTextCompositeCommand{\c}{PU}{c}{\80\347}% U+00E7
15439 % U+00E8 LATIN SMALL LETTER E WITH GRAVE; egrave
15440 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
15441 % U+00E9 LATIN SMALL LETTER E WITH ACUTE; eacute
15442 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
15443 % U+00EA LATIN SMALL LETTER E WITH CIRCUMFLEX; ecircumflex
15444 \DeclareTextCompositeCommand{\^}{PU}{e}{\80\352}% U+00EA
15445 % U+00EB LATIN SMALL LETTER E WITH DIAERESIS; edieresis
15446 \DeclareTextCompositeCommand{\"}{PU}{e}{\80\353}% U+00EB
15447 % U+00EC LATIN SMALL LETTER I WITH GRAVE; igrave
15448 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
15449 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\354}% U+00EC
15450 % U+00ED LATIN SMALL LETTER I WITH ACUTE; iacute
15451 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
15452 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\355}% U+00ED
15453 % U+00EE LATIN SMALL LETTER I WITH CIRCUMFLEX; icircumflex
15454 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE
15455 \DeclareTextCompositeCommand{\^}{PU}{i}{\80\356}% U+00EE

15456 % U+00EF LATIN SMALL LETTER I WITH DIAERESIS; idieresis
 15457 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF
 15458 \DeclareTextCompositeCommand{"}{PU}{i}{\80\357}% U+00EF
 15459 % U+00F0 LATIN SMALL LETTER ETH; eth
 15460 \DeclareTextCommand{\dh}{PU}{\80\360}% U+00F0
 15461 %* \dh -> \eth (wsuipa, phonetic)
 15462 % U+00F1 LATIN SMALL LETTER N WITH TILDE; ntilde
 15463 \DeclareTextCompositeCommand{~}{PU}{n}{\80\361}% U+00F1
 15464 % U+00F2 LATIN SMALL LETTER O WITH GRAVE; ograve
 15465 \DeclareTextCompositeCommand{`}{PU}{o}{\80\362}% U+00F2
 15466 % U+00F3 LATIN SMALL LETTER O WITH ACUTE; oacute
 15467 \DeclareTextCompositeCommand{'}{PU}{o}{\80\363}% U+00F3
 15468 % U+00F4 LATIN SMALL LETTER O WITH CIRCUMFLEX; ocircumflex
 15469 \DeclareTextCompositeCommand{^}{PU}{o}{\80\364}% U+00F4
 15470 % U+00F5 LATIN SMALL LETTER O WITH TILDE; otilde
 15471 \DeclareTextCompositeCommand{~}{PU}{o}{\80\365}% U+00F5
 15472 % U+00F6 LATIN SMALL LETTER O WITH DIAERESIS; odieresis
 15473 \DeclareTextCompositeCommand{"}{PU}{o}{\80\366}% U+00F6
 15474 % U+00F7 DIVISION SIGN; divide
 15475 \DeclareTextCommand{\textdivide}{PU}{\80\367}% U+00F7
 15476 % U+00F8 LATIN SMALL LETTER O WITH STROKE; oslash
 15477 \DeclareTextCommand{\o}{PU}{\80\370}% U+00F8
 15478 % U+00F9 LATIN SMALL LETTER U WITH GRAVE; ugrave
 15479 \DeclareTextCompositeCommand{`}{PU}{u}{\80\371}% U+00F9
 15480 % U+00FA LATIN SMALL LETTER U WITH ACUTE; uacute
 15481 \DeclareTextCompositeCommand{'}{PU}{u}{\80\372}% U+00FA
 15482 % U+00FB LATIN SMALL LETTER U WITH CIRCUMFLEX; ucircumflex
 15483 \DeclareTextCompositeCommand{^}{PU}{u}{\80\373}% U+00FB
 15484 % U+00FC LATIN SMALL LETTER U WITH DIAERESIS; udieresis
 15485 \DeclareTextCompositeCommand{"}{PU}{u}{\80\374}% U+00FC
 15486 % U+00FD LATIN SMALL LETTER Y WITH ACUTE; yacute
 15487 \DeclareTextCompositeCommand{'}{PU}{y}{\80\375}% U+00FD
 15488 % U+00FE LATIN SMALL LETTER THORN; thorn;
 15489 % \th, \thorn (wasysym), \textthorn (tipa)
 15490 \DeclareTextCommand{\th}{PU}{\80\376}% U+00FE
 15491 \DeclareTextCommand{\textthorn}{PU}{\80\376}%* U+00FE
 15492 % U+00FF LATIN SMALL LETTER Y WITH DIAERESIS; ydieresis
 15493 \DeclareTextCompositeCommand{"}{PU}{y}{\80\377}% U+00FF

46.2.4 Latin Extended-A: U+0080 to U+017F

15494 % U+0100 LATIN CAPITAL LETTER A WITH MACRON; Amacron
 15495 \DeclareTextCompositeCommand{\=}{PU}{A}{\81\000}% U+0100
 15496 % U+0101 LATIN SMALL LETTER A WITH MACRON; amacron
 15497 \DeclareTextCompositeCommand{\=}{PU}{a}{\81\001}% U+0101
 15498 % U+0102 LATIN CAPITAL LETTER A WITH BREVE; Abreve
 15499 \DeclareTextCompositeCommand{\u}{PU}{A}{\81\002}% U+0102
 15500 % U+0103 LATIN SMALL LETTER A WITH BREVE; abreve
 15501 \DeclareTextCompositeCommand{\u}{PU}{a}{\81\003}% U+0103
 15502 % U+0104 LATIN CAPITAL LETTER A WITH OGONEK; Aogonek
 15503 \DeclareTextCompositeCommand{\k}{PU}{A}{\81\004}% U+0104
 15504 % U+0105 LATIN SMALL LETTER A WITH OGONEK; aogonek
 15505 \DeclareTextCompositeCommand{\k}{PU}{a}{\81\005}% U+0105
 15506 % U+0106 LATIN CAPITAL LETTER C WITH ACUTE; Cacute

15507 \DeclareTextCompositeCommand{\'}{PU}{C}{\81\006}% U+0106
15508 % U+0107 LATIN SMALL LETTER C WITH ACUTE; cacute
15509 \DeclareTextCompositeCommand{\'}{PU}{c}{\81\007}% U+0107
15510 % U+0108 LATIN CAPITAL LETTER C WITH CIRCUMFLEX; Ccircumflex
15511 \DeclareTextCompositeCommand{\^}{PU}{C}{\81\010}% U+0108
15512 % U+0109 LATIN SMALL LETTER C WITH CIRCUMFLEX; ccircumflex
15513 \DeclareTextCompositeCommand{\^}{PU}{c}{\81\011}% U+0109
15514 % U+010A LATIN CAPITAL LETTER C WITH DOT ABOVE; Cdot, Cdotac-
cent
15515 \DeclareTextCompositeCommand{\.}{PU}{C}{\81\012}% U+010A
15516 % U+010B LATIN SMALL LETTER C WITH DOT ABOVE; cdot, cdotaccent
15517 \DeclareTextCompositeCommand{\.}{PU}{c}{\81\013}% U+010B
15518 % U+010C LATIN CAPITAL LETTER C WITH CARON; Ccaron
15519 \DeclareTextCompositeCommand{\v}{PU}{C}{\81\014}% U+010C
15520 % U+010D LATIN SMALL LETTER C WITH CARON; ccaron
15521 \DeclareTextCompositeCommand{\v}{PU}{c}{\81\015}% U+010D
15522 % U+010E LATIN CAPITAL LETTER D WITH CARON; Dcaron
15523 \DeclareTextCompositeCommand{\v}{PU}{D}{\81\016}% U+010E
15524 % U+010F LATIN SMALL LETTER D WITH CARON; dcaron
15525 \DeclareTextCompositeCommand{\v}{PU}{d}{\81\017}% U+010F
15526 % U+0110 LATIN CAPITAL LETTER D WITH STROKE; Dcroat, Dslash
15527 \DeclareTextCommand{\DJ}{PU}{\81\020}% U+0110
15528 % U+0111 LATIN SMALL LETTER D WITH STROKE; dcroat, dmacron;
15529 % \textcrd (tipa)
15530 \DeclareTextCommand{\dj}{PU}{\81\021}% U+0111
15531 \DeclareTextCommand{\textcrd}{PU}{\81\021}% U+0111
15532 %* \textcrd -> \crossd (wsuipa)
15533 % An alternate glyph with the stroke through the bowl:
15534 %* \textcrd -> \textbard (tipa)
15535 %* \textcrd -> \bard (wsuipa)
15536 % U+0112 LATIN CAPITAL LETTER E WITH MACRON; Emacron
15537 \DeclareTextCompositeCommand{\=}{PU}{E}{\81\022}% U+0112
15538 % U+0113 LATIN SMALL LETTER E WITH MACRON; emacron
15539 \DeclareTextCompositeCommand{\=}{PU}{e}{\81\023}% U+0113
15540 % U+0114 LATIN CAPITAL LETTER E WITH BREVE; Ebreve
15541 \DeclareTextCompositeCommand{\u}{PU}{E}{\81\024}% U+0114
15542 % U+0115 LATIN SMALL LETTER E WITH BREVE; ebreve
15543 \DeclareTextCompositeCommand{\u}{PU}{e}{\81\025}% U+0115
15544 % U+0116 LATIN CAPITAL LETTER E WITH DOT ABOVE; Edot, Edotaccent
15545 \DeclareTextCompositeCommand{\.}{PU}{E}{\81\026}% U+0116
15546 % U+0117 LATIN SMALL LETTER E WITH DOT ABOVE; edot, edotaccent
15547 \DeclareTextCompositeCommand{\.}{PU}{e}{\81\027}% U+0117
15548 % U+0118 LATIN CAPITAL LETTER E WITH OGONEK; Eogonek
15549 \DeclareTextCompositeCommand{\k}{PU}{E}{\81\030}% U+0118
15550 % U+0119 LATIN SMALL LETTER E WITH OGONEK; eogonek
15551 \DeclareTextCompositeCommand{\k}{PU}{e}{\81\031}% U+0119
15552 % U+011A LATIN CAPITAL LETTER E WITH CARON; Ecaron
15553 \DeclareTextCompositeCommand{\v}{PU}{E}{\81\032}% U+011A
15554 % U+011B LATIN SMALL LETTER E WITH CARON; ecaron
15555 \DeclareTextCompositeCommand{\v}{PU}{e}{\81\033}% U+011B
15556 % U+011C LATIN CAPITAL LETTER G WITH CIRCUMFLEX; Gcircumflex
15557 \DeclareTextCompositeCommand{\^}{PU}{G}{\81\034}% U+011C
15558 % U+011D LATIN SMALL LETTER G WITH CIRCUMFLEX; gcircumflex
15559 \DeclareTextCompositeCommand{\^}{PU}{g}{\81\035}% U+011D

15560 % U+011E LATIN CAPITAL LETTER G WITH BREVE; Gbreve
15561 \DeclareTextCompositeCommand{\u}{PU}{G}{\81\036}% U+011E
15562 % U+011F LATIN SMALL LETTER G WITH BREVE; gbreve
15563 \DeclareTextCompositeCommand{\u}{PU}{g}{\81\037}% U+011F
15564 % U+0120 LATIN CAPITAL LETTER G WITH DOT ABOVE; Gdot, Gdotaccent
15565 \DeclareTextCompositeCommand{\.}{PU}{G}{\81\040}% U+0120
15566 % U+0121 LATIN SMALL LETTER G WITH DOT ABOVE; gdot, gdotaccent
15567 \DeclareTextCompositeCommand{\.}{PU}{g}{\81\041}% U+0121
15568 % U+0122 LATIN CAPITAL LETTER G WITH CEDILLA; Gcedilla, Gcommaaccent
15569 \DeclareTextCompositeCommand{\c}{PU}{G}{\81\042}% U+0122
15570 % U+0123 LATIN SMALL LETTER G WITH CEDILLA; gcedilla, gcommaaccent
15571 \DeclareTextCompositeCommand{\c}{PU}{g}{\81\043}% U+0123
15572 % U+0124 LATIN CAPITAL LETTER H WITH CIRCUMFLEX; Hcircumflex
15573 \DeclareTextCompositeCommand{\^}{PU}{H}{\81\044}% U+0124
15574 % U+0125 LATIN SMALL LETTER H WITH CIRCUMFLEX; hcircumflex
15575 \DeclareTextCompositeCommand{\^}{PU}{h}{\81\045}% U+0125
15576 % U+0126 LATIN CAPITAL LETTER H WITH STROKE; Hbar
15577 \DeclareTextCommand{\textHslash}{PU}{\81\046}% U+0126
15578 % U+0127 LATIN SMALL LETTER H WITH STROKE; hbar; \hbar (AmS)
15579 \DeclareTextCommand{\texthbar}{PU}{\81\047}%* U+0127
15580 %* \texthbar -> \textcrh (tipa)
15581 %* \texthbar -> \crossh (wsuipa)
15582 %* \texthbar -> \planck (phonetic)
15583 % U+0128 LATIN CAPITAL LETTER I WITH TILDE; Itilde
15584 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
15585 % U+0129 LATIN SMALL LETTER I WITH TILDE; itilde
15586 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
15587 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
15588 % U+012A LATIN CAPITAL LETTER I WITH MACRON; Imacron
15589 \DeclareTextCompositeCommand{\=}{PU}{I}{\81\052}% U+012A
15590 % U+012B LATIN SMALL LETTER I WITH MACRON; imacron
15591 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
15592 \DeclareTextCompositeCommand{\=}{PU}{i}{\81\053}% U+012B
15593 % U+012C LATIN CAPITAL LETTER I WITH BREVE; Ibreve
15594 \DeclareTextCompositeCommand{\u}{PU}{I}{\81\054}% U+012C
15595 % U+012D LATIN SMALL LETTER I WITH BREVE; ibreve
15596 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
15597 \DeclareTextCompositeCommand{\u}{PU}{i}{\81\055}% U+012D
15598 % U+012E LATIN CAPITAL LETTER I WITH OGONEK; Iogonek
15599 \DeclareTextCompositeCommand{\k}{PU}{I}{\81\056}% U+012E
15600 % U+012F LATIN SMALL LETTER I WITH OGONEK; iogonek
15601 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
15602 \DeclareTextCompositeCommand{\k}{PU}{i}{\81\057}% U+012F
15603 % U+0130 LATIN CAPITAL LETTER I WITH DOT ABOVE; Idot, Idotaccent
15604 \DeclareTextCompositeCommand{\.}{PU}{I}{\81\060}% U+0130
15605 % U+0131 LATIN SMALL LETTER DOTLESS I; dotlessi
15606 \DeclareTextCommand{\i}{PU}{\81\061}% U+0131
15607 % U+0132 LATIN CAPITAL LIGATURE IJ; IJ
15608 \DeclareTextCommand{\IJ}{PU}{\81\062}% U+0132
15609 % U+0133 LATIN SMALL LIGATURE IJ; ij
15610 \DeclareTextCommand{\ij}{PU}{\81\063}% U+0133
15611 % U+0134 LATIN CAPITAL LETTER J WITH CIRCUMFLEX; Jcircumflex

```

15612 \DeclareTextCompositeCommand{\~}{PU}{J}{\81\064}% U+0134
15613 % U+0135 LATIN SMALL LETTER J WITH CIRCUMFLEX; jcircumflex
15614 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
15615 \DeclareTextCompositeCommand{\^}{PU}{j}{\81\065}% U+0135
15616 % U+0136 LATIN CAPITAL LETTER K WITH CEDILLA; Kcedilla, Kcommaac-
cent
15617 \DeclareTextCompositeCommand{\c}{PU}{K}{\81\066}% U+0136
15618 % U+0137 LATIN SMALL LETTER K WITH CEDILLA; kcedilla, kcommaaccent
15619 \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`.

```

15620 % U+0138 LATIN SMALL LETTER KRA; kgreenlandic
15621 \DeclareTextCommand{\textkra}{PU}{\81\070}% U+0138
15622 % U+0139 LATIN CAPITAL LETTER L WITH ACUTE; Lacute
15623 \DeclareTextCompositeCommand{\'}{PU}{L}{\81\071}% U+0139
15624 % U+013A LATIN SMALL LETTER L WITH ACUTE; lacute
15625 \DeclareTextCompositeCommand{\'}{PU}{l}{\81\072}% U+013A
15626 % U+013B LATIN CAPITAL LETTER L WITH CEDILLA; Lcedilla, Lcommaac-
cent
15627 \DeclareTextCompositeCommand{\c}{PU}{L}{\81\073}% U+013B
15628 % U+013C LATIN SMALL LETTER L WITH CEDILLA; lcedilla, lcommaaccent
15629 \DeclareTextCompositeCommand{\c}{PU}{l}{\81\074}% U+013C
15630 % U+013D LATIN CAPITAL LETTER L WITH CARON; Lcaron
15631 \DeclareTextCompositeCommand{\v}{PU}{L}{\81\075}% U+013D
15632 % U+013E LATIN SMALL LETTER L WITH CARON; lcaron
15633 \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`.

```

15634 % U+013F LATIN CAPITAL LETTER L WITH MIDDLE DOT; Ldot, Ldotac-
cent
15635 \DeclareTextCompositeCommand{\.}{PU}{L}{\81\077}% U+013F
15636 % U+0140 LATIN SMALL LETTER L WITH MIDDLE DOT; ldot, ldotaccent
15637 \DeclareTextCompositeCommand{\.}{PU}{l}{\81\100}% U+0140
15638 % U+0141 LATIN CAPITAL LETTER L WITH STROKE; Lslash
15639 \DeclareTextCommand{\L}{PU}{\81\101}% U+0141
15640 % U+0142 LATIN SMALL LETTER L WITH STROKE; lslash
15641 \DeclareTextCommand{\l}{PU}{\81\102}% U+0142
15642 % U+0143 LATIN CAPITAL LETTER N WITH ACUTE; Nacute
15643 \DeclareTextCompositeCommand{\'}{PU}{N}{\81\103}% U+0143
15644 % U+0144 LATIN SMALL LETTER N WITH ACUTE; nacute
15645 \DeclareTextCompositeCommand{\'}{PU}{n}{\81\104}% U+0144
15646 % U+0145 LATIN CAPITAL LETTER N WITH CEDILLA; Ncedilla, Ncommaac-
cent
15647 \DeclareTextCompositeCommand{\c}{PU}{N}{\81\105}% U+0145
15648 % U+0146 LATIN SMALL LETTER N WITH CEDILLA; ncedilla, ncommaaccent
15649 \DeclareTextCompositeCommand{\c}{PU}{n}{\81\106}% U+0146
15650 % U+0147 LATIN CAPITAL LETTER N WITH CARON; Ncaron
15651 \DeclareTextCompositeCommand{\v}{PU}{N}{\81\107}% U+0147
15652 % U+0148 LATIN SMALL LETTER N WITH CARON; ncaron
15653 \DeclareTextCompositeCommand{\v}{PU}{n}{\81\110}% U+0148
15654 % U+0149 LATIN SMALL LETTER N PRECEDED BY APOSTROPHE; napos-

```

trophe, quoterightn
15655 \DeclareTextCommand{\textnapostrophe}{PU}{\81\111}% U+0149
15656 % U+014A LATIN CAPITAL LETTER ENG; Eng
15657 \DeclareTextCommand{\NG}{PU}{\81\112}% U+014A
15658 % U+014B LATIN SMALL LETTER ENG; eng
15659 \DeclareTextCommand{\ng}{PU}{\81\113}% U+014B
15660 %* \ng -> \eng (wsuipa)
15661 %* \ng -> \engma (phonetic)
15662 % U+014C LATIN CAPITAL LETTER O WITH MACRON; Omacron
15663 \DeclareTextCompositeCommand{\=}{PU}{O}{\81\114}% U+014C
15664 % U+014D LATIN SMALL LETTER O WITH MACRON; omacron
15665 \DeclareTextCompositeCommand{\=}{PU}{o}{\81\115}% U+014D
15666 % U+014E LATIN CAPITAL LETTER O WITH BREVE; Obreve
15667 \DeclareTextCompositeCommand{\u}{PU}{O}{\81\116}% U+014E
15668 % U+014F LATIN SMALL LETTER O WITH BREVE; obreve
15669 \DeclareTextCompositeCommand{\u}{PU}{o}{\81\117}% U+014F
15670 % U+0150 LATIN CAPITAL LETTER O WITH DOUBLE ACUTE; Odbla-
cute, Ohungarumlaut
15671 \DeclareTextCompositeCommand{\H}{PU}{O}{\81\120}% U+0150
15672 % U+0151 LATIN SMALL LETTER O WITH DOUBLE ACUTE; odbla-
cute, ohungarumlaut
15673 \DeclareTextCompositeCommand{\H}{PU}{o}{\81\121}% U+0151
15674 % U+0152 LATIN CAPITAL LIGATURE OE; OE
15675 \DeclareTextCommand{\OE}{PU}{\81\122}% U+0152
15676 % U+0153 LATIN SMALL LIGATURE OE; oe
15677 \DeclareTextCommand{\oe}{PU}{\81\123}% U+0153
15678 % U+0154 LATIN CAPITAL LETTER R WITH ACUTE; Racute
15679 \DeclareTextCompositeCommand{\'}{PU}{R}{\81\124}% U+0154
15680 % U+0155 LATIN SMALL LETTER R WITH ACUTE; racute
15681 \DeclareTextCompositeCommand{\'}{PU}{r}{\81\125}% U+0155
15682 % U+0156 LATIN CAPITAL LETTER R WITH CEDILLA; Rcedilla, Rcommaac-
cent
15683 \DeclareTextCompositeCommand{\c}{PU}{R}{\81\126}% U+0156
15684 % U+0157 LATIN SMALL LETTER R WITH CEDILLA; rcedilla, rcommaaccent
15685 \DeclareTextCompositeCommand{\c}{PU}{r}{\81\127}% U+0157
15686 % U+0158 LATIN CAPITAL LETTER R WITH CARON; Rcaron
15687 \DeclareTextCompositeCommand{\v}{PU}{R}{\81\130}% U+0158
15688 % U+0159 LATIN SMALL LETTER R WITH CARON; rcaron
15689 \DeclareTextCompositeCommand{\v}{PU}{r}{\81\131}% U+0159
15690 % U+015A LATIN CAPITAL LETTER S WITH ACUTE; Sacute
15691 \DeclareTextCompositeCommand{\'}{PU}{S}{\81\132}% U+015A
15692 % U+015B LATIN SMALL LETTER S WITH ACUTE; sacute
15693 \DeclareTextCompositeCommand{\'}{PU}{s}{\81\133}% U+015B
15694 % U+015C LATIN CAPITAL LETTER S WITH CIRCUMFLEX; Scircumflex
15695 \DeclareTextCompositeCommand{\^}{PU}{S}{\81\134}% U+015C
15696 % U+015D LATIN SMALL LETTER S WITH CIRCUMFLEX; scircumflex
15697 \DeclareTextCompositeCommand{\^}{PU}{s}{\81\135}% U+015D
15698 % U+015E LATIN CAPITAL LETTER S WITH CEDILLA; Scedilla
15699 \DeclareTextCompositeCommand{\c}{PU}{S}{\81\136}% U+015E
15700 % U+015F LATIN SMALL LETTER S WITH CEDILLA; scedilla
15701 \DeclareTextCompositeCommand{\c}{PU}{s}{\81\137}% U+015F
15702 % U+0160 LATIN CAPITAL LETTER S WITH CARON; Scaron
15703 \DeclareTextCompositeCommand{\v}{PU}{S}{\81\140}% U+0160
15704 % U+0161 LATIN SMALL LETTER S WITH CARON; scaron

15705 \DeclareTextCompositeCommand{\v}{PU}{s}{\81\141}% U+0161
15706 % U+0162 LATIN CAPITAL LETTER T WITH CEDILLA; Tcedilla, Tcommaaccent
cent
15707 \DeclareTextCompositeCommand{\c}{PU}{T}{\81\142}% U+0162
15708 % U+0163 LATIN SMALL LETTER T WITH CEDILLA; tcedilla, tcommaaccent
15709 \DeclareTextCompositeCommand{\c}{PU}{t}{\81\143}% U+0163
15710 % U+0164 LATIN CAPITAL LETTER T WITH CARON; Tcaron
15711 \DeclareTextCompositeCommand{\v}{PU}{T}{\81\144}% U+0164
15712 % U+0165 LATIN SMALL LETTER T WITH CARON; tcaron
15713 \DeclareTextCompositeCommand{\v}{PU}{t}{\81\145}% U+0165
15714 % U+0166 LATIN CAPITAL LETTER T WITH STROKE; Tbar
15715 \DeclareTextCommand{\textTslash}{PU}{\81\146}% U+0166
15716 % U+0167 LATIN SMALL LETTER T WITH STROKE; tbar
15717 \DeclareTextCommand{\texttslash}{PU}{\81\147}% U+0167
15718 % U+0168 LATIN CAPITAL LETTER U WITH TILDE; Utilde
15719 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168
15720 % U+0169 LATIN SMALL LETTER U WITH TILDE; utilde
15721 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
15722 % U+016A LATIN CAPITAL LETTER U WITH MACRON; Umacron
15723 \DeclareTextCompositeCommand{\=}{PU}{U}{\81\152}% U+016A
15724 % U+016B LATIN SMALL LETTER U WITH MACRON; umacron
15725 \DeclareTextCompositeCommand{\=}{PU}{u}{\81\153}% U+016B
15726 % U+016C LATIN CAPITAL LETTER U WITH BREVE; Ubreve
15727 \DeclareTextCompositeCommand{\u}{PU}{U}{\81\154}% U+016C
15728 % U+016D LATIN SMALL LETTER U WITH BREVE; ubreve
15729 \DeclareTextCompositeCommand{\u}{PU}{u}{\81\155}% U+016D
15730 % U+016E LATIN CAPITAL LETTER U WITH RING ABOVE; Uring
15731 \DeclareTextCompositeCommand{\r}{PU}{U}{\81\156}% U+016E
15732 % U+016F LATIN SMALL LETTER U WITH RING ABOVE; uring
15733 \DeclareTextCompositeCommand{\r}{PU}{u}{\81\157}% U+016F
15734 % U+0170 LATIN CAPITAL LETTER U WITH DOUBLE ACUTE; Udblacute, Uhungarumlaut
15735 \DeclareTextCompositeCommand{\H}{PU}{U}{\81\160}% U+0170
15736 % U+0171 LATIN SMALL LETTER U WITH DOUBLE ACUTE; udblacute, uhungarumlaut
15737 \DeclareTextCompositeCommand{\H}{PU}{u}{\81\161}% U+0171
15738 % U+0172 LATIN CAPITAL LETTER U WITH OGONEK; Uogonek
15739 \DeclareTextCompositeCommand{\k}{PU}{U}{\81\162}% U+0172
15740 % U+0173 LATIN SMALL LETTER U WITH OGONEK; uogonek
15741 \DeclareTextCompositeCommand{\k}{PU}{u}{\81\163}% U+0173
15742 % U+0174 LATIN CAPITAL LETTER W WITH CIRCUMFLEX; Wcircumflex
15743 \DeclareTextCompositeCommand{\^}{PU}{W}{\81\164}% U+0174
15744 % U+0175 LATIN SMALL LETTER W WITH CIRCUMFLEX; wcircumflex
15745 \DeclareTextCompositeCommand{\^}{PU}{w}{\81\165}% U+0175
15746 % U+0176 LATIN CAPITAL LETTER Y WITH CIRCUMFLEX; Ycircumflex
15747 \DeclareTextCompositeCommand{\^}{PU}{Y}{\81\166}% U+0176
15748 % U+0177 LATIN SMALL LETTER Y WITH CIRCUMFLEX; ycircumflex
15749 \DeclareTextCompositeCommand{\^}{PU}{y}{\81\167}% U+0177
15750 % U+0178 LATIN CAPITAL LETTER Y WITH DIAERESIS; Ydieresis
15751 \DeclareTextCompositeCommand{\"}{PU}{Y}{\81\170}% U+0178
15752 % U+0179 LATIN CAPITAL LETTER Z WITH ACUTE; Zacute
15753 \DeclareTextCompositeCommand{\'}{PU}{Z}{\81\171}% U+0179
15754 % U+017A LATIN SMALL LETTER Z WITH ACUTE; zacute
15755 \DeclareTextCompositeCommand{\'}{PU}{z}{\81\172}% U+017A

15756 % U+017B LATIN CAPITAL LETTER Z WITH DOT ABOVE; Zdot, Zdotaccent
 15757 \DeclareTextCompositeCommand{\.}{PU}{Z}{\81\173}% U+017B
 15758 % U+017C LATIN SMALL LETTER Z WITH DOT ABOVE; zdot, zdotaccent
 15759 \DeclareTextCompositeCommand{\.}{PU}{z}{\81\174}% U+017C
 15760 % U+017D LATIN CAPITAL LETTER Z WITH CARON; Zcaron
 15761 \DeclareTextCompositeCommand{\v}{PU}{Z}{\81\175}% U+017D
 15762 % U+017E LATIN SMALL LETTER Z WITH CARON; zcaron
 15763 \DeclareTextCompositeCommand{\v}{PU}{z}{\81\176}% U+017E
 15764 % U+017F LATIN SMALL LETTER LONG S; longs, slong
 15765 \DeclareTextCommand{\textlongS}{PU}{\81\177}% U+017F

46.2.5 Latin Extended-B: U+0180 to U+024F

15766 % U+0180 LATIN SMALL LETTER B WITH STROKE; bstroke; \textcrb (tipa)
 15767 \DeclareTextCommand{\textcrb}{PU}{\81\200}% U+0180
 15768 %* \textcrb -> \crossb (wsuipa)
 15769 % An alternate glyph with the stroke through the bowl:
 15770 %* \textcrb -> \textbarb (tipa)
 15771 %* \textcrb -> \barb (wsuipa)
 15772 % U+0181 LATIN CAPITAL LETTER B WITH HOOK; Bhook; \hausab (pho-
 netic)
 15773 \DeclareTextCommand{\texthausaB}{PU}{\81\201}%* U+0181
 15774 % U+0188 LATIN SMALL LETTER C WITH HOOK; chook; \texthtc (tipa)
 15775 \DeclareTextCommand{\texthtc}{PU}{\81\210}% U+0188
 15776 % U+018A LATIN CAPITAL LETTER D WITH HOOK; Dhook; \hausad (pho-
 netic)
 15777 \DeclareTextCommand{\texthausaD}{PU}{\81\212}%* U+018A
 15778 % U+018E LATIN CAPITAL LETTER REVERSED E; Eversed
 15779 \DeclareTextCommand{\textEversed}{PU}{\81\216}% U+018E
 15780 \DeclareTextCommand{\textrevE}{PU}{\81\216}% U+018E
 15781 % U+0192 LATIN SMALL LETTER F WITH HOOK; florin
 15782 \DeclareTextCommand{\textflorin}{PU}{\81\222}% U+0192
 15783 %* \textflorin -> \Florin (marvosym)
 15784 % U+0195 LATIN SMALL LETTER HV; hv; \texthvlig (tipa)
 15785 \DeclareTextCommand{\texthvlig}{PU}{\81\225}% U+0195
 15786 %* \texthvlig -> \hv (wsuipa)
 15787 % U+0198 LATIN CAPITAL LETTER K WITH HOOK; Khook; \hausak (pho-
 netic)
 15788 \DeclareTextCommand{\texthausaK}{PU}{\81\230}%* U+0198
 15789 % U+0199 LATIN SMALL LETTER K WITH HOOK; khook; \texthtk (tipa)
 15790 \DeclareTextCommand{\texthtk}{PU}{\81\231}% U+0199
 15791 %* \texthtk -> \hausak (phonetic)
 15792 % U+019A LATIN SMALL LETTER L WITH BAR; lbar;
 15793 % \textbarl (tipa), \barl (wsuipa)
 15794 \DeclareTextCommand{\textbarl}{PU}{\81\232}%* U+019A
 15795 % U+019B LATIN SMALL LETTER LAMBDA WITH STROKE/
 15796 % LATIN SMALL LETTER BARRED LAMBDA; lambdastroke;
 15797 % \textcrlambda (tipa)
 15798 \DeclareTextCommand{\textcrlambda}{PU}{\81\233}% U+019B
 15799 %* \textcrlambda -> \crossnilambda (wsuipa)
 15800 %* \textcrlambda -> \barlambda (phonetic)
 15801 %* \textcrlambda -> \lambdabar (txfonts/pxfonts)
 15802 %* \textcrlambda -> \lambdaslash (txfonts/pxfonts)
 15803 % U+019E LATIN SMALL LETTER N WITH LONG RIGHT LEG; nlegright-
 long;

15804 % \textnrleg (tipx)
15805 \DeclareTextCommand{\textPUnrleg}{PU}{\81\236}% U+019E
15806 %* \textPUnrleg -> \textnrleg (tipx)
15807 % U+01A5 LATIN SMALL LETTER P WITH HOOK; phook; \texthttp (tipa)
15808 \DeclareTextCommand{\texthttp}{PU}{\81\245}% U+01A5
15809 % U+01AB LATIN SMALL LETTER T WITH PALATAL HOOK; tpalatalhook;
15810 % \textlhookt (tipa)
15811 \DeclareTextCommand{\textlhookt}{PU}{\81\253}% U+01AB
15812 % U+01AD LATIN SMALL LETTER T WITH HOOK; thook; \texthtt (tipa)
15813 \DeclareTextCommand{\texthtt}{PU}{\81\255}% U+01AD
15814 % U+01B9 LATIN SMALL LETTER EZH REVERSED/
15815 % LATIN SMALL LETTER REVERSED YOGH; \textrevyogh (tipa)
15816 \DeclareTextCommand{\textrevyogh}{PU}{\81\271}% U+01B9
15817 % U+01BB LATIN LETTER TWO WITH STROKE; twostroke; \textcrtwo (tipa)
15818 \DeclareTextCommand{\textcrtwo}{PU}{\81\273}% U+01BB
15819 % U+01BE LATIN LETTER INVERTED GLOTTAL STOP WITH STROKE;
15820 % glottalinvertedstroke; \textcrinvglotstop (tipa)
15821 \DeclareTextCommand{\textcrinvglotstop}{PU}{\81\276}% U+01BE
15822 % U+01BF LATIN LETTER WYNN; wynn; \textwynn (tipa)
15823 \DeclareTextCommand{\textwynn}{PU}{\81\277}% U+01BF
15824 % U+01C0 LATIN LETTER DENTAL CLICK/LATIN LETTER PIPE; clickden-
tal;
15825 % \textpipe (tipa)
15826 \DeclareTextCommand{\textpipe}{PU}{\81\300}% U+01C0
15827 %* \textpipe -> \textpipevar (tipx)
15828 % U+01C1 LATIN LETTER LATERAL CLICK/LATIN LETTER
15829 % DOUBLE PIPE; clicklateral; \textdoublepipe (tipa)
15830 \DeclareTextCommand{\textdoublepipe}{PU}{\81\301}% U+01C1
15831 %* \textdoublepipe -> \textdoublepipevar (tipx)
15832 % U+01C2 LATIN LETTER ALVEOLAR CLICK/LATIN LETTER PIPE DOU-
BLE BAR;
15833 % clickalveolar; \textdoublebarpipe (tipa)
15834 \DeclareTextCommand{\textdoublebarpipe}{PU}{\81\302}% U+01C2
15835 %* \textdoublebarpipe -> \textdoublebarpipevar (tipx)
15836 % U+01CD LATIN CAPITAL LETTER A WITH CARON; Acaron
15837 \DeclareTextCompositeCommand{\v}{PU}{A}{\81\315}% U+01CD
15838 % U+01CE LATIN SMALL LETTER A WITH CARON; acaron
15839 \DeclareTextCompositeCommand{\v}{PU}{a}{\81\316}% U+01CE
15840 % U+01CF LATIN CAPITAL LETTER I WITH CARON; Icaron
15841 \DeclareTextCompositeCommand{\v}{PU}{I}{\81\317}% U+01CF
15842 % U+01D0 LATIN SMALL LETTER I WITH CARON; icaron
15843 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
15844 \DeclareTextCompositeCommand{\v}{PU}{i}{\81\320}% U+01D0
15845 % U+01D1 LATIN CAPITAL LETTER O WITH CARON; Ocaron
15846 \DeclareTextCompositeCommand{\v}{PU}{O}{\81\321}% U+01D1
15847 % U+01D2 LATIN SMALL LETTER O WITH CARON; ocaron
15848 \DeclareTextCompositeCommand{\v}{PU}{o}{\81\322}% U+01D2
15849 % U+01D3 LATIN CAPITAL LETTER U WITH CARON; Ucaron
15850 \DeclareTextCompositeCommand{\v}{PU}{U}{\81\323}% U+01D3
15851 % U+01D4 LATIN SMALL LETTER U WITH CARON; ucaron
15852 \DeclareTextCompositeCommand{\v}{PU}{u}{\81\324}% U+01D4
15853 % U+01DD LATIN SMALL LETTER TURNED E; eturned; \inve (wasysym)
15854 \DeclareTextCommand{\textinve}{PU}{\81\335}%* U+01DD
15855 % U+01E4 LATIN CAPITAL LETTER G WITH STROKE; Gstroke

15856 \DeclareTextCommand{\textGslash}{PU}{\81\344}% U+01E4
15857 % U+01E5 LATIN SMALL LETTER G WITH STROKE; gstroke
15858 \DeclareTextCommand{\textgslash}{PU}{\81\345}% U+01E5
15859 %* \textgslash -> \textcrg (tipa)
15860 % U+01E6 LATIN CAPITAL LETTER G WITH CARON; Gcaron
15861 \DeclareTextCompositeCommand{\v}{PU}{G}{\81\346}% U+01E6
15862 % U+01E7 LATIN SMALL LETTER G WITH CARON; gcaron
15863 \DeclareTextCompositeCommand{\v}{PU}{g}{\81\347}% U+01E7
15864 % U+01E8 LATIN CAPITAL LETTER K WITH CARON; Kcaron
15865 \DeclareTextCompositeCommand{\v}{PU}{K}{\81\350}% U+01E8
15866 % U+01E9 LATIN SMALL LETTER K WITH CARON; kcaron
15867 \DeclareTextCompositeCommand{\v}{PU}{k}{\81\351}% U+01E9
15868 % U+01EA LATIN CAPITAL LETTER O WITH OGONEK; Oogonek
15869 \DeclareTextCompositeCommand{\k}{PU}{O}{\81\352}% U+01EA
15870 % U+01EB LATIN SMALL LETTER O WITH OGONEK; oogonek
15871 \DeclareTextCompositeCommand{\k}{PU}{o}{\81\353}% U+01EB
15872 % U+01F0 LATIN SMALL LETTER J WITH CARON; jcaron
15873 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
15874 \DeclareTextCompositeCommand{\v}{PU}{j}{\81\360}% U+01F0
15875 % U+01F4 LATIN CAPITAL LETTER G WITH ACUTE; Gacute
15876 \DeclareTextCompositeCommand{\'}{PU}{G}{\81\364}% U+01F4
15877 % U+01F5 LATIN SMALL LETTER G WITH ACUTE; gacute
15878 \DeclareTextCompositeCommand{\'}{PU}{g}{\81\365}% U+01F5
15879 % U+01F8 LATIN CAPITAL LETTER N WITH GRAVE
15880 \DeclareTextCompositeCommand{\`}{PU}{N}{\81\370}% U+01F8
15881 % U+01F9 LATIN SMALL LETTER N WITH GRAVE
15882 \DeclareTextCompositeCommand{\`}{PU}{n}{\81\371}% U+01F9
15883 % U+01FC LATIN CAPITAL LETTER AE WITH ACUTE; AEacute
15884 \DeclareTextCompositeCommand{\'}{PU}{\AE}{\81\374}% U+01FC
15885 % U+01FD LATIN SMALL LETTER AE WITH ACUTE; aeacute
15886 \DeclareTextCompositeCommand{\'}{PU}{\ae}{\81\375}% U+01FD
15887 % U+01FE LATIN CAPITAL LETTER O WITH STROKE AND ACUTE;
15888 % *Oslashacute, Ostrokeacute
15889 \DeclareTextCompositeCommand{\'}{PU}{\O}{\81\376}% U+01FE
15890 % U+01FF LATIN SMALL LETTER O WITH STROKE AND ACUTE;
15891 % *oslashacute, ostrokeacute
15892 \DeclareTextCompositeCommand{\'}{PU}{\o}{\81\377}% U+01FF
15893 </puenc>
15894 <*puextra>
15895 % U+0200 LATIN CAPITAL LETTER A WITH DOUBLE GRAVE; Adblgrave
15896 \DeclareTextCompositeCommand{\G}{PU}{A}{\82\000}% U+0200
15897 % U+0201 LATIN SMALL LETTER A WITH DOUBLE GRAVE; adblgrave
15898 \DeclareTextCompositeCommand{\G}{PU}{a}{\82\001}% U+0201
15899 % U+0204 LATIN CAPITAL LETTER E WITH DOUBLE GRAVE; Edblgrave
15900 \DeclareTextCompositeCommand{\G}{PU}{E}{\82\004}% U+0204
15901 % U+0205 LATIN SMALL LETTER E WITH DOUBLE GRAVE; edblgrave
15902 \DeclareTextCompositeCommand{\G}{PU}{e}{\82\005}% U+0205
15903 </puextra>
15904 <*puenc>
15905 % U+0206 LATIN CAPITAL LETTER E WITH INVERTED BREVE; Einvert-
edbreve
15906 \DeclareTextCompositeCommand{\textinvbreve}{PU}{E}{\82\006}% U+0206
15907 % U+0207 LATIN SMALL LETTER E WITH INVERTED BREVE; einverted-
breve

15908 \DeclareTextCompositeCommand{\textinvbreve}{PU}{e}{\82\007}% U+0207
15909 </puenc>
15910 <*puextra>
15911 % U+0208 LATIN CAPITAL LETTER I WITH DOUBLE GRAVE; Idblgrave
15912 \DeclareTextCompositeCommand{\G}{PU}{I}{\82\010}% U+0208
15913 % U+0209 LATIN SMALL LETTER I WITH DOUBLE GRAVE; idblgrave
15914 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
15915 \DeclareTextCompositeCommand{\G}{PU}{i}{\82\011}% U+0209
15916 </puextra>
15917 <*puenc>
15918 % U+020A LATIN CAPITAL LETTER I WITH INVERTED BREVE; Iinverted-
breve
15919 \DeclareTextCompositeCommand{\textinvbreve}{PU}{I}{\82\012}% U+020A
15920 % U+020B LATIN SMALL LETTER I WITH INVERTED BREVE; iinverted-
breve
15921 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B
15922 \DeclareTextCompositeCommand{\textinvbreve}{PU}{i}{\82\013}% U+020B
15923 </puenc>
15924 <*puextra>
15925 % U+020C LATIN CAPITAL LETTER O WITH DOUBLE GRAVE; Odblgrave
15926 \DeclareTextCompositeCommand{\G}{PU}{O}{\82\014}% U+020C
15927 % U+020D LATIN SMALL LETTER O WITH DOUBLE GRAVE; odblgrave
15928 \DeclareTextCompositeCommand{\G}{PU}{o}{\82\015}% U+020D
15929 </puextra>
15930 <*puenc>
15931 % U+020E LATIN CAPITAL LETTER O WITH INVERTED BREVE; Oinvert-
edbreve
15932 \DeclareTextCompositeCommand{\textinvbreve}{PU}{O}{\82\016}% U+020E
15933 % U+020F LATIN SMALL LETTER O WITH INVERTED BREVE; oinverted-
breve
15934 \DeclareTextCompositeCommand{\textinvbreve}{PU}{o}{\82\017}% U+020F
15935 </puenc>
15936 <*puextra>
15937 % U+0210 LATIN CAPITAL LETTER R WITH DOUBLE GRAVE; Rdblgrave
15938 \DeclareTextCompositeCommand{\G}{PU}{R}{\82\020}% U+0210
15939 % U+0211 LATIN SMALL LETTER R WITH DOUBLE GRAVE; rdblgrave
15940 \DeclareTextCompositeCommand{\G}{PU}{r}{\82\021}% U+0211
15941 % U+0214 LATIN CAPITAL LETTER U WITH DOUBLE GRAVE; Udblgrave
15942 \DeclareTextCompositeCommand{\G}{PU}{U}{\82\024}% U+0214
15943 % U+0215 LATIN SMALL LETTER U WITH DOUBLE GRAVE; udblgrave
15944 \DeclareTextCompositeCommand{\G}{PU}{u}{\82\025}% U+0215
15945 </puextra>
15946 <*puenc>
15947 % U+0216 LATIN CAPITAL LETTER U WITH INVERTED BREVE; Uinvert-
edbreve
15948 \DeclareTextCompositeCommand{\textinvbreve}{PU}{U}{\82\026}% U+0216
15949 % U+0217 LATIN SMALL LETTER U WITH INVERTED BREVE; uinverted-
breve
15950 \DeclareTextCompositeCommand{\textinvbreve}{PU}{u}{\82\027}% U+0217
15951 % U+021E LATIN CAPITAL LETTER H WITH CARON
15952 \DeclareTextCompositeCommand{\v}{PU}{H}{\82\036}% U+021E
15953 % U+021F LATIN SMALL LETTER H WITH CARON
15954 \DeclareTextCompositeCommand{\v}{PU}{h}{\82\037}% U+021F
15955 % U+0221 LATIN SMALL LETTER D WITH CURL; \textctd (tipa)

15956 \DeclareTextCommand{\textctd}{PU}{\82\041}% U+0221
 15957 % U+0225 LATIN SMALL LETTER Z WITH HOOK; \textcommatailz (tipa)
 15958 \DeclareTextCommand{\textcommatailz}{PU}{\82\045}% U+0225
 15959 % U+0226 LATIN CAPITAL LETTER A WITH DOT ABOVE
 15960 \DeclareTextCompositeCommand{\.}{PU}{A}{\82\046}% U+0226
 15961 % U+0227 LATIN SMALL LETTER A WITH DOT ABOVE
 15962 \DeclareTextCompositeCommand{\.}{PU}{a}{\82\047}% U+0227
 15963 % U+0228 LATIN CAPITAL LETTER E WITH CEDILLA
 15964 \DeclareTextCompositeCommand{\c}{PU}{E}{\82\050}% U+0228
 15965 % U+0229 LATIN SMALL LETTER E WITH CEDILLA
 15966 \DeclareTextCompositeCommand{\c}{PU}{e}{\82\051}% U+0229
 15967 % U+022E LATIN CAPITAL LETTER O WITH DOT ABOVE
 15968 \DeclareTextCompositeCommand{\.}{PU}{O}{\82\056}% U+022E
 15969 % U+022F LATIN SMALL LETTER O WITH DOT ABOVE
 15970 \DeclareTextCompositeCommand{\.}{PU}{o}{\82\057}% U+022F
 15971 % U+0232 LATIN CAPITAL LETTER Y WITH MACRON
 15972 \DeclareTextCompositeCommand{\=}{PU}{Y}{\82\062}% U+0232
 15973 % U+0233 LATIN SMALL LETTER Y WITH MACRON
 15974 \DeclareTextCompositeCommand{\=}{PU}{y}{\82\063}% U+0233
 15975 % U+0235 LATIN SMALL LETTER N WITH CURL; \textctn (tipa)
 15976 \DeclareTextCommand{\textctn}{PU}{\82\065}% U+0235
 15977 % U+0236 LATIN SMALL LETTER T WITH CURL; \textctt (tipa)
 15978 \DeclareTextCommand{\textctt}{PU}{\82\066}% U+0236
 15979 % U+0237 LATIN SMALL LETTER DOTLESS J
 15980 \DeclareTextCommand{\j}{PU}{\82\067}% U+0237
 15981 % U+0238 LATIN SMALL LETTER DB DIGRAPH; \textdblig (tipx)
 15982 \DeclareTextCommand{\textPUdblig}{PU}{\82\070}% U+0238
 15983 %* \textPUdblig -> \textdblig (tipx)
 15984 % U+0239 LATIN SMALL LETTER QP DIGRAPH; \textqplig (tipx)
 15985 \DeclareTextCommand{\textPUqplig}{PU}{\82\071}% U+0239
 15986 %* \textPUqplig -> \textqplig (tipx)
 15987 % U+023C LATIN SMALL LETTER C WITH STROKE; \slashc (wsuipa)
 15988 \DeclareTextCommand{\textslashc}{PU}{\82\074}%* U+023C
 15989 %* \textslashc -> \textcentoldstyle (textcomp)
 15990 % With bar instead of stroke:
 15991 %* \textslashc -> \textbarc (tipa)

46.2.6 IPA Extensions: U+0250 to U+02AF

15992 % U+0250 LATIN SMALL LETTER TURNED A; aturned; \textturna (tipa)
 15993 \DeclareTextCommand{\textturna}{PU}{\82\120}% U+0250
 15994 %* \textturna -> \inva (wasysym)
 15995 % U+0251 LATIN SMALL LETTER ALPHA/LATIN SMALL LETTER
 15996 % SCRIPT A; ascript; \textscripta (tipa), \scripta (wsuipa)
 15997 \DeclareTextCommand{\textscripta}{PU}{\82\121}%* U+0251
 15998 %* \textscripta -> \vara (phonetic)
 15999 % U+0252 LATIN SMALL LETTER TURNED ALPHA; ascriptturned;
 16000 % \textturnscripta (tipa)
 16001 \DeclareTextCommand{\textturnscripta}{PU}{\82\122}% U+0252
 16002 %* \textturnscripta -> \invscripta (wsuipa)
 16003 %* \textturnscripta -> \rotvara (phonetic)
 16004 % U+0253 LATIN CAPITAL LETTER B WITH HOOK; bhook; \texthtb (tipa)
 16005 \DeclareTextCommand{\texthtb}{PU}{\82\123}% U+0253
 16006 %* \texthtb -> \hookb (wsuipa)
 16007 %* \texthtb -> \hausab (phonetic)

16008 % U+0254 LATIN SMALL LETTER OPEN O; oopen;
 16009 % \textopeno (tipa), \openo (wasysym)
 16010 \DeclareTextCommand{\textopeno}{PU}{\82\124}%* U+0254
 16011 %* \textopeno -> \varopeno (phonetic)
 16012 % U+0255 LATIN SMALL LETTER C WITH CURL; ccurl; \textctc (tipa)
 16013 \DeclareTextCommand{\textctc}{PU}{\82\125}% U+0255
 16014 %* \textctc -> \curlyc (wsuipa)
 16015 % U+0256 LATIN SMALL LETTER D WITH TAIL; dtail; \textrtaild (tipa)
 16016 \DeclareTextCommand{\textrtaild}{PU}{\82\126}%* U+0256
 16017 %* \textrtaild -> \taild (wsuipa)
 16018 % U+0257 LATIN SMALL LETTER D WITH HOOK; dhook; \texthtd (tipa)
 16019 \DeclareTextCommand{\texthtd}{PU}{\82\127}% U+0257
 16020 %* \texthtd -> \hookd (wsuipa)
 16021 %* \texthtd -> \hausad (phonetic)
 16022 % U+0258 LATIN SMALL LETTER REVERSED E; ereversed;
 16023 % \textreve (tipa), \reve (wsuipa)
 16024 \DeclareTextCommand{\textreve}{PU}{\82\130}%* U+0258
 16025 % U+0259 LATIN SMALL LETTER SCHWA; schwa;
 16026 % \textschwa (tipa), \schwa (wsuipa, phonetic)
 16027 \DeclareTextCommand{\textschwa}{PU}{\82\131}%* U+0259
 16028 % U+025A LATIN SMALL LETTER SCHWA WITH HOOK; schwahook;
 16029 % \textrhookschwa (tipa)
 16030 \DeclareTextCommand{\textrhookschwa}{PU}{\82\132}% U+025A
 16031 %* \textrhookschwa -> \er (wsuipa)
 16032 % U+025B LATIN SMALL LETTER OPEN E/LATIN SMALL LETTER EP-
 SILON; eopen;
 16033 % \niepsilon (wsuipa)
 16034 \DeclareTextCommand{\textniepsilon}{PU}{\82\133}%* U+025B
 16035 %* \textniepsilon -> \epsi (phonetic)
 16036 % U+025C LATIN SMALL LETTER REVERSED OPEN E; eopenreversed;
 16037 % \textrevepsilon (tipa), \revepsilon (wsuipa)
 16038 \DeclareTextCommand{\textrevepsilon}{PU}{\82\134}%* U+025C
 16039 % U+025D LATIN SMALL LETTER REVERSED OPEN E WITH HOOK; eopen-
 reversedhook;
 16040 % \textrhookrevepsilon (tipa)
 16041 \DeclareTextCommand{\textrhookrevepsilon}{PU}{\82\135}%* U+025D
 16042 %* \textrhookrevepsilon -> \hookrevepsilon (wsuipa)
 16043 % U+025E LATIN SMALL LETTER CLOSED REVERSED OPEN E; eopenre-
 versedclosed;
 16044 % \textcloserevepsilon (tipa)
 16045 \DeclareTextCommand{\textcloserevepsilon}{PU}{\82\136}% U+025E
 16046 %* \textcloserevepsilon -> \closedrevepsilon (wsuipa)
 16047 % U+025F LATIN SMALL LETTER DOTLESS J WITH STROKE; jdot-
 lessstroke;
 16048 % \textbardotlessj (tipa)
 16049 \DeclareTextCommand{\textbardotlessj}{PU}{\82\137}% U+025F
 16050 %* \textbardotlessj -> \barj (phonetic)
 16051 % U+0260 LATIN SMALL LETTER G WITH HOOK; ghook; \texthtg (tipa)
 16052 \DeclareTextCommand{\texthtg}{PU}{\82\140}% U+0260
 16053 %* \texthtg -> \hookg (wsuipa)
 16054 % U+0261 LATIN SMALL LETTER SCRIPT G; gscript;
 16055 % \textscriptg (tipa), \scriptg (wsuipa)
 16056 \DeclareTextCommand{\textscriptg}{PU}{\82\141}%* U+0261
 16057 %* \textscriptg -> \varg (phonetic)

16058 % U+0262 LATIN LETTER SMALL CAPITAL G; \textscg (tipa), \scg (wsuipa)
 16059 \DeclareTextCommand{\textscg}{PU}{\82\142}%* U+0262
 16060 % U+0263 LATIN SMALL LETTER GAMMA; gammalatinssmall;
 16061 % \ipagamma (wsuipa), \vod (phonetic)
 16062 \DeclareTextCommand{\textipagamma}{PU}{\82\143}%* U+0263
 16063 %* \textipagamma -> \vod (phonetic)
 16064 % U+0264 LATIN SMALL LETTER RAMS HORN; ramshorn;
 16065 % \babygamma (wsuipa)
 16066 \DeclareTextCommand{\textbabygamma}{PU}{\82\144}%* U+0264
 16067 % U+0265 LATIN SMALL LETTER TURNED H; hturned; \textturnh (tipa)
 16068 \DeclareTextCommand{\textturnh}{PU}{\82\145}% U+0265
 16069 %* \textturnh -> \invh (wsuipa)
 16070 %* \textturnh -> \udesc (phonetic)
 16071 % U+0266 LATIN SMALL LETTER H WITH HOOK; hhook; \texthth (tipa)
 16072 \DeclareTextCommand{\texthth}{PU}{\82\146}% U+0266
 16073 %* \texthth -> \hookh (wsuipa)
 16074 %* \texthth -> \voicedh (phonetic)
 16075 % U+0267 LATIN SMALL LETTER HENG WITH HOOK; henghook; \tex-
 ththeng (tipa)
 16076 \DeclareTextCommand{\texththeng}{PU}{\82\147}% U+0267
 16077 %* \texththeng -> \hookheng (wsuipa)
 16078 % U+0268 LATIN SMALL LETTER I WITH STROKE;
 16079 % \textbari (tipa), \bari (wsuipa)
 16080 \DeclareTextCommand{\textbari}{PU}{\82\150}%* U+0268
 16081 %* \textbari -> \ibar (phonetic)
 16082 % U+0269 LATIN SMALL LETTER IOTA; iotalatin; \niiota (wsuipa)
 16083 \DeclareTextCommand{\textniiota}{PU}{\82\151}%* U+0269
 16084 %* \textniiota -> \vari (phonetic)
 16085 % U+026A LATIN LETTER SMALL CAPITAL I; \textsci (tipa), \sci (wsuipa)
 16086 \DeclareTextCommand{\textsci}{PU}{\82\152}%* U+026A
 16087 % U+026B LATIN SMALL LETTER L WITH MIDDLE TILDE; lmiddletilde;
 16088 % \textltilde (tipa)
 16089 \DeclareTextCommand{\textltilde}{PU}{\82\153}% U+026B
 16090 %* \textltilde -> \tildel (wsuipa)
 16091 % U+026C LATIN SMALL LETTER L WITH BELT; lbelt; \textbeltl (tipa)
 16092 \DeclareTextCommand{\textbeltl}{PU}{\82\154}% U+026C
 16093 %* \textbeltl -> \latfric (wsuipa)
 16094 % U+026D LATIN SMALL LETTER L WITH RETROFLEX HOOK;
 16095 % \hookretroflex; \textrtaill (tipa)
 16096 \DeclareTextCommand{\textrtaill}{PU}{\82\155}% U+026D
 16097 %* \textrtaill -> \taill (wsuipa)
 16098 % U+026E LATIN SMALL LETTER LEZH; lezh; \textlyoghlig (tipa)
 16099 \DeclareTextCommand{\textlyoghlig}{PU}{\82\156}% U+026E
 16100 %* \textlyoghlig -> \lz (wsuipa)
 16101 % U+026F LATIN SMALL LETTER TURNED M; mturned; \textturnm (tipa)
 16102 \DeclareTextCommand{\textturnm}{PU}{\82\157}% U+026F
 16103 %* \textturnm -> \invm (wsuipa)
 16104 %* \textturnm -> \rotm (phonetic)
 16105 % U+0270 LATIN SMALL LETTER TURNED M WITH LONG LEG; mlongleg-
 turned;
 16106 % \textturnmrleg (tipa)
 16107 \DeclareTextCommand{\textturnmrleg}{PU}{\82\160}% U+0270
 16108 %* \textturnmrleg -> \legm (wsuipa)
 16109 % U+0271 LATIN SMALL LETTER M WITH HOOK; mhook; \textltailm (tipa)

16110 \DeclareTextCommand{\textltailm}{PU}{\82\161}% U+0271
16111 %* \textltailm -> \labdentalnas (wsuipa)
16112 %* \textltailm -> \emgma (phonetic)
16113 % U+0272 LATIN SMALL LETTER N WITH LEFT HOOK; nhookleft; \textltailn (tipa)
16114 \DeclareTextCommand{\textltailn}{PU}{\82\162}% U+0272
16115 %* \textltailn -> \nj (wsuipa)
16116 %* \textltailn -> \nya (phonetic)
16117 % U+0273 LATIN SMALL LETTER N WITH RETROFLEX HOOK;
16118 % nhookretroflex; \textrtailn (tipa)
16119 \DeclareTextCommand{\textrtailn}{PU}{\82\163}% U+0273
16120 %* \textrtailn -> \tailn (wsuipa)
16121 % U+0274 LATIN LETTER SMALL CAPITAL N; \textscn (tipa), \scn (wsuipa)
16122 \DeclareTextCommand{\textscn}{PU}{\82\164}%* U+0274
16123 % U+0275 LATIN CAPITAL LETTER O WITH MIDDLE TILDE/
16124 % LATIN CAPITAL LETTER BARRED O; obarred;
16125 % \textbaro (tipa), \baro (wsuipa)
16126 % But \baro from stmaryrd is different!
16127 \DeclareTextCommand{\textbaro}{PU}{\82\165}% U+0275
16128 % U+0276 LATIN LETTER SMALL CAPITAL OE; \textscelig (tipa)
16129 \DeclareTextCommand{\textscelig}{PU}{\82\166}% U+0276
16130 % U+0277 LATIN SMALL LETTER CLOSED OMEGA; omegalatinclosed;
16131 % \textcloseomega (tipa)
16132 \DeclareTextCommand{\textcloseomega}{PU}{\82\167}% U+0277
16133 %* \textcloseomega -> \closedniomega (wsuipa)
16134 %* \textcloseomega -> \varomega (phonetic)
16135 % U+0278 LATIN SMALL LETTER PHI; philatin; \niphy (wsuipa)
16136 \DeclareTextCommand{\textniphy}{PU}{\82\170}%* U+0278
16137 % U+0279 LATIN SMALL LETTER TURNED R; rturned; \textturnr (tipa)
16138 \DeclareTextCommand{\textturnr}{PU}{\82\171}% U+0279
16139 %* \textturnr -> \invr (wsuipa)
16140 %* \textturnr -> \rotr (phonetic)
16141 % U+027A LATIN SMALL LETTER TURNED R WITH LONG LEG;
16142 % rlonglegturned; \textturnlongleg (tipa)
16143 \DeclareTextCommand{\textturnlongleg}{PU}{\82\172}% U+027A
16144 %* \textturnlongleg -> \invleg (wsuipa)
16145 % U+027B LATIN SMALL LETTER TURNED R WITH HOOK; rhocturned;
16146 % \textturnrrtail (tipa)
16147 \DeclareTextCommand{\textturnrrtail}{PU}{\82\173}% U+027B
16148 %* \textturnrrtail -> \tailinvr (wsuipa)
16149 % U+027C LATIN SMALL LETTER R WITH LONG LEG; rlongleg; \textlongleg (tipa)
16150 \DeclareTextCommand{\textlongleg}{PU}{\82\174}%* U+027C
16151 %* \textlongleg -> \leg (wsuipa)
16152 % U+027D LATIN SMALL LETTER R WITH TAIL; rhoct; \textrtailr (tipa)
16153 \DeclareTextCommand{\textrtailr}{PU}{\82\175}% U+027D
16154 %* \textrtailr -> \tailr (wsuipa)
16155 % U+027E LATIN SMALL LETTER R WITH FISHHOOK; rfishhook;
16156 % \textfishhookr (tipa)
16157 \DeclareTextCommand{\textfishhookr}{PU}{\82\176}% U+027E
16158 %* \textfishhookr -> \flapr (wsuipa)
16159 %* \textfishhookr -> \flap (phonetic)
16160 % U+027F LATIN SMALL LETTER REVERSED R WITH FISHHOOK; rfishhookreversed;

16161 % \textlhtlongi (tipa)
16162 \DeclareTextCommand{\textlhtlongi}{PU}{\82\177}% U+027F
16163 % U+0280 LATIN LETTER SMALL CAPITAL R; \textscr (tipa), \scr (wsuipa)
16164 \DeclareTextCommand{\textscr}{PU}{\82\200}%* U+0280
16165 % U+0281 LATIN LETTER SMALL CAPITAL INVERTED R; Rsmallinverted;
16166 % \textinvscr (tipa), \invscr (wsuipa)
16167 \DeclareTextCommand{\textinvscr}{PU}{\82\201}%* U+0281
16168 % U+0282 LATIN SMALL LETTER S WITH HOOK; shook; \texttrails (tipa)
16169 \DeclareTextCommand{\texttrails}{PU}{\82\202}% U+0282
16170 %* \texttrails -> \tails (wsuipa)
16171 % U+0283 LATIN SMALL LETTER ESH; esh; \textesh (tipa), \esh (wsuipa)
16172 \DeclareTextCommand{\textesh}{PU}{\82\203}%* U+0283
16173 % U+0284 LATIN SMALL LETTER DOTLESS J WITH STROKE AND HOOK;
16174 % dotlessjstrokehook; \texthtbardotlessj (tipa)
16175 \DeclareTextCommand{\texthtbardotlessj}{PU}{\82\204}% U+0284
16176 % U+0285 LATIN SMALL LETTER SQUAT REVERSED ESH; eshsquatre-
versed;
16177 % \textvibyi (tipa)
16178 \DeclareTextCommand{\textvibyi}{PU}{\82\205}% U+0285
16179 % U+0286 LATIN SMALL LETTER ESH WITH CURL; eshcurl; \textctesh (tipa)
16180 \DeclareTextCommand{\textctesh}{PU}{\82\206}% U+0286
16181 %* \textctesh -> \curlyesh (wsuipa)
16182 % U+0287 LATIN SMALL LETTER TURNED T; tturned; \textturnt (tipa)
16183 \DeclareTextCommand{\textturnt}{PU}{\82\207}% U+0287
16184 %* \textturnt -> \clickt (wsuipa)
16185 % U+0288 LATIN SMALL LETTER T WITH RETROFLEX HOOK; retroflex-
hook;
16186 % \texttrtailt (tipa)
16187 \DeclareTextCommand{\texttrtailt}{PU}{\82\210}% U+0288
16188 %* \texttrtailt -> \tailt (wsuipa)
16189 % U+0289 LATIN SMALL LETTER U BAR; ubar;
16190 % \textbaru (tipa), \baru (wsuipa)
16191 \DeclareTextCommand{\textbaru}{PU}{\82\211}%* U+0289
16192 %* \textbaru -> \ubar (phonetic)
16193 % U+028A LATIN SMALL LETTER UPSILON; \niupsilon (wsuipa)
16194 \DeclareTextCommand{\textniupsilon}{PU}{\82\212}%* U+028A
16195 %* \textniupsilon -> \rotOmega (phonetic)
16196 % U+028B LATIN SMALL LETTER V WITH HOOK/LATIN SMALL LET-
TER SCRIPT V;
16197 % vhook; \textscriptv (tipa), \scriptv (wsuipa)
16198 \DeclareTextCommand{\textscriptv}{PU}{\82\213}%* U+028B
16199 % U+028C LATIN SMALL LETTER TURNED V; vturned; \textturnv (tipa)
16200 \DeclareTextCommand{\textturnv}{PU}{\82\214}%* U+028C
16201 %* \textturnv -> \invv (wsuipa)
16202 %* \textturnv -> \pwedge (phonetic)
16203 % U+028D LATIN SMALL LETTER TURNED W; wturned; \textturnw (tipa)
16204 \DeclareTextCommand{\textturnw}{PU}{\82\215}%* U+028D
16205 %* \textturnw -> \invw (wsuipa)
16206 %* \textturnw -> \rotw (phonetic)
16207 % U+028E LATIN SMALL LETTER TURNED Y; yturned; \textturny (tipa)
16208 \DeclareTextCommand{\textturny}{PU}{\82\216}%* U+028E
16209 %* \textturny -> \invy (wsuipa)
16210 %* \textturny -> \roty (phonetic)
16211 % U+028F LATIN LETTER SMALL CAPITAL Y; \textscy (tipa), \scy (wsuipa)

16212 \DeclareTextCommand{\textscy}{PU}{\82\217}%* U+028F
16213 % U+0290 LATIN SMALL LETTER Z WITH RETROFLEX HOOK; zretroflex-hook;
16214 % \textrtailz (tipa)
16215 \DeclareTextCommand{\textrtailz}{PU}{\82\220}% U+0290
16216 %* \textrtailz -> \tailz (wsuipa)
16217 % U+0291 LATIN SMALL LETTER Z WITH CURL; zcurl; \textctz (tipa)
16218 \DeclareTextCommand{\textctz}{PU}{\82\221}% U+0291
16219 %* \textctz -> \curlyz (wsuipa)
16220 % U+0292 LATIN SMALL LETTER EZH/LATIN SMALL LETTER YOGH; ezh;
16221 % \textyogh (tipa), \yogh (wsuipa)
16222 \DeclareTextCommand{\textyogh}{PU}{\82\222}%* U+0292
16223 % U+0293 LATIN SMALL LETTER EZH WITH CURL/LATIN SMALL LETTER YOGH CURL;
16224 % ezhcurl; \textctyogh (tipa)
16225 \DeclareTextCommand{\textctyogh}{PU}{\82\223}% U+0293
16226 %* \textctyogh -> \curlyyogh (wsuipa)
16227 % U+0294 LATIN LETTER GLOTTAL STOP; glottalstop;
16228 % \textglotstop (tipa), \glotstop (wsuipa)
16229 \DeclareTextCommand{\textglotstop}{PU}{\82\224}%* U+0294
16230 %* \textglotstop -> \ejective (wsuipa)
16231 %* \textglotstop -> \glottal (phonetic)
16232 % U+0295 LATIN LETTER PHARYNGEAL VOICED FRICATIVE/
16233 % LATIN LETTER REVERSED GLOTTAL STOP; glottalstopreversed;
16234 % \textrevglotstop (tipa), \revglotstop (wsuipa)
16235 \DeclareTextCommand{\textrevglotstop}{PU}{\82\225}%* U+0295
16236 %* \textrevglotstop -> \reveject (wsuipa)
16237 % U+0296 LATIN LETTER INVERTED GLOTTAL STOP; glottalstopinverted;
16238 % \textinvglotstop (tipa), \invglotstop (wsuipa)
16239 \DeclareTextCommand{\textinvglotstop}{PU}{\82\226}%* U+0296
16240 % U+0297 LATIN LETTER STRETCHED C; cstretched; \textstretchc (tipa)
16241 \DeclareTextCommand{\textstretchc}{PU}{\82\227}% U+0297
16242 %* \textstretchc -> \clickc (wsuipa)
16243 %* \textstretchc -> \textstretchcvar (tipx)
16244 % U+0298 LATIN LETTER BILABIAL CLICK; bilabialclick;
16245 % \textbullseye (tipa)
16246 \DeclareTextCommand{\textbullseye}{PU}{\82\230}% U+0298
16247 %* \textbullseye -> \clickb (wsuipa)
16248 %* \textbullseye -> \textObullseye (tipx)
16249 % U+0299 LATIN LETTER SMALL CAPITAL B; \textscb (tipa)
16250 \DeclareTextCommand{\textscb}{PU}{\82\231}% U+0299
16251 % U+029A LATIN SMALL LETTER CLOSED OPEN E; eopenclosed;
16252 % \textcloseepsilon (tipa)
16253 \DeclareTextCommand{\textcloseepsilon}{PU}{\82\232}% U+029A
16254 % U+029B LATIN LETTER SMALL CAPITAL G WITH HOOK; Gsmallhook;
16255 % \texthtscg (tipa)
16256 \DeclareTextCommand{\texthtscg}{PU}{\82\233}% U+029B
16257 % U+029C LATIN LETTER SMALL CAPITAL H; \textsch (tipa)
16258 \DeclareTextCommand{\textsch}{PU}{\82\234}% U+029C
16259 % U+029D LATIN SMALL LETTER J WITH CROSSED-TAIL; jcrossetail; \textcdj (tipa)
16260 \DeclareTextCommand{\textctj}{PU}{\82\235}% U+029D
16261 %* \textctj -> \textctjvar (tipx)
16262 % U+029E LATIN SMALL LETTER TURNED K; kturned; \textturnk (tipa)

16263 \DeclareTextCommand{\textturnk}{PU}{\82\236}% U+029E
 16264 %* \textturnk -> \textturnsk (tipx)
 16265 % U+029F LATIN LETTER SMALL CAPITAL L; \textscL (tipa)
 16266 \DeclareTextCommand{\textscL}{PU}{\82\237}% U+029F
 16267 % U+02A0 LATIN SMALL LETTER Q WITH HOOK; qhook; \texthtq (tipa)
 16268 \DeclareTextCommand{\texthtq}{PU}{\82\240}% U+02A0
 16269 % U+02A1 LATIN LETTER GLOTTAL STOP WITH STROKE; glottalstop-stroke;
 16270 % \textbarglotstop (tipa)
 16271 \DeclareTextCommand{\textbarglotstop}{PU}{\82\241}% U+02A1
 16272 % U+02A2 LATIN LETTER REVERSED GLOTTAL STOP WITH STROKE/
 16273 % LATIN LETTER REVERSED GLOTTAL STOP BAR; glottalstopstrokereversed;
 16274 % \textbarrevglotstop (tipa)
 16275 \DeclareTextCommand{\textbarrevglotstop}{PU}{\82\242}% U+02A2
 16276 % U+02A3 LATIN SMALL LETTER DZ DIGRAPH; dzaltone; \textdzlig (tipa)
 16277 \DeclareTextCommand{\textdzlig}{PU}{\82\243}% U+02A3
 16278 %* \textdzlig -> \dz (wsupipa)
 16279 % U+02A4 LATIN SMALL LETTER DEZH DIGRAPH; dezh; \textdyoghlig (tipa)
 16280 \DeclareTextCommand{\textdyoghlig}{PU}{\82\244}% U+02A4
 16281 % U+02A5 LATIN SMALL LETTER DZ DIGRAPH WITH CURL; dzcurl;
 16282 % \textdctzlig (tipa)
 16283 \DeclareTextCommand{\textdctzlig}{PU}{\82\245}% U+02A5
 16284 % U+02A6 LATIN SMALL LETTER TS DIGRAPH; ts; \texttslig (tipa)
 16285 \DeclareTextCommand{\texttslig}{PU}{\82\246}% U+02A6
 16286 % U+02A7 LATIN SMALL LETTER TESH DIGRAPH; tesh; \texttshlig (tipa)
 16287 \DeclareTextCommand{\texttshlig}{PU}{\82\247}% U+02A7
 16288 %* \texttshlig -> \tesh (wsuipa)
 16289 % U+02A8 LATIN SMALL LETTER TC DIGRAPH WITH CURL; tccurl;
 16290 % \texttctclig (tipa)
 16291 \DeclareTextCommand{\texttctclig}{PU}{\82\250}% U+02A8
 16292 % U+02AE LATIN SMALL LETTER TURNED H WITH FISHHOOK;
 16293 % \textlhtlongy (tipa)
 16294 \DeclareTextCommand{\textlhtlongy}{PU}{\82\256}% U+02AE
 16295 % U+02AF LATIN SMALL LETTER TURNED H WITH FISHHOOK AND TAIL;
 16296 % \textvibyy (tipa)
 16297 \DeclareTextCommand{\textvibyy}{PU}{\82\257}% U+02AF

46.2.7 Spacing Modifier Letters: U+02B0 to U+02FF

16298 % U+02BD MODIFIER LETTER REVERSED COMMA;
 16299 % commareversedmod, afii64937; \textrevapostrophe (tipa)
 16300 \DeclareTextCommand{\textrevapostrophe}{PU}{\82\275}% U+02BD
 16301 % U+02C0 MODIFIER LETTER GLOTTAL STOP; glottalstopmod;
 16302 % \textraiseglotstop (tipa)
 16303 \DeclareTextCommand{\textraiseglotstop}{PU}{\82\300}% U+02C0
 16304 % U+02C2 MODIFIER LETTER LEFT ARROWHEAD; arrowheadleftmod;
 16305 % \textlptr (tipa)
 16306 \DeclareTextCommand{\textlptr}{PU}{\82\302}% U+02C2
 16307 % U+02C3 MODIFIER LETTER RIGHT ARROWHEAD; arrowheadrightmod;
 16308 % \textrptr (tipa)
 16309 \DeclareTextCommand{\textrptr}{PU}{\82\303}% U+02C3
 16310 % U+02C7 CARON; caron
 16311 \DeclareTextCommand{\textasciicaron}{PU}{\82\307}% U+02C7

```

16312 % U+02C8 MODIFIER LETTER VERTICAL LINE; verticallinemod;
16313 % \textprimstress (tipa)
16314 \DeclareTextCommand{\textprimstress}{PU}{\82\310}% U+02C8
16315 % U+02CC MODIFIER LETTER LOW VERTICAL LINE; verticallinelowmod;
16316 % \textsecstress (tipa)
16317 \DeclareTextCommand{\textsecstress}{PU}{\82\314}% U+02CC
16318 % U+02D0 MODIFIER LETTER TRIANGULAR COLON; colontriangularmod;
16319 % \textlengthmark (tipa)
16320 \DeclareTextCommand{\textlengthmark}{PU}{\82\320}% U+02D0
16321 % U+02D1 MODIFIER LETTER HALF TRIANGULAR COLON; colontriangularhalfmod;
16322 % \texthalflength (tipa)
16323 \DeclareTextCommand{\texthalflength}{PU}{\82\321}% U+02D1
16324 % U+02D8 BREVE; breve
16325 \DeclareTextCommand{\textasciibreve}{PU}{\82\330}% U+02D8
16326 % U+02D9 DOT ABOVE; dotaccent
16327 \DeclareTextCommand{\textdotaccent}{PU}{\82\331}% U+02D9
16328 % U+02DA RING ABOVE; ring
16329 \DeclareTextCommand{\textring}{PU}{\82\332}% U+02DA
16330 % U+02DB OGONEK; ogonek
16331 \DeclareTextCommand{\textogonek}{PU}{\82\333}% U+02DB
16332 % U+02DC SMALL TILDE; ilde, *tilde
16333 \DeclareTextCommand{\texttilde}{PU}{\82\334}% U+02DC
16334 % U+02DD DOUBLE ACUTE ACCENT; hungarumlaut
16335 \DeclareTextCommand{\texthungarumlaut}{PU}{\82\335}% U+02DD
16336 \DeclareTextCommand{\textacutedbl}{PU}{\82\335}% U+02DD
16337 % U+02F3 MODIFIER LETTER LOW RING
16338 \DeclareTextCommand{\textringlow}{PU}{\82\363}% U+02F3
16339 % U+02F5 MODIFIER LETTER MIDDLE DOUBLE GRAVE ACCENT
16340 \DeclareTextCommand{\textgravedbl}{PU}{\82\365}% U+02F5
16341 % U+02F7 MODIFIER LETTER LOW TILDE
16342 \DeclareTextCommand{\texttildelow}{PU}{\82\367}% U+02F7
16343 % U+02F9 MODIFIER LETTER BEGIN HIGH TONE; \textopencorner (tipa)
16344 \DeclareTextCommand{\textopencorner}{PU}{\82\371}% U+02F9
16345 % U+02FA MODIFIER LETTER END HIGH TONE; \textcorner (tipa)
16346 \DeclareTextCommand{\textcorner}{PU}{\82\372}% U+02FA

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46.2.8 Combining Diacritical Marks: U+0300 to U+036F

```

16347 % U+030F COMBINING DOUBLE GRAVE ACCENT; dblgravecmb
16348 \DeclareTextCommand{\textdoublegrave}{PU}{\83\017}% U+030F
16349 % U+0311 COMBINING INVERTED BREVE; breveinvertedcmb
16350 \DeclareTextCommand{\textnewtie}{PU}{\83\021}% U+0311
16351 % U+0323 COMBINING DOT BELOW; dotbelowcmb, *dotbelowcomb
16352 \DeclareTextCommand{\textdotbelow}{PU}{\83\043}% U+0323
16353 % U+0331 COMBINING MACRON BELOW; macronbelowcmb
16354 \DeclareTextCommand{\textmacronbelow}{PU}{\83\061}% U+0331
16355 % U+0361 COMBINING DOUBLE INVERTED BREVE; breveinverteddoublecmb
16356 \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.

```

16357 \ifx\textBeta\@undefined \else
16358 \input{puenc-greekbasic.def}

```

16359 \fi
16360 \puenc
16361 \pugreek
16362 % U+0374 GREEK NUMERAL SIGN; numeralsigngreek
16363 \DeclareTextCommand{\textnumeralsigngreek}{PU}{\83\164}% U+0374
16364 \DeclareTextCommand{\textdexiakeraia}{PU}{\83\164}% U+0374
16365 % U+0375 GREEK LOWER NUMERAL SIGN; numeralsignlowergreek
16366 \DeclareTextCommand{\textnumeralsignlowergreek}{PU}{\83\165}% U+0375
16367 \DeclareTextCommand{\textaristerikeraia}{PU}{\83\165}% U+0375
16368 % U+0386 GREEK CAPITAL LETTER ALPHA WITH TONOS; Alphanos
16369 \DeclareTextCompositeCommand{\'}{PU}{\textAlpha}{\83\206}% U+0386
16370 % U+0388 GREEK CAPITAL LETTER EPSILON WITH TONOS; Epsilontonos
16371 \DeclareTextCompositeCommand{\'}{PU}{\textEpsilon}{\83\210}% U+0388
16372 % U+0389 GREEK CAPITAL LETTER ETA WITH TONOS; Etatonos
16373 \DeclareTextCompositeCommand{\'}{PU}{\textEta}{\83\211}% U+0389
16374 % U+038A GREEK CAPITAL LETTER IOTA WITH TONOS; Iotatonos
16375 \DeclareTextCompositeCommand{\'}{PU}{\textIota}{\83\212}% U+038A
16376 % U+038C GREEK CAPITAL LETTER OMICRON WITH TONOS; Omi-
crintonos
16377 \DeclareTextCompositeCommand{\'}{PU}{\textOmicron}{\83\214}% U+038C
16378 % U+038E GREEK CAPITAL LETTER UPSILON WITH TONOS; Upsilontonos
16379 \DeclareTextCompositeCommand{\'}{PU}{\textUpsilon}{\83\216}% U+038E
16380 % U+038F GREEK CAPITAL LETTER OMEGA WITH TONOS; Omegatonos
16381 \DeclareTextCompositeCommand{\'}{PU}{\textOmega}{\83\217}% U+038F
16382 % U+0390 GREEK SMALL LETTER IOTA WITH DIALYTIKA AND TONOS;
16383 % iotadiesisistonos
16384 \DeclareTextCompositeCommand{\'}{PU}{\textIotadiesis}{\83\220}% U+0390
16385 % U+0391 GREEK CAPITAL LETTER ALPHA; Alpha
16386 \DeclareTextCommand{\textAlpha}{PU}{\83\221}% U+0391
16387 % U+0392 GREEK CAPITAL LETTER BETA; Beta
16388 \DeclareTextCommand{\textBeta}{PU}{\83\222}% U+0392
16389 % U+0393 GREEK CAPITAL LETTER GAMMA; Gamma; \Gamma (LaTeX)
16390 \DeclareTextCommand{\textGamma}{PU}{\83\223}%* U+0393
16391 % U+0394 GREEK CAPITAL LETTER DELTA; Deltagreek, *Delta; \Delta (La-
TeX)
16392 \DeclareTextCommand{\textDelta}{PU}{\83\224}%* U+0394
16393 % U+0395 GREEK CAPITAL LETTER EPSILON; Epsilon
16394 \DeclareTextCommand{\textEpsilon}{PU}{\83\225}% U+0395
16395 % U+0396 GREEK CAPITAL LETTER ZETA; Zeta
16396 \DeclareTextCommand{\textZeta}{PU}{\83\226}% U+0396
16397 % U+0397 GREEK CAPITAL LETTER ETA; Eta
16398 \DeclareTextCommand{\textEta}{PU}{\83\227}% U+0397
16399 % U+0398 GREEK CAPITAL LETTER THETA; Theta; \Theta (LaTeX)
16400 \DeclareTextCommand{\textTheta}{PU}{\83\230}%* U+0398
16401 % U+0399 GREEK CAPITAL LETTER IOTA; Iota
16402 \DeclareTextCommand{\textIota}{PU}{\83\231}% U+0399
16403 % U+039A GREEK CAPITAL LETTER KAPPA; Kappa
16404 \DeclareTextCommand{\textKappa}{PU}{\83\232}% U+039A
16405 % U+039B GREEK CAPITAL LETTER LAMDA; Lambda; \Lambda (LaTeX)
16406 \DeclareTextCommand{\textLambda}{PU}{\83\233}%* U+039B
16407 % U+039C GREEK CAPITAL LETTER MU; Mu
16408 \DeclareTextCommand{\textMu}{PU}{\83\234}% U+039C
16409 % U+039D GREEK CAPITAL LETTER NU; Nu
16410 \DeclareTextCommand{\textNu}{PU}{\83\235}% U+039D

16411 % U+039E GREEK CAPITAL LETTER XI; Xi; \Xi (LaTeX)
16412 \DeclareTextCommand{\textXi}{PU}{\83\236}%* U+039E
16413 % U+039F GREEK CAPITAL LETTER OMICRON; Omicron
16414 \DeclareTextCommand{\textOmicron}{PU}{\83\237}% U+039F
16415 % U+03A0 GREEK CAPITAL LETTER PI; Pi
16416 \DeclareTextCommand{\textPi}{PU}{\83\240}%* U+03A0
16417 % U+03A1 GREEK CAPITAL LETTER RHO; Rho
16418 \DeclareTextCommand{\textRho}{PU}{\83\241}% U+03A1
16419 % U+03A3 GREEK CAPITAL LETTER SIGMA; Sigma; \Sigma (LaTeX)
16420 \DeclareTextCommand{\textSigma}{PU}{\83\243}%* U+03A3
16421 % U+03A4 GREEK CAPITAL LETTER TAU; Tau
16422 \DeclareTextCommand{\textTau}{PU}{\83\244}% U+03A4
16423 % U+03A5 GREEK CAPITAL LETTER UPSILON; Upsilon; \Upsilon (LaTeX)
16424 \DeclareTextCommand{\textUpsilon}{PU}{\83\245}%* U+03A5
16425 % U+03A6 GREEK CAPITAL LETTER PHI; Phi; \Phi (LaTeX)
16426 \DeclareTextCommand{\textPhi}{PU}{\83\246}%* U+03A6
16427 % U+03A7 GREEK CAPITAL LETTER CHI; Chi
16428 \DeclareTextCommand{\textChi}{PU}{\83\247}% U+03A7
16429 % U+03A8 GREEK CAPITAL LETTER PSI; Psi; \Psi (LaTeX)
16430 \DeclareTextCommand{\textPsi}{PU}{\83\250}%* U+03A8
16431 % U+03A9 GREEK CAPITAL LETTER OMEGA; Omegagreek, *Omega;
16432 % \Omega (LaTeX)
16433 \DeclareTextCommand{\textOmega}{PU}{\83\251}%* U+03A9
16434 % U+03AA GREEK CAPITAL LETTER IOTA WITH DIALYTIKA; Iotadieresis
16435 \DeclareTextCommand{\textIotadieresis}{PU}{\83\252}% U+03AA
16436 \DeclareTextCompositeCommand{"}{PU}{\textIota}{\83\252}% U+03AA
16437 % U+03AB GREEK CAPITAL LETTER UPSILON WITH DIALYTIKA; Up-
silondieresis
16438 \DeclareTextCompositeCommand{"}{PU}{\textUpsilon}{\83\253}% U+03AB
16439 % U+03AC GREEK SMALL LETTER ALPHA WITH TONOS; alphanos
16440 \DeclareTextCompositeCommand{'}{PU}{\textalpha}{\83\254}%* U+03AC
16441 % U+03AD GREEK SMALL LETTER EPSILON WITH TONOS; epsilon
16442 \DeclareTextCompositeCommand{'}{PU}{\textepsilon}{\83\255}% U+03AD
16443 % U+03AE GREEK SMALL LETTER ETA WITH TONOS; etanos
16444 \DeclareTextCompositeCommand{'}{PU}{\texteta}{\83\256}% U+03AE
16445 % U+03AF GREEK SMALL LETTER IOTA WITH TONOS; iotanos
16446 \DeclareTextCompositeCommand{'}{PU}{\textiota}{\83\257}% U+03AF
16447 % U+03B0 GREEK SMALL LETTER UPSILON WITH DIALYTIKA
16448 % AND TONOS; upsilonndieresis
16449 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\260}% U+03B0
16450 % U+03B1 GREEK SMALL LETTER ALPHA; alpha; \alpha (LaTeX)
16451 \DeclareTextCommand{\textalpha}{PU}{\83\261}%* U+03B1
16452 % U+03B2 GREEK SMALL LETTER BETA; beta; \beta (LaTeX)
16453 \DeclareTextCommand{\textbeta}{PU}{\83\262}%* U+03B2
16454 % U+03B3 GREEK SMALL LETTER GAMMA; gamma; \gamma (LaTeX)
16455 \DeclareTextCommand{\textgamma}{PU}{\83\263}%* U+03B3
16456 % U+03B4 GREEK SMALL LETTER DELTA; delta; \delta (LaTeX)
16457 \DeclareTextCommand{\textdelta}{PU}{\83\264}%* U+03B4
16458 % U+03B5 GREEK SMALL LETTER EPSILON; epsilon; \epsilon (LaTeX)
16459 \DeclareTextCommand{\textepsilon}{PU}{\83\265}%* U+03B5
16460 % U+03B6 GREEK SMALL LETTER ZETA; zeta; \zeta (LaTeX)
16461 \DeclareTextCommand{\textzeta}{PU}{\83\266}%* U+03B6
16462 % U+03B7 GREEK SMALL LETTER ETA; eta; \eta (LaTeX)
16463 \DeclareTextCommand{\texteta}{PU}{\83\267}%* U+03B7

16464 % U+03B8 GREEK SMALL LETTER THETA; theta; \theta (LaTeX)
16465 \DeclareTextCommand{\texttheta}{PU}{\83\270}%* U+03B8
16466 % U+03B9 GREEK SMALL LETTER IOTA; iota; \iota (LaTeX)
16467 \DeclareTextCommand{\textiota}{PU}{\83\271}%* U+03B9
16468 % U+03BA GREEK SMALL LETTER KAPPA; kappa; \kappa (LaTeX)
16469 \DeclareTextCommand{\textkappa}{PU}{\83\272}%* U+03BA
16470 % U+03BB GREEK SMALL LETTER LAMDA; lambda; \lambda (LaTeX)
16471 \DeclareTextCommand{\textlambda}{PU}{\83\273}%* U+03BB
16472 % U+03BC GREEK SMALL LETTER MU; mugreek, *mu; \mu (LaTeX)
16473 \DeclareTextCommand{\textmugreek}{PU}{\83\274}%* U+03BC
16474 % U+03BD GREEK SMALL LETTER NU; nu; \nu (LaTeX)
16475 \DeclareTextCommand{\textnu}{PU}{\83\275}%* U+03BD
16476 % U+03BE GREEK SMALL LETTER XI; xi; \xi (LaTeX)
16477 \DeclareTextCommand{\textxi}{PU}{\83\276}%* U+03BE
16478 % U+03BF GREEK SMALL LETTER OMICRON; omicron
16479 \DeclareTextCommand{\textomicron}{PU}{\83\277}% U+03BF
16480 % U+03C0 GREEK SMALL LETTER PI; pi; \pi (LaTeX)
16481 \DeclareTextCommand{\textpi}{PU}{\83\300}%* U+03C0
16482 % U+03C1 GREEK SMALL LETTER RHO; rho; \rho (LaTeX)
16483 \DeclareTextCommand{\textrho}{PU}{\83\301}%* U+03C1
16484 % U+03C2 GREEK SMALL LETTER FINAL SIGMA; *sigma1, sigmafinal
16485 \DeclareTextCommand{\textvarsigma}{PU}{\83\302}%* U+03C2
16486 % U+03C3 GREEK SMALL LETTER SIGMA; sigma; \sigma (LaTeX)
16487 \DeclareTextCommand{\textsigma}{PU}{\83\303}%* U+03C3
16488 % U+03C4 GREEK SMALL LETTER TAU; tau; \tau (LaTeX)
16489 \DeclareTextCommand{\texttau}{PU}{\83\304}%* U+03C4
16490 % U+03C5 GREEK SMALL LETTER UPSILON; upsilon; \upsilon (LaTeX)
16491 \DeclareTextCommand{\textupsilon}{PU}{\83\305}%* U+03C5
16492 % U+03C6 GREEK SMALL LETTER PHI; phi; \phi (LaTeX)
16493 \DeclareTextCommand{\textphi}{PU}{\83\306}%* U+03C6
16494 % U+03C7 GREEK SMALL LETTER CHI; chi; \chi (LaTeX)
16495 \DeclareTextCommand{\textchi}{PU}{\83\307}%* U+03C7
16496 % U+03C8 GREEK SMALL LETTER PSI; psi; \psi (LaTeX)
16497 \DeclareTextCommand{\textpsi}{PU}{\83\310}%* U+03C8
16498 % U+03C9 GREEK SMALL LETTER OMEGA; omega; \omega (LaTeX)
16499 \DeclareTextCommand{\textomega}{PU}{\83\311}%* U+03C9
16500 % U+03CA GREEK SMALL LETTER IOTA WITH DIALYTIKA; iotadieresis
16501 \DeclareTextCompositeCommand{"}{PU}{\textiota}{\83\312}% U+03CA
16502 % U+03CB GREEK SMALL LETTER UPSILON WITH DIALYTIKA; up-
silondieresis
16503 \DeclareTextCompositeCommand{"}{PU}{\textupsilon}{\83\313}% U+03CB
16504 % U+03CC GREEK SMALL LETTER OMICRON WITH TONOS; omicrontonos
16505 \DeclareTextCompositeCommand{'}{PU}{\textomicron}{\83\314}% U+03CC
16506 % U+03CD GREEK SMALL LETTER UPSILON WITH TONOS; upsilontonos
16507 \DeclareTextCommand{\textupsilonacute}{PU}{\83\315}% U+03CD
16508 \DeclareTextCompositeCommand{'}{PU}{\textupsilon}{\83\315}% U+03CD
16509 % U+03CE GREEK SMALL LETTER OMEGA WITH TONOS; omegatonos
16510 \DeclareTextCompositeCommand{'}{PU}{\textomega}{\83\316}% U+03CE
16511 % U+03D8 GREEK LETTER ARCHAIC KOPPA;
16512 \DeclareTextCommand{\textQoppa}{PU}{\83\330}% U+03D8
16513 % U+03D9 GREEK SMALL LETTER ARCHAIC KOPPA;
16514 \DeclareTextCommand{\textqoppa}{PU}{\83\331}% U+03D9
16515 % U+03DA GREEK LETTER STIGMA; Stigmagreek
16516 \DeclareTextCommand{\textStigmagreek}{PU}{\83\332}% U+03DA

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16517 \DeclareTextCommand{\textStigma}{PU}{\83\332}% U+03DA
16518 % U+03DB GREEK SMALL LETTER STIGMA
16519 \DeclareTextCommand{\textstigmagreek}{PU}{\83\333}% U+03DB
16520 \DeclareTextCommand{\textstigma}{PU}{\83\333}% U+03DB
16521 % U+03DC GREEK LETTER DIGAMMA; Digammagreek
16522 \DeclareTextCommand{\textDigammagreek}{PU}{\83\334}% U+03DC
16523 \DeclareTextCommand{\textDigamma}{PU}{\83\334}% U+03DC
16524 % U+03DD GREEK SMALL LETTER DIGAMMA
16525 \DeclareTextCommand{\textdigammagreek}{PU}{\83\335}% U+03DD
16526 \DeclareTextCommand{\textdigamma}{PU}{\83\335}% U+03DD
16527 %* \textdigammagreek -> \digamma (AmS)
16528 % U+03DE GREEK LETTER KOPPA; Koppagreek
16529 \DeclareTextCommand{\textKoppa}{PU}{\83\336}% U+03DE
16530 \DeclareTextCommand{\textKoppagreek}{PU}{\83\336}% U+03DE
16531 % U+03DF GREEK SMALL LETTER KOPPA
16532 \DeclareTextCommand{\textkoppa}{PU}{\83\337}% U+03DF
16533 \DeclareTextCommand{\textkoppagreek}{PU}{\83\337}% U+03DF
16534 % U+03E0 GREEK LETTER SAMPI; Sampigreek
16535 \DeclareTextCommand{\textSampigreek}{PU}{\83\340}% U+03E0
16536 \DeclareTextCommand{\textSampi}{PU}{\83\340}% U+03E0
16537 % U+03E1 GREEK SMALL LETTER SAMPI
16538 \DeclareTextCommand{\textsampigreek}{PU}{\83\341}% U+03E1
16539 \DeclareTextCommand{\textsampi}{PU}{\83\341}% U+03E1
16540 % U+03F6 GREEK REVERSED LUNATE EPSILON SYMBOL;
16541 % \backepsilon (AmS)
16542 \DeclareTextCommand{\textbackepsilon}{PU}{\83\366}% U+03F6
16543 \pugreek

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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.

```

16544 (*puenc)
16545 \ifx\CYRDZE\@undefined \else
16546 % U+0400 CYRILLIC CAPITAL LETTER IE WITH GRAVE
16547 \DeclareTextCompositeCommand{\`}{PU}{\CYRE}{\84\000}% U+0400
16548 % U+0401 CYRILLIC CAPITAL LETTER IO; Iocyrillic, *afii10023
16549 \DeclareTextCommand{\CYRYO}{PU}{\84\001}% U+0401
16550 \DeclareTextCompositeCommand{\"}{PU}{\CYRE}{\84\001}% U+0401
16551 % U+0402 CYRILLIC CAPITAL LETTER DJE; Djecyrillic, *afii10051
16552 \DeclareTextCommand{\CYRDJE}{PU}{\84\002}% U+0402
16553 % U+0403 CYRILLIC CAPITAL LETTER GJE; Gjecyrillic, *afii10052
16554 \DeclareTextCompositeCommand{\'}{PU}{\CYRG}{\84\003}% U+0403
16555 % U+0404 CYRILLIC CAPITAL LETTER UKRAINIAN IE; Ecyrillic, *afii10053
16556 \DeclareTextCommand{\CYRIE}{PU}{\84\004}% U+0404
16557 % U+0405 CYRILLIC CAPITAL LETTER DZE; Dzecyrillic, *afii10054
16558 \DeclareTextCommand{\CYRDZE}{PU}{\84\005}% U+0405
16559 % U+0406 CYRILLIC CAPITAL LETTER BYELORUSSIAN-UKRAINIAN I;
16560 % Icyrillic, *afii10055
16561 \DeclareTextCommand{\CYRII}{PU}{\84\006}% U+0406
16562 % U+0407 CYRILLIC CAPITAL LETTER YI; Yicyrillic, *afii10056
16563 \DeclareTextCommand{\CYRYI}{PU}{\84\007}% U+0407
16564 \DeclareTextCompositeCommand{\"}{PU}{\CYRII}{\84\007}% U+0407
16565 % U+0408 CYRILLIC CAPITAL LETTER JE; Jecyrillic, *afii10057

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16566 \DeclareTextCommand{\CYRJE}{PU}{\84\010}% U+0408
16567 % U+0409 CYRILLIC CAPITAL LETTER LJE; Ljecyrillic, *afii10058
16568 \DeclareTextCommand{\CYRLJE}{PU}{\84\011}% U+0409
16569 % U+040A CYRILLIC CAPITAL LETTER NJE; Njecyrillic, *afii10059
16570 \DeclareTextCommand{\CYRNJE}{PU}{\84\012}% U+040A
16571 % U+040B CYRILLIC CAPITAL LETTER TSHE; Tshecyrillic, *afii10060
16572 \DeclareTextCommand{\CYRTSHE}{PU}{\84\013}% U+040B
16573 % U+040C CYRILLIC CAPITAL LETTER KJE; Kjecyrillic, *afii10061
16574 \DeclareTextCompositeCommand{\'}{PU}{\CYRK}{\84\014}% U+040C
16575 % U+040D CYRILLIC CAPITAL LETTER I WITH GRAVE
16576 \DeclareTextCompositeCommand{\`}{PU}{\CYRI}{\84\015}% U+040D
16577 % U+040E CYRILLIC CAPITAL LETTER SHORT U; Ushortcyrillic, *afii10062
16578 \DeclareTextCommand{\CYRUSHRT}{PU}{\84\016}% U+040E
16579 \DeclareTextCompositeCommand{\U}{PU}{\CYRU}{\84\016}% U+040E
16580 % U+040F CYRILLIC CAPITAL LETTER DZHE; Dzhecyrillic, *afii10145
16581 \DeclareTextCommand{\CYRDZHE}{PU}{\84\017}% U+040F
16582 % U+0410 CYRILLIC CAPITAL LETTER A; Acyrillic, *afii10017
16583 \DeclareTextCommand{\CYRA}{PU}{\84\020}% U+0410
16584 % U+0411 CYRILLIC CAPITAL LETTER BE; Becyrillic, *afii10018
16585 \DeclareTextCommand{\CYRB}{PU}{\84\021}% U+0411
16586 % U+0412 CYRILLIC CAPITAL LETTER VE; Vecyrillic, *afii10019
16587 \DeclareTextCommand{\CYRV}{PU}{\84\022}% U+0412
16588 % U+0413 CYRILLIC CAPITAL LETTER GHE; Gecyrillic, *afii10020
16589 \DeclareTextCommand{\CYRG}{PU}{\84\023}% U+0413
16590 % U+0414 CYRILLIC CAPITAL LETTER DE; Decyrillic, *afii10021
16591 \DeclareTextCommand{\CYRD}{PU}{\84\024}% U+0414
16592 % U+0415 CYRILLIC CAPITAL LETTER IE; Iecyrillic, *afii10022
16593 \DeclareTextCommand{\CYRE}{PU}{\84\025}% U+0415
16594 % U+0416 CYRILLIC CAPITAL LETTER ZHE; Zhecyrillic, *afii10024
16595 \DeclareTextCommand{\CYRZH}{PU}{\84\026}% U+0416
16596 % U+0417 CYRILLIC CAPITAL LETTER ZE; Zecyrillic, *afii10025
16597 \DeclareTextCommand{\CYRZ}{PU}{\84\027}% U+0417
16598 % U+0418 CYRILLIC CAPITAL LETTER I; Iicyrillic, *afii10026
16599 \DeclareTextCommand{\CYRI}{PU}{\84\030}% U+0418
16600 % U+0419 CYRILLIC CAPITAL LETTER SHORT I; Iishortcyrillic, *afii10027
16601 \DeclareTextCommand{\CYRISHRT}{PU}{\84\031}% U+0419
16602 \DeclareTextCompositeCommand{\U}{PU}{\CYRI}{\84\031}% U+0419
16603 % U+041A CYRILLIC CAPITAL LETTER KA; Kacyrillic, *afii10028
16604 \DeclareTextCommand{\CYRK}{PU}{\84\032}% U+041A
16605 % U+041B CYRILLIC CAPITAL LETTER EL; Elcyrillic, *afii10029
16606 \DeclareTextCommand{\CYRL}{PU}{\84\033}% U+041B
16607 % U+041C CYRILLIC CAPITAL LETTER EM; Emcyrillic, *afii10030
16608 \DeclareTextCommand{\CYRM}{PU}{\84\034}% U+041C
16609 % U+041D CYRILLIC CAPITAL LETTER EN; Encyrillic, *afii10031
16610 \DeclareTextCommand{\CYRN}{PU}{\84\035}% U+041D
16611 % U+041E CYRILLIC CAPITAL LETTER O; Ocyrillic, *afii10032
16612 \DeclareTextCommand{\CYRO}{PU}{\84\036}% U+041E
16613 % U+041F CYRILLIC CAPITAL LETTER PE; Pecyrillic, *afii10033
16614 \DeclareTextCommand{\CYRP}{PU}{\84\037}% U+041F
16615 % U+0420 CYRILLIC CAPITAL LETTER ER; Ercyrillic, *afii10034
16616 \DeclareTextCommand{\CYRR}{PU}{\84\040}% U+0420
16617 % U+0421 CYRILLIC CAPITAL LETTER ES; Escyrillic, *afii10035
16618 \DeclareTextCommand{\CYRS}{PU}{\84\041}% U+0421
16619 % U+0422 CYRILLIC CAPITAL LETTER TE; Tecyrillic, *afii10036

16620 \DeclareTextCommand{\CYRT}{PU}{\84\042}% U+0422
16621 % U+0423 CYRILLIC CAPITAL LETTER U; Ucyrillic, *afii10037
16622 \DeclareTextCommand{\CYRU}{PU}{\84\043}% U+0423
16623 % U+0424 CYRILLIC CAPITAL LETTER EF; Efcyrillic, *afii10038
16624 \DeclareTextCommand{\CYRF}{PU}{\84\044}% U+0424
16625 % U+0425 CYRILLIC CAPITAL LETTER HA; Khacyrillic, *afii10039
16626 \DeclareTextCommand{\CYRH}{PU}{\84\045}% U+0425
16627 % U+0426 CYRILLIC CAPITAL LETTER TSE; Tsecyrillic, *afii10040
16628 \DeclareTextCommand{\CYRC}{PU}{\84\046}% U+0426
16629 % U+0427 CYRILLIC CAPITAL LETTER CHE; Checyrillic, *afii10041
16630 \DeclareTextCommand{\CYRCH}{PU}{\84\047}% U+0427
16631 % U+0428 CYRILLIC CAPITAL LETTER SHA; Shacyrillic, *afii10042
16632 \DeclareTextCommand{\CYRSH}{PU}{\84\050}% U+0428
16633 % U+0429 CYRILLIC CAPITAL LETTER SHCHA; Shchacyrillic, *afii10043
16634 \DeclareTextCommand{\CYRSHCH}{PU}{\84\051}% U+0429
16635 % U+042A CYRILLIC CAPITAL LETTER HARD SIGN;
16636 % Hardsigncyrillic, *afii10044
16637 \DeclareTextCommand{\CYRHRDSN}{PU}{\84\052}% U+042A
16638 % U+042B CYRILLIC CAPITAL LETTER YERU; Yericyrillic, *afii10045
16639 \DeclareTextCommand{\CYRERY}{PU}{\84\053}% U+042B
16640 % U+042C CYRILLIC CAPITAL LETTER SOFT SIGN;
16641 % Softsigncyrillic, *afii10046
16642 \DeclareTextCommand{\CYRSFTSN}{PU}{\84\054}% U+042C
16643 % U+042D CYRILLIC CAPITAL LETTER E; Ereversedcyrillic, *afii10047
16644 \DeclareTextCommand{\CYREREV}{PU}{\84\055}% U+042D
16645 % U+042E CYRILLIC CAPITAL LETTER YU; IUcyrillic, *afii10048
16646 \DeclareTextCommand{\CYRYU}{PU}{\84\056}% U+042E
16647 % U+042F CYRILLIC CAPITAL LETTER YA; IAcyrillic, *afii10049
16648 \DeclareTextCommand{\CYRYA}{PU}{\84\057}% U+042F
16649 % U+0430 CYRILLIC SMALL LETTER A; acyrillic, *afii10065
16650 \DeclareTextCommand{\cyra}{PU}{\84\060}% U+0430
16651 % U+0431 CYRILLIC SMALL LETTER BE; *afii10066, becyrillic
16652 \DeclareTextCommand{\cyrb}{PU}{\84\061}% U+0431
16653 % U+0432 CYRILLIC SMALL LETTER VE; *afii10067, vecyrillic
16654 \DeclareTextCommand{\cyrv}{PU}{\84\062}% U+0432
16655 % U+0433 CYRILLIC SMALL LETTER GHE; *afii10068, gecyrillic
16656 \DeclareTextCommand{\cyrg}{PU}{\84\063}% U+0433
16657 % U+0434 CYRILLIC SMALL LETTER DE; *afii10069, decyrillic
16658 \DeclareTextCommand{\cyrd}{PU}{\84\064}% U+0434
16659 % U+0435 CYRILLIC SMALL LETTER IE; *afii10070, iecyrillic
16660 \DeclareTextCommand{\cyre}{PU}{\84\065}% U+0435
16661 % U+0436 CYRILLIC SMALL LETTER ZHE; *afii10072, zhacyrillic
16662 \DeclareTextCommand{\cyrzh}{PU}{\84\066}% U+0436
16663 % U+0437 CYRILLIC SMALL LETTER ZE; *afii10073, zecyrillic
16664 \DeclareTextCommand{\cyrz}{PU}{\84\067}% U+0437
16665 % U+0438 CYRILLIC SMALL LETTER I; *afii10074, iicyrillic
16666 \DeclareTextCommand{\cyri}{PU}{\84\070}% U+0438
16667 % U+0439 CYRILLIC SMALL LETTER SHORT I; *afii10075, iishortcyrillic
16668 \DeclareTextCommand{\cyrishrt}{PU}{\84\071}% U+0439
16669 \DeclareTextCompositeCommand{\U}{PU}{\cyri}{\84\071}% U+0439
16670 % U+043A CYRILLIC SMALL LETTER KA; *afii10076, kacyrillic
16671 \DeclareTextCommand{\cyrk}{PU}{\84\072}% U+043A
16672 % U+043B CYRILLIC SMALL LETTER EL; *afii10077, elcyrillic
16673 \DeclareTextCommand{\cyrl}{PU}{\84\073}% U+043B

16674 % U+043C CYRILLIC SMALL LETTER EM; *afii10078, emcyrillic
 16675 \DeclareTextCommand{\cyrm}{PU}{\84\074}% U+043C
 16676 % U+043D CYRILLIC SMALL LETTER EN; *afii10079, encyrillic
 16677 \DeclareTextCommand{\cyrn}{PU}{\84\075}% U+043D
 16678 % U+043E CYRILLIC SMALL LETTER O; *afii10080, ocyrillic
 16679 \DeclareTextCommand{\cyro}{PU}{\84\076}% U+043E
 16680 % U+043F CYRILLIC SMALL LETTER PE; *afii10081, pecyrillic
 16681 \DeclareTextCommand{\cyrp}{PU}{\84\077}% U+043F
 16682 % U+0440 CYRILLIC SMALL LETTER ER; *afii10082, ercyrillic
 16683 \DeclareTextCommand{\cyrr}{PU}{\84\100}% U+0440
 16684 % U+0441 CYRILLIC SMALL LETTER ES; *afii10083, escyrillic
 16685 \DeclareTextCommand{\cyrs}{PU}{\84\101}% U+0441
 16686 % U+0442 CYRILLIC SMALL LETTER TE; *afii10084, tecyrillic
 16687 \DeclareTextCommand{\cyrt}{PU}{\84\102}% U+0442
 16688 % U+0443 CYRILLIC SMALL LETTER U; *afii10085, ucyrillic
 16689 \DeclareTextCommand{\cyru}{PU}{\84\103}% U+0443
 16690 % U+0444 CYRILLIC SMALL LETTER EF; *afii10086, efcyrillic
 16691 \DeclareTextCommand{\cyrf}{PU}{\84\104}% U+0444
 16692 % U+0445 CYRILLIC SMALL LETTER HA; *afii10087, khacyrillic
 16693 \DeclareTextCommand{\cyrh}{PU}{\84\105}% U+0445
 16694 % U+0446 CYRILLIC SMALL LETTER TSE; *afii10088, tsecyrillic
 16695 \DeclareTextCommand{\cyrc}{PU}{\84\106}% U+0446
 16696 % U+0447 CYRILLIC SMALL LETTER CHE; *afii10089, checyrillic
 16697 \DeclareTextCommand{\cyrch}{PU}{\84\107}% U+0447
 16698 % U+0448 CYRILLIC SMALL LETTER SHA; *afii10090, shacyrillic
 16699 \DeclareTextCommand{\cyrsh}{PU}{\84\110}% U+0448
 16700 % U+0449 CYRILLIC SMALL LETTER SHCHA; *afii10091, shchacyrillic
 16701 \DeclareTextCommand{\cyrshch}{PU}{\84\111}% U+0449
 16702 % U+044A CYRILLIC SMALL LETTER HARD SIGN; *afii10092, hardsigncyrillic
 16703 \DeclareTextCommand{\cyrhrdsn}{PU}{\84\112}% U+044A
 16704 %* \cyrhrdsn -> \hardsign (tipa)
 16705 % U+044B CYRILLIC SMALL LETTER YERU; *afii10093, yericyrillic
 16706 \DeclareTextCommand{\cyrrery}{PU}{\84\113}% U+044B
 16707 % U+044C CYRILLIC SMALL LETTER SOFT SIGN; *afii10094, softsigncyrillic
 16708 \DeclareTextCommand{\cyrstsn}{PU}{\84\114}% U+044C
 16709 %* \cyrstsn -> \softsign (tipa)
 16710 % U+044D CYRILLIC SMALL LETTER E; *afii10095, ereversedcyrillic
 16711 \DeclareTextCommand{\cyrerev}{PU}{\84\115}% U+044D
 16712 % U+044E CYRILLIC SMALL LETTER YU; *afii10096, iucyrillic
 16713 \DeclareTextCommand{\cyryu}{PU}{\84\116}% U+044E
 16714 % U+044F CYRILLIC SMALL LETTER YA; *afii10097, iacyrillic
 16715 \DeclareTextCommand{\cyrya}{PU}{\84\117}% U+044F
 16716 % U+0450 CYRILLIC SMALL LETTER IE WITH GRAVE
 16717 \DeclareTextCompositeCommand{\`}{PU}{\cyre}{\84\120}% U+0450
 16718 % U+0451 CYRILLIC SMALL LETTER IO; *afii10071, iocyrillic
 16719 \DeclareTextCommand{\cyryo}{PU}{\84\121}% U+0451
 16720 \DeclareTextCompositeCommand{\"}{PU}{\cyre}{\84\121}% U+0451
 16721 % U+0452 CYRILLIC SMALL LETTER DJE; *afii10099, djecyrillic
 16722 \DeclareTextCommand{\cyrdje}{PU}{\84\122}% U+0452
 16723 % U+0453 CYRILLIC SMALL LETTER GJE; *afii10100, gjecyrillic
 16724 \DeclareTextCompositeCommand{\'}{PU}{\cyrg}{\84\123}% U+0453
 16725 % U+0454 CYRILLIC SMALL LETTER UKRAINIAN IE; *afii10101, ecyrillic
 16726 \DeclareTextCommand{\cyrie}{PU}{\84\124}% U+0454

16727 % U+0455 CYRILLIC SMALL LETTER DZE; *afii10102, dzecyrillic
 16728 \DeclareTextCommand{\cyrdze}{PU}{\84\125}% U+0455
 16729 % U+0456 CYRILLIC SMALL LETTER BYELORUSSIAN-UKRAINIAN I;
 16730 % *afii10103, icyrillic
 16731 \DeclareTextCommand{\cyrii}{PU}{\84\126}% U+0456
 16732 % U+0457 CYRILLIC SMALL LETTER YI; *afii10104, yicyrillic
 16733 \DeclareTextCommand{\cyryi}{PU}{\84\127}% U+0457
 16734 \DeclareTextCompositeCommand{"}{PU}{\cyrii}{\84\127}% U+0457
 16735 % U+0458 CYRILLIC SMALL LETTER JE; *afii10105, jecyrillic
 16736 \DeclareTextCommand{\cyrje}{PU}{\84\130}% U+0458
 16737 % U+0459 CYRILLIC SMALL LETTER LJE; *afii10106, ljecyrillic
 16738 \DeclareTextCommand{\cyrkje}{PU}{\84\131}% U+0459
 16739 % U+045A CYRILLIC SMALL LETTER NJE; *afii10107, njecyrillic
 16740 \DeclareTextCommand{\cyrnje}{PU}{\84\132}% U+045A
 16741 % U+045B CYRILLIC SMALL LETTER TSHE; *afii10108, tshecyrillic
 16742 \DeclareTextCommand{\cyrtshe}{PU}{\84\133}% U+045B
 16743 % U+045C CYRILLIC SMALL LETTER KJE; *afii10109, kjecyrillic
 16744 \DeclareTextCompositeCommand{'}{PU}{\cyrk}{\84\134}% U+045C
 16745 % U+045D CYRILLIC SMALL LETTER I WITH GRAVE
 16746 \DeclareTextCompositeCommand{`}{PU}{\cyri}{\84\135}% U+045D
 16747 % U+045E CYRILLIC SMALL LETTER SHORT U; *afii10110, ushortcyrillic
 16748 \DeclareTextCommand{\cyrushrt}{PU}{\84\136}% U+045E
 16749 \DeclareTextCompositeCommand{\U}{PU}{\curu}{\84\136}% U+045E
 16750 % U+045F CYRILLIC SMALL LETTER DZHE; *afii10193, dzhecyrillic
 16751 \DeclareTextCommand{\cyrdzhe}{PU}{\84\137}% U+045F
 16752 % U+0460 CYRILLIC CAPITAL LETTER OMEGA; Omegacyrillic
 16753 \DeclareTextCommand{\CYROMEGA}{PU}{\84\140}% U+0460
 16754 % U+0461 CYRILLIC SMALL LETTER OMEGA; omegacyrillic
 16755 \DeclareTextCommand{\cyromega}{PU}{\84\141}% U+0461
 16756 % U+0462 CYRILLIC CAPITAL LETTER YAT; Yatcyrillic, *afii10146
 16757 \DeclareTextCommand{\CYRYAT}{PU}{\84\142}% U+0462
 16758 % U+0463 CYRILLIC SMALL LETTER YAT; *afii10194, yatcyrillic
 16759 \DeclareTextCommand{\cyryat}{PU}{\84\143}% U+0463
 16760 % U+0464 CYRILLIC CAPITAL LETTER IOTIFIED E; Eiotifiedcyrillic
 16761 \DeclareTextCommand{\CYRIOTE}{PU}{\84\144}% U+0464
 16762 % U+0465 CYRILLIC SMALL LETTER IOTIFIED E; eiotifiedcyrillic
 16763 \DeclareTextCommand{\cyriote}{PU}{\84\145}% U+0465
 16764 % U+0466 CYRILLIC CAPITAL LETTER LITTLE YUS; Yuslittlecyrillic
 16765 \DeclareTextCommand{\CYRLYUS}{PU}{\84\146}% U+0466
 16766 % U+0467 CYRILLIC SMALL LETTER LITTLE YUS; yuslittlecyrillic
 16767 \DeclareTextCommand{\cyrlyus}{PU}{\84\147}% U+0467
 16768 % U+0468 CYRILLIC CAPITAL LETTER IOTIFIED LITTLE YUS; Yuslitlei-
 otifiedcyrillic
 16769 \DeclareTextCommand{\CYRIOTLYUS}{PU}{\84\150}% U+0468
 16770 % U+0469 CYRILLIC SMALL LETTER IOTIFIED LITTLE YUS; yuslitlei-
 otifiedcyrillic
 16771 \DeclareTextCommand{\cyriotlyus}{PU}{\84\151}% U+0469
 16772 % U+046A CYRILLIC CAPITAL LETTER BIG YUS; Yusbigcyrillic
 16773 \DeclareTextCommand{\CYRBYUS}{PU}{\84\152}% U+046A
 16774 % U+046B CYRILLIC SMALL LETTER BIG YUS; yusbigcyrillic
 16775 \DeclareTextCommand{\cyrbyus}{PU}{\84\153}% U+046B
 16776 % U+046C CYRILLIC CAPITAL LETTER IOTIFIED BIG YUS; Yusbigiotified-
 cyrillic
 16777 \DeclareTextCommand{\CYRIOTBYUS}{PU}{\84\154}% U+046C

16778 % U+046D CYRILLIC SMALL LETTER IOTIFIED BIG YUS; yusbigiotified-cyrillic
 16779 \DeclareTextCommand{\cyriotbyus}{PU}{\84\155}% U+046D
 16780 % U+046E CYRILLIC CAPITAL LETTER KSI; Ksicyrillic
 16781 \DeclareTextCommand{\CYRKSI}{PU}{\84\156}% U+046E
 16782 % U+046F CYRILLIC SMALL LETTER KSI; ksicyrillic
 16783 \DeclareTextCommand{\cyrksi}{PU}{\84\157}% U+046F
 16784 % U+0470 CYRILLIC CAPITAL LETTER PSI; Psicyrillic
 16785 \DeclareTextCommand{\CYRPSI}{PU}{\84\160}% U+0470
 16786 % U+0471 CYRILLIC SMALL LETTER PSI; psicyrillic
 16787 \DeclareTextCommand{\cyrpsi}{PU}{\84\161}% U+0471
 16788 % U+0472 CYRILLIC CAPITAL LETTER FITA; Fitacyrillic, *afii10147
 16789 \DeclareTextCommand{\CYRFITA}{PU}{\84\162}% U+0472
 16790 % U+0473 CYRILLIC SMALL LETTER FITA; *afii10195, fitacyrillic
 16791 \DeclareTextCommand{\cyrfita}{PU}{\84\163}% U+0473
 16792 % U+0474 CYRILLIC CAPITAL LETTER IZHITSA; Izhitsacyrillic, *afii10148
 16793 \DeclareTextCommand{\CYRIZH}{PU}{\84\164}% U+0474
 16794 % U+0475 CYRILLIC SMALL LETTER IZHITSA; *afii10196, izhitsacyrillic
 16795 \DeclareTextCommand{\cyrizh}{PU}{\84\165}% U+0475
 16796 % U+0476 CYRILLIC CAPITAL LETTER IZHITSA WITH DOUBLE
 16797 % GRAVE ACCENT; Izhitsadblgravecyrillic
 16798 \DeclareTextCompositeCommand{\C}{PU}{\CYRIZH}{\84\166}% U+0476
 16799 % U+0477 CYRILLIC SMALL LETTER IZHITSA WITH DOUBLE
 16800 % GRAVE ACCENT; izhitsadblgravecyrillic
 16801 \DeclareTextCompositeCommand{\C}{PU}{\cyrizh}{\84\167}% U+0477
 16802 % U+0478 CYRILLIC CAPITAL LETTER UK; Ukcyrillic
 16803 \DeclareTextCommand{\CYRUK}{PU}{\84\170}% U+0478
 16804 % U+0479 CYRILLIC SMALL LETTER UK; ukcyrillic
 16805 \DeclareTextCommand{\cyruk}{PU}{\84\171}% U+0479
 16806 % U+047A CYRILLIC CAPITAL LETTER ROUND OMEGA; Omegaroundcyrillic
 16807 \DeclareTextCommand{\CYROMEGARND}{PU}{\84\172}% U+047A
 16808 % U+047B CYRILLIC SMALL LETTER ROUND OMEGA; omegaroundcyrillic
 16809 \DeclareTextCommand{\cyromegarnd}{PU}{\84\173}% U+047B
 16810 % U+047C CYRILLIC CAPITAL LETTER OMEGA WITH TITLO; Omegatitlocyrillic
 16811 \DeclareTextCommand{\CYROMEGATITLO}{PU}{\84\174}% U+047C
 16812 % U+047D CYRILLIC SMALL LETTER OMEGA WITH TITLO; omegatitlocyrillic
 16813 \DeclareTextCommand{\cyromegatitlo}{PU}{\84\175}% U+047D
 16814 % U+047E CYRILLIC CAPITAL LETTER OT; Otcyrillic
 16815 \DeclareTextCommand{\CYROT}{PU}{\84\176}% U+047E
 16816 % U+047F CYRILLIC SMALL LETTER OT; otcyrillic
 16817 \DeclareTextCommand{\cyrot}{PU}{\84\177}% U+047F
 16818 % U+0480 CYRILLIC CAPITAL LETTER KOPPA; Koppacyrillic
 16819 \DeclareTextCommand{\CYRKOPPA}{PU}{\84\200}% U+0480
 16820 % U+0481 CYRILLIC SMALL LETTER KOPPA; koppacyrillic
 16821 \DeclareTextCommand{\cyrkoppa}{PU}{\84\201}% U+0481
 16822 % U+0482 CYRILLIC THOUSANDS SIGN; thousandcyrillic
 16823 \DeclareTextCommand{\cyrthousands}{PU}{\84\202}% U+0482
 \84\203: U+0483 COMBINING CYRILLIC TITLO; titlocyrilliccmb
 \84\204: U+0484 COMBINING CYRILLIC PALATALIZATION; palatalization-cyrilliccmb

\84\205: U+0485 COMBINING CYRILLIC DASIA PNEUMATA; dasiapneu-
 macyrilliccmb
 \84\206: U+0486 COMBINING CYRILLIC PSILI PNEUMATA; psilipneumat-
 acyrilliccmb
 \84\207: U+0487 COMBINING CYRILLIC POKRYTIE
 \84\210: U+0488 COMBINING CYRILLIC HUNDRED THOUSANDS SIGN
 \84\211: U+0489 COMBINING CYRILLIC MILLIONS SIGN
 16824 % U+048A CYRILLIC CAPITAL LETTER SHORT I WITH TAIL
 16825 \DeclareTextCommand{\CYRISHRTDSC}{PU}{\84\212}% U+048A
 16826 % U+048B CYRILLIC SMALL LETTER SHORT I WITH TAIL
 16827 \DeclareTextCommand{\cyrishrtdsc}{PU}{\84\213}% U+048B
 16828 % U+048C CYRILLIC CAPITAL LETTER SEMISOFT SIGN
 16829 \DeclareTextCommand{\CYRSEMISFTSN}{PU}{\84\214}% U+048C
 16830 % U+048D CYRILLIC SMALL LETTER SEMISOFT SIGN
 16831 \DeclareTextCommand{\cyrsemisftsn}{PU}{\84\215}% U+048D
 16832 % U+048E CYRILLIC CAPITAL LETTER ER WITH TICK
 16833 \DeclareTextCommand{\CYRRTICK}{PU}{\84\216}% U+048E
 16834 % U+048F CYRILLIC SMALL LETTER ER WITH TICK
 16835 \DeclareTextCommand{\cyrrtick}{PU}{\84\217}% U+048F
 16836 % U+0490 CYRILLIC CAPITAL LETTER GHE WITH UPTURN; Gheupturn-
 cyrillic, *afii10050
 16837 \DeclareTextCommand{\CYRGUP}{PU}{\84\220}% U+0490
 16838 % U+0491 CYRILLIC SMALL LETTER GHE WITH UPTURN; *afii10098, ghe-
 upturncyrillic
 16839 \DeclareTextCommand{\cyrgup}{PU}{\84\221}% U+0491
 16840 % U+0492 CYRILLIC CAPITAL LETTER GHE WITH STROKE; Ghestroke-
 cyrillic
 16841 \DeclareTextCommand{\CYRGHCRS}{PU}{\84\222}% U+0492
 16842 % U+0493 CYRILLIC SMALL LETTER GHE WITH STROKE; ghestrokecyrillic
 16843 \DeclareTextCommand{\cyrghcrs}{PU}{\84\223}% U+0493
 16844 % U+0494 CYRILLIC CAPITAL LETTER GHE WITH MIDDLE HOOK;
 16845 % Ghemiddlehookcyrillic
 16846 \DeclareTextCommand{\CYRGHK}{PU}{\84\224}% U+0494
 16847 % U+0495 CYRILLIC SMALL LETTER GHE WITH MIDDLE HOOK;
 16848 % ghemiddlehookcyrillic
 16849 \DeclareTextCommand{\cyrghk}{PU}{\84\225}% U+0495
 16850 % U+0496 CYRILLIC CAPITAL LETTER ZHE WITH DESCENDER;
 16851 % Zhedescendercyrillic
 16852 \DeclareTextCommand{\CYRZHDSC}{PU}{\84\226}% U+0496
 16853 % U+0497 CYRILLIC SMALL LETTER ZHE WITH DESCENDER;
 16854 % zhedescendercyrillic
 16855 \DeclareTextCommand{\cyrzhdsc}{PU}{\84\227}% U+0497
 16856 % U+0498 CYRILLIC CAPITAL LETTER ZE WITH DESCENDER; Zedescen-
 dercyrillic
 16857 \DeclareTextCommand{\CYRZDSC}{PU}{\84\230}% U+0498
 16858 \DeclareTextCompositeCommand{\c}{PU}{\CYRZ}{\84\230}% U+0498
 16859 % U+0499 CYRILLIC SMALL LETTER ZE WITH DESCENDER; zedescender-
 cyrillic
 16860 \DeclareTextCommand{\cyrzdesc}{PU}{\84\231}% U+0499
 16861 \DeclareTextCompositeCommand{\c}{PU}{\cyrz}{\84\231}% U+0499
 16862 % U+049A CYRILLIC CAPITAL LETTER KA WITH DESCENDER; Kadescen-
 dercyrillic
 16863 \DeclareTextCommand{\CYRKDSC}{PU}{\84\232}% U+049A

16864 % U+049B CYRILLIC SMALL LETTER KA WITH DESCENDER; kadesce-
 dercyrillic
 16865 \DeclareTextCommand{\cyrkdesc}{PU}{\84\233}% U+049B
 16866 % U+049C CYRILLIC CAPITAL LETTER KA WITH VERTICAL STROKE;
 16867 % Kavertikalstrokecyrillic
 16868 \DeclareTextCommand{\CYRKVCRS}{PU}{\84\234}% U+049C
 16869 % U+049D CYRILLIC SMALL LETTER KA WITH VERTICAL STROKE;
 16870 % kavertikalstrokecyrillic
 16871 \DeclareTextCommand{\cyrkvcrs}{PU}{\84\235}% U+049D
 16872 % U+049E CYRILLIC CAPITAL LETTER KA WITH STROKE; Kastrokecyrillic
 16873 \DeclareTextCommand{\CYRKHCRS}{PU}{\84\236}% U+049E
 16874 % U+049F CYRILLIC SMALL LETTER KA WITH STROKE; kastrokecyrillic
 16875 \DeclareTextCommand{\cyrkhrs}{PU}{\84\237}% U+049F
 16876 % U+04A0 CYRILLIC CAPITAL LETTER BASHKIR KA; Kabashkircyrillic
 16877 \DeclareTextCommand{\CYRKBEAK}{PU}{\84\240}% U+04A0
 16878 % U+04A1 CYRILLIC SMALL LETTER BASHKIR KA; kabashkircyrillic
 16879 \DeclareTextCommand{\cyrkbeak}{PU}{\84\241}% U+04A1
 16880 % U+04A2 CYRILLIC CAPITAL LETTER EN WITH DESCENDER; Endescen-
 dercyrillic
 16881 \DeclareTextCommand{\CYRNDSC}{PU}{\84\242}% U+04A2
 16882 % U+04A3 CYRILLIC SMALL LETTER EN WITH DESCENDER; endescender-
 cyrillic
 16883 \DeclareTextCommand{\cyrndsc}{PU}{\84\243}% U+04A3
 16884 % U+04A4 CYRILLIC CAPITAL LIGATURE EN GHE; Enghecyrillic
 16885 \DeclareTextCommand{\CYRNG}{PU}{\84\244}% U+04A4
 16886 % U+04A5 CYRILLIC SMALL LIGATURE EN GHE; enghecyrillic
 16887 \DeclareTextCommand{\cyrng}{PU}{\84\245}% U+04A5
 16888 % U+04A6 CYRILLIC CAPITAL LETTER PE WITH MIDDLE HOOK; Pemid-
 dlehookcyrillic
 16889 \DeclareTextCommand{\CYRPHK}{PU}{\84\246}% U+04A6
 16890 % U+04A7 CYRILLIC SMALL LETTER PE WITH MIDDLE HOOK; pemiddle-
 hookcyrillic
 16891 \DeclareTextCommand{\cyrphk}{PU}{\84\247}% U+04A7
 16892 % U+04A8 CYRILLIC CAPITAL LETTER ABKHASIAN HA; Haabkhasiancyril-
 lic
 16893 \DeclareTextCommand{\CYRABHHA}{PU}{\84\250}% U+04A8
 16894 % U+04A9 CYRILLIC SMALL LETTER ABKHASIAN HA; haabkhasiancyrillic
 16895 \DeclareTextCommand{\cyrabhha}{PU}{\84\251}% U+04A9
 16896 % U+04AA CYRILLIC CAPITAL LETTER ES WITH DESCENDER; Esdescen-
 dercyrillic
 16897 \DeclareTextCommand{\CYRSDSC}{PU}{\84\252}% U+04AA
 16898 \DeclareTextCompositeCommand{\CYRSDSC}{PU}{\CYRS}{\84\252}% U+04AA
 16899 % U+04AB CYRILLIC SMALL LETTER ES WITH DESCENDER; esdescender-
 cyrillic
 16900 \DeclareTextCommand{\cyrsdsc}{PU}{\84\253}% U+04AB
 16901 \DeclareTextCompositeCommand{\k}{PU}{\cyr}{\84\253}% U+04AB
 16902 % U+04AC CYRILLIC CAPITAL LETTER TE WITH DESCENDER; Tedescen-
 dercyrillic
 16903 \DeclareTextCommand{\CYRTDSC}{PU}{\84\254}% U+04AC
 16904 % U+04AD CYRILLIC SMALL LETTER TE WITH DESCENDER; tedescen-
 dercyrillic
 16905 \DeclareTextCommand{\cyrtddsc}{PU}{\84\255}% U+04AD
 16906 % U+04AE CYRILLIC CAPITAL LETTER STRAIGHT U; Ustraightcyrillic
 16907 \DeclareTextCommand{\CYRY}{PU}{\84\256}% U+04AE

16908 % U+04AF CYRILLIC SMALL LETTER STRAIGHT U; ustraightcyrillic
 16909 \DeclareTextCommand{\cyry}{PU}{\84\257}% U+04AF
 16910 % U+04B0 CYRILLIC CAPITAL LETTER STRAIGHT U WITH STROKE; Us-
 traightstrokecyrillic
 16911 \DeclareTextCommand{\CYRYHCRS}{PU}{\84\260}% U+04B0
 16912 % U+04B1 CYRILLIC SMALL LETTER STRAIGHT U WITH STROKE; us-
 traightstrokecyrillic
 16913 \DeclareTextCommand{\cyryhcrs}{PU}{\84\261}% U+04B1
 16914 % U+04B2 CYRILLIC CAPITAL LETTER HA WITH DESCENDER; Hadesce-
 ndercyrillic
 16915 \DeclareTextCommand{\CYRHDSC}{PU}{\84\262}% U+04B2
 16916 % U+04B3 CYRILLIC SMALL LETTER HA WITH DESCENDER; hadescen-
 dercyrillic
 16917 \DeclareTextCommand{\cyrhdsc}{PU}{\84\263}% U+04B3
 16918 % U+04B4 CYRILLIC CAPITAL LIGATURE TE TSE; Tetsecyrillic
 16919 \DeclareTextCommand{\CYRTETSE}{PU}{\84\264}% U+04B4
 16920 % U+04B5 CYRILLIC SMALL LIGATURE TE TSE; tetsecyrillic
 16921 \DeclareTextCommand{\cyrtetse}{PU}{\84\265}% U+04B5
 16922 % U+04B6 CYRILLIC CAPITAL LETTER CHE WITH DESCENDER;
 16923 % Chedescendercyrillic
 16924 \DeclareTextCommand{\CYRCHRDSC}{PU}{\84\266}% U+04B6
 16925 % U+04B7 CYRILLIC SMALL LETTER CHE WITH DESCENDER; chedescen-
 dercyrillic
 16926 \DeclareTextCommand{\cyrchrds}{PU}{\84\267}% U+04B7
 16927 % U+04B8 CYRILLIC CAPITAL LETTER CHE WITH VERTICAL STROKE;
 16928 % Cheverticalstrokecyrillic
 16929 \DeclareTextCommand{\CYRCHVCRS}{PU}{\84\270}% U+04B8
 16930 % U+04B9 CYRILLIC SMALL LETTER CHE WITH VERTICAL STROKE;
 16931 % cheverticalstrokecyrillic
 16932 \DeclareTextCommand{\cyrchvcrs}{PU}{\84\271}% U+04B9
 16933 % U+04BA CYRILLIC CAPITAL LETTER SHHA; Shhacyrillic
 16934 \DeclareTextCommand{\CYRSHHA}{PU}{\84\272}% U+04BA
 16935 % U+04BB CYRILLIC SMALL LETTER SHHA; shhacyrillic
 16936 \DeclareTextCommand{\cyrshha}{PU}{\84\273}% U+04BB
 16937 % U+04BC CYRILLIC CAPITAL LETTER ABKHASIAN CHE; Cheabkhasian-
 cyrillic
 16938 \DeclareTextCommand{\CYRABHCH}{PU}{\84\274}% U+04BC
 16939 % U+04BD CYRILLIC SMALL LETTER ABKHASIAN CHE; cheabkhasiancyril-
 lic
 16940 \DeclareTextCommand{\cyrabhch}{PU}{\84\275}% U+04BD
 16941 % U+04BE CYRILLIC CAPITAL LETTER ABKHASIAN CHE WITH DESCEN-
 DER; Chedescenderabkhasiancyrillic
 16942 \DeclareTextCommand{\CYRABHCHDSC}{PU}{\84\276}% U+04BE
 16943 \DeclareTextCompositeCommand{\k}{PU}{\CYRABHCH}{\84\276}% U+04BE
 16944 % U+04BF CYRILLIC SMALL LETTER ABKHASIAN CHE WITH DESCEN-
 DER; chedescenderabkhasiancyrillic
 16945 \DeclareTextCommand{\cyrabhchdsc}{PU}{\84\277}% U+04BF
 16946 \DeclareTextCompositeCommand{\k}{PU}{\cyrabhch}{\84\277}% U+04BF
 16947 % U+04C0 CYRILLIC LETTER PALOCHKA; palochkacyrillic
 16948 \DeclareTextCommand{\CYRpalochka}{PU}{\84\300}% U+04C0
 16949 % U+04C1 CYRILLIC CAPITAL LETTER ZHE WITH BREVE; Zhebrevecyrillic
 16950 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\301}% U+04C1
 16951 % U+04C2 CYRILLIC SMALL LETTER ZHE WITH BREVE; zhebrevecyrillic
 16952 \DeclareTextCompositeCommand{\U}{PU}{\cyrzh}{\84\302}% U+04C2

16953 % U+04C3 CYRILLIC CAPITAL LETTER KA WITH HOOK; Kahookcyrillic
 16954 \DeclareTextCommand{\CYRKHK}{PU}{\84\303}% U+04C3
 16955 % U+04C4 CYRILLIC SMALL LETTER KA WITH HOOK; kahookcyrillic
 16956 \DeclareTextCommand{\cyrkhk}{PU}{\84\304}% U+04C4
 16957 % U+04C5 CYRILLIC CAPITAL LETTER EL WITH TAIL
 16958 \DeclareTextCommand{\CYRLDSC}{PU}{\84\305}% U+04C5
 16959 % U+04C6 CYRILLIC SMALL LETTER EL WITH TAIL
 16960 \DeclareTextCommand{\cyrlldsc}{PU}{\84\306}% U+04C6
 16961 % U+04C7 CYRILLIC CAPITAL LETTER EN WITH HOOK; Enhookcyrillic
 16962 \DeclareTextCommand{\CYRNHK}{PU}{\84\307}% U+04C7
 16963 % U+04C8 CYRILLIC SMALL LETTER EN WITH HOOK; enhookcyrillic
 16964 \DeclareTextCommand{\cyrnhk}{PU}{\84\310}% U+04C8
 16965 % U+04CB CYRILLIC CAPITAL LETTER KHAKASSIAN CHE; Chekhakas-
 siancyrillic
 16966 \DeclareTextCommand{\CYRCHLDSC}{PU}{\84\313}% U+04CB
 16967 % U+04CC CYRILLIC SMALL LETTER KHAKASSIAN CHE; chekhakassian-
 cyrillic
 16968 \DeclareTextCommand{\cyrchldsc}{PU}{\84\314}% U+04CC
 16969 % U+04CD CYRILLIC CAPITAL LETTER EM WITH TAIL
 16970 \DeclareTextCommand{\CYRMDSC}{PU}{\84\315}% U+04CD
 16971 % U+04CE CYRILLIC SMALL LETTER EM WITH TAIL
 16972 \DeclareTextCommand{\cyrmdsc}{PU}{\84\316}% U+04CE
 \84\317: U+04CF CYRILLIC SMALL LETTER PALOCHKA
 16973 % U+04D0 CYRILLIC CAPITAL LETTER A WITH BREVE; Abrevecyrillic
 16974 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\320}% U+04D0
 16975 % U+04D1 CYRILLIC SMALL LETTER A WITH BREVE; abrevecyrillic
 16976 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\321}% U+04D1
 16977 % U+04D2 CYRILLIC CAPITAL LETTER A WITH DIAERESIS; Adieresiscyri-
 lic
 16978 \DeclareTextCompositeCommand{\U}{PU}{\CYRA}{\84\322}% U+04D2
 16979 % U+04D3 CYRILLIC SMALL LETTER A WITH DIAERESIS; adieresiscyrillic
 16980 \DeclareTextCompositeCommand{\U}{PU}{\cyra}{\84\323}% U+04D3
 16981 % U+04D4 CYRILLIC CAPITAL LIGATURE A IE; Aiecyrillic
 16982 \DeclareTextCommand{\CYRAE}{PU}{\84\324}% U+04D4
 16983 % U+04D5 CYRILLIC SMALL LIGATURE A IE; aiecyrillic
 16984 \DeclareTextCommand{\cyrae}{PU}{\84\325}% U+04D5
 16985 % U+04D6 CYRILLIC CAPITAL LETTER IE WITH BREVE; Iebrevocyrillic
 16986 \DeclareTextCompositeCommand{\U}{PU}{\CYRE}{\84\326}% U+04D6
 16987 % U+04D7 CYRILLIC SMALL LETTER IE WITH BREVE; iebrevocyrillic
 16988 \DeclareTextCompositeCommand{\U}{PU}{\cyre}{\84\327}% U+04D7
 16989 % U+04D8 CYRILLIC CAPITAL LETTER SCHWA; Schwacyrillic
 16990 \DeclareTextCommand{\CYRSCHWA}{PU}{\84\330}% U+04D8
 16991 % U+04D9 CYRILLIC SMALL LETTER SCHWA; *afii10846, schwacyrillic
 16992 \DeclareTextCommand{\cyrschwa}{PU}{\84\331}% U+04D9
 16993 % U+04DA CYRILLIC CAPITAL LETTER SCHWA WITH DIAERESIS;
 16994 % Schwadiesiscyrillic
 16995 \DeclareTextCompositeCommand{\U}{PU}{\CYRSCHWA}{\84\332}% U+04DA
 16996 % U+04DB CYRILLIC SMALL LETTER SCHWA WITH DIAERESIS;
 16997 % schwadiesiscyrillic
 16998 \DeclareTextCompositeCommand{\U}{PU}{\cyrschwa}{\84\333}% U+04DB
 16999 % U+04DC CYRILLIC CAPITAL LETTER ZHE WITH DIAERESIS; Zhediere-
 siscyrillic
 17000 \DeclareTextCompositeCommand{\U}{PU}{\CYRZH}{\84\334}% U+04DC
 17001 % U+04DD CYRILLIC SMALL LETTER ZHE WITH DIAERESIS; zhedieresis-

cyrillic

17002 \DeclareTextCompositeCommand{\}{PU}{\cyrzh}{\84\335}% U+04DD

17003 % U+04DE CYRILLIC CAPITAL LETTER ZE WITH DIAERESIS; Zedieresis-cyrillic

17004 \DeclareTextCompositeCommand{\}{PU}{\CYRZ}{\84\336}% U+04DE

17005 % U+04DF CYRILLIC SMALL LETTER ZE WITH DIAERESIS; zedieresis-cyrillic

17006 \DeclareTextCompositeCommand{\}{PU}{\cyrz}{\84\337}% U+04DF

17007 % U+04E0 CYRILLIC CAPITAL LETTER ABKHASIAN DZE; Dzeabkhasian-cyrillic

17008 \DeclareTextCommand{\CYRABHDZE}{PU}{\84\340}% U+04E0

17009 % U+04E1 CYRILLIC SMALL LETTER ABKHASIAN DZE; dzeabkhasian-cyrillic

17010 \DeclareTextCommand{\cyrabhdze}{PU}{\84\341}% U+04E1

17011 % U+04E2 CYRILLIC CAPITAL LETTER I WITH MACRON; Iacroncyrillic

17012 \DeclareTextCompositeCommand{\=}{PU}{\CYRI}{\84\342}% U+04E2

17013 % U+04E3 CYRILLIC SMALL LETTER I WITH MACRON; imacroncyrillic

17014 \DeclareTextCompositeCommand{\=}{PU}{\cyri}{\84\343}% U+04E3

17015 % U+04E4 CYRILLIC CAPITAL LETTER I WITH DIAERESIS; Idieresis-cyrillic

17016 \DeclareTextCompositeCommand{\}{PU}{\CYRI}{\84\344}% U+04E4

17017 % U+04E5 CYRILLIC SMALL LETTER I WITH DIAERESIS; idieresis-cyrillic

17018 \DeclareTextCompositeCommand{\}{PU}{\cyri}{\84\345}% U+04E5

17019 % U+04E6 CYRILLIC CAPITAL LETTER O WITH DIAERESIS; Odieresis-cyrillic

17020 \DeclareTextCompositeCommand{\}{PU}{\CYRO}{\84\346}% U+04E6

17021 % U+04E7 CYRILLIC SMALL LETTER O WITH DIAERESIS; odieresis-cyrillic

17022 \DeclareTextCompositeCommand{\}{PU}{\cyro}{\84\347}% U+04E7

17023 % U+04E8 CYRILLIC CAPITAL LETTER BARRED O; Obarredcyrillic

17024 \DeclareTextCommand{\CYROTLD}{PU}{\84\350}% U+04E8

17025 % U+04E9 CYRILLIC SMALL LETTER BARRED O; obarredcyrillic

17026 \DeclareTextCommand{\cyrotld}{PU}{\84\351}% U+04E9

17027 % U+04EA CYRILLIC CAPITAL LETTER BARRED O WITH DIAERESIS;

17028 % Obarreddieresis-cyrillic

17029 \DeclareTextCompositeCommand{\}{PU}{\CYROTLD}{\84\352}% U+04EA

17030 % U+04EB CYRILLIC SMALL LETTER BARRED O WITH DIAERESIS;

17031 % obarreddieresis-cyrillic

17032 \DeclareTextCompositeCommand{\}{PU}{\cyrotld}{\84\353}% U+04EB

17033 % U+04EC CYRILLIC CAPITAL LETTER E WITH DIAERESIS

17034 \DeclareTextCompositeCommand{\}{PU}{\CYREREV}{\84\354}% U+04EC

17035 % U+04ED CYRILLIC SMALL LETTER E WITH DIAERESIS

17036 \DeclareTextCompositeCommand{\}{PU}{\cyreref}{\84\355}% U+04ED

17037 % U+04EE CYRILLIC CAPITAL LETTER U WITH MACRON; Umacroncyrillic

17038 \DeclareTextCompositeCommand{\=}{PU}{\CYRU}{\84\356}% U+04EE

17039 % U+04EF CYRILLIC SMALL LETTER U WITH MACRON; umacroncyrillic

17040 \DeclareTextCompositeCommand{\=}{PU}{\cyru}{\84\357}% U+04EF

17041 % U+04F0 CYRILLIC CAPITAL LETTER U WITH DIAERESIS; Udieresis-cyrillic

17042 \DeclareTextCompositeCommand{\}{PU}{\CYRU}{\84\360}% U+04F0

17043 % U+04F1 CYRILLIC SMALL LETTER U WITH DIAERESIS; udieresis-cyrillic

17044 \DeclareTextCompositeCommand{\}{PU}{\cyru}{\84\361}% U+04F1

17045 % U+04F2 CYRILLIC CAPITAL LETTER U WITH DOUBLE ACUTE; Uhungarumlautcyrillic

17046 \DeclareTextCompositeCommand{\H}{PU}{\CYRU}{\84\362}% U+04F2

17047 % U+04F3 CYRILLIC SMALL LETTER U WITH DOUBLE ACUTE; uhun-

garumlautcyrillic
17048 \DeclareTextCompositeCommand{\H}{PU}{\cyru}{\84\363}% U+04F3
17049 % U+04F4 CYRILLIC CAPITAL LETTER CHE WITH DIAERESIS; Chediere-
siscyrillic
17050 \DeclareTextCompositeCommand{\"}{PU}{\CYRCH}{\84\364}% U+04F4
17051 % U+04F5 CYRILLIC SMALL LETTER CHE WITH DIAERESIS; chedieres-
cyrillic
17052 \DeclareTextCompositeCommand{\"}{PU}{\cyrch}{\84\365}% U+04F5
17053 % U+04F6 CYRILLIC CAPITAL LETTER GHE WITH DESCENDER
17054 \DeclareTextCommand{\CYRGDSC}{PU}{\84\366}% U+04F6
17055 % U+04F7 CYRILLIC SMALL LETTER GHE WITH DESCENDER
17056 \DeclareTextCommand{\cyrgdsc}{PU}{\84\367}% U+04F7
17057 % U+04F8 CYRILLIC CAPITAL LETTER YERU WITH DIAERESIS; Yerudiere-
siscyrillic
17058 \DeclareTextCompositeCommand{\"}{PU}{\CYRERY}{\84\370}% U+04F8
17059 % U+04F9 CYRILLIC SMALL LETTER YERU WITH DIAERESIS; yerudiere-
siscyrillic
17060 \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
17061 % U+04FC CYRILLIC CAPITAL LETTER HA WITH HOOK
17062 \DeclareTextCommand{\CYRHHK}{PU}{\84\374}% U+04FC
17063 % U+04FD CYRILLIC SMALL LETTER HA WITH HOOK
17064 \DeclareTextCommand{\cyrhk}{PU}{\84\375}% U+04FD
17065 \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

17066 \ifx\hebdalet\@undefined\else
17067 % U+05C3 HEBREW PUNCTUATION SOF PASUQ
17068 \DeclareTextCommand{\sofpasuq}{PU}{\85\303}% U+05C3
17069 % U+05D0 HEBREW LETTER ALEF
17070 \DeclareTextCommand{\hebalef}{PU}{\85\320}% U+05D0
17071 % U+05D1 HEBREW LETTER BET
17072 \DeclareTextCommand{\hebbet}{PU}{\85\321}% U+05D1
17073 % U+05D2 HEBREW LETTER GIMEL
17074 \DeclareTextCommand{\hebgimel}{PU}{\85\322}% U+05D2
17075 % U+05D3 HEBREW LETTER DALET
17076 \DeclareTextCommand{\hebdalet}{PU}{\85\323}% U+05D3
17077 % U+05D4 HEBREW LETTER HE
17078 \DeclareTextCommand{\hebhe}{PU}{\85\324}% U+05D4
17079 % U+05D5 HEBREW LETTER VAV
17080 \DeclareTextCommand{\hebvav}{PU}{\85\325}% U+05D5
17081 % U+05D6 HEBREW LETTER ZAYIN
17082 \DeclareTextCommand{\hebzayin}{PU}{\85\326}% U+05D6
17083 % U+05D7 HEBREW LETTER HET

17084 \DeclareTextCommand{\hebhet}{PU}{\85\327}% U+05D7
 17085 % U+05D8 HEBREW LETTER TET
 17086 \DeclareTextCommand{\hebtet}{PU}{\85\330}% U+05D8
 17087 % U+05D9 HEBREW LETTER YOD
 17088 \DeclareTextCommand{\hebyod}{PU}{\85\331}% U+05D9
 17089 % U+05DA HEBREW LETTER FINAL KAF
 17090 \DeclareTextCommand{\hebfinalkaf}{PU}{\85\332}% U+05DA
 17091 % U+05DB HEBREW LETTER KAF
 17092 \DeclareTextCommand{\hebkaf}{PU}{\85\333}% U+05DB
 17093 % U+05DC HEBREW LETTER LAMED
 17094 \DeclareTextCommand{\heblamed}{PU}{\85\334}% U+05DC
 17095 % U+05DD HEBREW LETTER FINAL MEM
 17096 \DeclareTextCommand{\hebfinalmem}{PU}{\85\335}% U+05DD
 17097 % U+05DE HEBREW LETTER MEM
 17098 \DeclareTextCommand{\hebmeme}{PU}{\85\336}% U+05DE
 17099 % U+05DF HEBREW LETTER FINAL NUN
 17100 \DeclareTextCommand{\hebfinalnun}{PU}{\85\337}% U+05DF
 17101 % U+05E0 HEBREW LETTER NUN
 17102 \DeclareTextCommand{\hebnun}{PU}{\85\340}% U+05E0
 17103 % U+05E1 HEBREW LETTER SAMEKH
 17104 \DeclareTextCommand{\hebsamekh}{PU}{\85\341}% U+05E1
 17105 % U+05E2 HEBREW LETTER AYIN
 17106 \DeclareTextCommand{\hebayin}{PU}{\85\342}% U+05E2
 17107 % U+05E3 HEBREW LETTER FINAL PE
 17108 \DeclareTextCommand{\hebfinalpe}{PU}{\85\343}% U+05E3
 17109 % U+05E4 HEBREW LETTER PE
 17110 \DeclareTextCommand{\hebpe}{PU}{\85\344}% U+05E4
 17111 % U+05E5 HEBREW LETTER FINAL TSADI
 17112 \DeclareTextCommand{\hebfinaltsadi}{PU}{\85\345}% U+05E5
 17113 % U+05E6 HEBREW LETTER TSADI
 17114 \DeclareTextCommand{\hebtsadi}{PU}{\85\346}% U+05E6
 17115 % U+05E7 HEBREW LETTER QOF
 17116 \DeclareTextCommand{\hebqof}{PU}{\85\347}% U+05E7
 17117 % U+05E8 HEBREW LETTER RESH
 17118 \DeclareTextCommand{\hebresh}{PU}{\85\350}% U+05E8
 17119 % U+05E9 HEBREW LETTER SHIN
 17120 \DeclareTextCommand{\hebshin}{PU}{\85\351}% U+05E9
 17121 %* \hebshin -> \hebsin (he8)
 17122 % U+05EA HEBREW LETTER TAV
 17123 \DeclareTextCommand{\hebtav}{PU}{\85\352}% U+05EA
 17124 % U+05F0 HEBREW LIGATURE YIDDISH DOUBLE VAV
 17125 \DeclareTextCommand{\doublevav}{PU}{\85\360}% U+05F0
 17126 % U+05F1 HEBREW LIGATURE YIDDISH VAV YOD
 17127 \DeclareTextCommand{\vavyod}{PU}{\85\361}% U+05F1
 17128 % U+05F2 HEBREW LIGATURE YIDDISH DOUBLE YOD
 17129 \DeclareTextCommand{\doubleyod}{PU}{\85\362}% U+05F2
 17130 \fi

46.2.12 Thai: U+0E00 to U+0E7F

17131 % U+0E3F THAI CURRENCY SYMBOL BAHT; bahtthai
 17132 \DeclareTextCommand{\textbaht}{PU}{\9016\077}% U+0E3F

46.2.13 Phonetic Extensions: U+1D00 to U+1D7F

17133 % U+1D00 LATIN LETTER SMALL CAPITAL A; \textscA (tipa)
17134 \DeclareTextCommand{\textscA}{PU}{\9035\000}% U+1D00
17135 % U+1D05 LATIN LETTER SMALL CAPITAL D; \scd (wsuipa)
17136 \DeclareTextCommand{\textscd}{PU}{\9035\005}%* U+1D05
17137 % U+1D07 LATIN LETTER SMALL CAPITAL E; \textscE (tipa)
17138 \DeclareTextCommand{\textscE}{PU}{\9035\007}% U+1D07
17139 % U+1D0A LATIN LETTER SMALL CAPITAL J; \textscJ (tipa)
17140 \DeclareTextCommand{\textscJ}{PU}{\9035\012}% U+1D0A
17141 % U+1D0B LATIN LETTER SMALL CAPITAL K; \textscK (tipx)
17142 \DeclareTextCommand{\textPUscK}{PU}{\9035\013}% U+1D0B
17143 %* \textPUscK -> \textscK (tipx)
17144 % U+1D0D LATIN LETTER SMALL CAPITAL M; \textscM (tipx)
17145 \DeclareTextCommand{\textPUscM}{PU}{\9035\015}% U+1D0D
17146 %* \textPUscM -> \textscM (tipx)
17147 % U+1D18 LATIN LETTER SMALL CAPITAL P; \textscP (tipx)
17148 \DeclareTextCommand{\textPUscP}{PU}{\9035\030}% U+1D18
17149 %* \textPUscP -> \textscP (tipx)
17150 % U+1D19 LATIN LETTER SMALL CAPITAL REVERSED R; \textrevscr (tipx)
17151 \DeclareTextCommand{\textPUrevscr}{PU}{\9035\031}% U+1D19
17152 %* \textPUrevscr -> \textrevscr (tipx)
17153 % U+1D1C LATIN LETTER SMALL CAPITAL U; \textscU (tipa), \scu (wsuipa)
17154 \DeclareTextCommand{\textscU}{PU}{\9035\034}%* U+1D1C
17155 % U+1D62 LATIN SUBSCRIPT SMALL LETTER I
17156 \DeclareTextCommand{\textiinferior}{PU}{\9035\142}%* U+1D62
17157 % U+1D63 LATIN SUBSCRIPT SMALL LETTER R
17158 \DeclareTextCommand{\textrinferior}{PU}{\9035\143}%* U+1D63
17159 % U+1D64 LATIN SUBSCRIPT SMALL LETTER U
17160 \DeclareTextCommand{\textuinferior}{PU}{\9035\144}%* U+1D64
17161 % U+1D65 LATIN SUBSCRIPT SMALL LETTER V
17162 \DeclareTextCommand{\textvinferior}{PU}{\9035\145}%* U+1D65
17163 % U+1D66 GREEK SUBSCRIPT SMALL LETTER BETA
17164 \DeclareTextCommand{\textbetainferior}{PU}{\9035\146}%* U+1D66
17165 % U+1D67 GREEK SUBSCRIPT SMALL LETTER GAMMA
17166 \DeclareTextCommand{\textgammainferior}{PU}{\9035\147}%* U+1D67
17167 % U+1D68 GREEK SUBSCRIPT SMALL LETTER RHO
17168 \DeclareTextCommand{\textrhoinferior}{PU}{\9035\150}%* U+1D68
17169 % U+1D69 GREEK SUBSCRIPT SMALL LETTER PHI
17170 \DeclareTextCommand{\textphiinferior}{PU}{\9035\151}%* U+1D69
17171 % U+1D6A GREEK SUBSCRIPT SMALL LETTER CHI
17172 \DeclareTextCommand{\textchiinferior}{PU}{\9035\152}%* U+1D6A
17173 % U+1D7B LATIN SMALL CAPITAL LETTER I WITH STROKE;
17174 % \barsci (wsuipa)
17175 \DeclareTextCommand{\textbarsci}{PU}{\9035\173}%* U+1D7B
17176 % U+1D7D LATIN SMALL LETTER P WITH STROKE; \barp (wsuipa)
17177 \DeclareTextCommand{\textbarp}{PU}{\9035\175}%* U+1D7D
17178 % U+1D7E LATIN SMALL CAPITAL LETTER U WITH STROKE;
17179 % \barscu (wsuipa)
17180 \DeclareTextCommand{\textbarscu}{PU}{\9035\176}%* U+1D7E

46.2.14 Phonetic Extensions Supplement: U+1D80 to U+1DBF

17181 % U+1D8F LATIN SMALL LETTER A WITH RETROFLEX HOOK; \tex-
trhooka (tipx)
17182 \DeclareTextCommand{\textPURhooka}{PU}{\9035\217}% U+1D8F
17183 %* \textPURhooka -> \textrhooka (tipx)

17184 % U+1D91 LATIN SMALL LETTER D WITH HOOK AND TAIL; \texthtr-
 taild (tipa)
 17185 \DeclareTextCommand{\texthtrtaild}{PU}{\9035\221}%* U+1D91
 17186 % U+1D92 LATIN SMALL LETTER E WITH RETROFLEX HOOK; \tex-
 trhooke (tipx)
 17187 \DeclareTextCommand{\textPUrhooke}{PU}{\9035\222}% U+1D92
 17188 %* \textPUrhooke -> \textrhooke (tipx)
 17189 % U+1D93 LATIN SMALL LETTER OPEN E WITH RETROFLEX HOOK;
 17190 % \textrhookepsilon (tipx)
 17191 \DeclareTextCommand{\textPUrhookepsilon}{PU}{\9035\223}% U+1D93
 17192 %* \textPUrhookepsilon -> \textrhookepsilon (tipx)
 17193 % U+1D97 LATIN SMALL LETTER OPEN O WITH RETROFLEX HOOK;
 17194 % \textrhookopeno (tipx)
 17195 \DeclareTextCommand{\textPUrhookopeno}{PU}{\9035\227}% U+1D97
 17196 %* \textPUrhookopeno -> \textrhookopeno (tipx)

46.2.15 Latin Extended Additional: U+1E00 to U+1EFF

17197 % U+1E00 LATIN CAPITAL LETTER A WITH RING BELOW; Aringbelow
 17198 \DeclareTextCompositeCommand{\textsubring}{PU}{A}{\9036\000}% U+1E00
 17199 % U+1E01 LATIN SMALL LETTER A WITH RING BELOW; aringbelow
 17200 \DeclareTextCompositeCommand{\textsubring}{PU}{a}{\9036\001}% U+1E01
 17201 % U+1E02 LATIN CAPITAL LETTER B WITH DOT ABOVE; Bdotaccent
 17202 \DeclareTextCompositeCommand{.}{PU}{B}{\9036\002}% U+1E02
 17203 % U+1E03 LATIN SMALL LETTER B WITH DOT ABOVE; bdotaccent
 17204 \DeclareTextCompositeCommand{.}{PU}{b}{\9036\003}% U+1E03
 17205 % U+1E04 LATIN CAPITAL LETTER B WITH DOT BELOW; Bdotbelow
 17206 \DeclareTextCompositeCommand{\d}{PU}{B}{\9036\004}% U+1E04
 17207 % U+1E05 LATIN SMALL LETTER B WITH DOT BELOW; bdotbelow
 17208 \DeclareTextCompositeCommand{\d}{PU}{b}{\9036\005}% U+1E05
 17209 % U+1E06 LATIN CAPITAL LETTER B WITH LINE BELOW; Blinebelow
 17210 \DeclareTextCompositeCommand{\b}{PU}{B}{\9036\006}% U+1E06
 17211 % U+1E07 LATIN SMALL LETTER B WITH LINE BELOW; blinebelow
 17212 \DeclareTextCompositeCommand{\b}{PU}{b}{\9036\007}% U+1E07
 17213 % U+1E0A LATIN CAPITAL LETTER D WITH DOT ABOVE; Ddotaccent
 17214 \DeclareTextCompositeCommand{.}{PU}{D}{\9036\012}% U+1E0A
 17215 % U+1E0B LATIN SMALL LETTER D WITH DOT ABOVE; ddotaccent
 17216 \DeclareTextCompositeCommand{.}{PU}{d}{\9036\013}% U+1E0B
 17217 % U+1E0C LATIN CAPITAL LETTER D WITH DOT BELOW; Ddotbelow
 17218 \DeclareTextCompositeCommand{\d}{PU}{D}{\9036\014}% U+1E0C
 17219 % U+1E0D LATIN SMALL LETTER D WITH DOT BELOW; ddotbelow
 17220 \DeclareTextCompositeCommand{\d}{PU}{d}{\9036\015}% U+1E0D
 17221 % U+1E0E LATIN CAPITAL LETTER D WITH LINE BELOW; Dlinebelow
 17222 \DeclareTextCompositeCommand{\b}{PU}{D}{\9036\016}% U+1E0E
 17223 % U+1E0F LATIN SMALL LETTER D WITH LINE BELOW; dlinebelow
 17224 \DeclareTextCompositeCommand{\b}{PU}{d}{\9036\017}% U+1E0F
 17225 % U+1E10 LATIN CAPITAL LETTER D WITH CEDILLA; Dcedilla
 17226 \DeclareTextCompositeCommand{\c}{PU}{D}{\9036\020}% U+1E10
 17227 % U+1E11 LATIN SMALL LETTER D WITH CEDILLA; dcedilla
 17228 \DeclareTextCompositeCommand{\c}{PU}{d}{\9036\021}% U+1E11
 17229 % U+1E12 LATIN CAPITAL LETTER D WITH CIRCUMFLEX BELOW; Dcir-
 cumflexbelow
 17230 \DeclareTextCompositeCommand{\textsubcircum}{PU}{D}{\9036\022}% U+1E12
 17231 % U+1E13 LATIN SMALL LETTER D WITH CIRCUMFLEX BELOW; dcir-
 cumflexbelow

17232 \DeclareTextCompositeCommand{\textsubcircum}{PU}{d}{\9036\023}% U+1E13
17233 % U+1E14 LATIN CAPITAL LETTER E WITH MACRON AND GRAVE;
17234 % Emacrongrave
17235 \DeclareTextCompositeCommand{\textgravemacron}{PU}{E}{\9036\024}% U+1E14
17236 % U+1E15 LATIN SMALL LETTER E WITH MACRON AND GRAVE;
17237 % emacrongrave
17238 \DeclareTextCompositeCommand{\textgravemacron}{PU}{e}{\9036\025}% U+1E15
17239 % U+1E16 LATIN CAPITAL LETTER E WITH MACRON AND ACUTE;
17240 % Emacronacute
17241 \DeclareTextCompositeCommand{\textacutemacron}{PU}{E}{\9036\026}% U+1E16
17242 % U+1E17 LATIN SMALL LETTER E WITH MACRON AND ACUTE;
17243 % emacronacute
17244 \DeclareTextCompositeCommand{\textacutemacron}{PU}{e}{\9036\027}% U+1E17
17245 % U+1E18 LATIN CAPITAL LETTER E WITH CIRCUMFLEX BELOW; Ecir-
17246 cumflexbelow
17246 \DeclareTextCompositeCommand{\textsubcircum}{PU}{E}{\9036\030}% U+1E18
17247 % U+1E19 LATIN SMALL LETTER E WITH CIRCUMFLEX BELOW; ecir-
17248 cumflexbelow
17248 \DeclareTextCompositeCommand{\textsubcircum}{PU}{e}{\9036\031}% U+1E19
17249 % U+1E1A LATIN CAPITAL LETTER E WITH TILDE BELOW; Etildebelow
17250 \DeclareTextCompositeCommand{\textsubtilde}{PU}{E}{\9036\032}% U+1E1A
17251 % U+1E1B LATIN SMALL LETTER E WITH TILDE BELOW; etildebelow
17252 \DeclareTextCompositeCommand{\textsubtilde}{PU}{e}{\9036\033}% U+1E1B
17253 % U+1E1E LATIN CAPITAL LETTER F WITH DOT ABOVE; Fdotaccent
17254 \DeclareTextCompositeCommand{\.}{PU}{F}{\9036\036}% U+1E1E
17255 % U+1E1F LATIN SMALL LETTER F WITH DOT ABOVE; fdotaccent
17256 \DeclareTextCompositeCommand{\.}{PU}{f}{\9036\037}% U+1E1F
17257 % U+1E20 LATIN CAPITAL LETTER G WITH MACRON; Gmacron
17258 \DeclareTextCompositeCommand{=} {PU}{G}{\9036\040}% U+1E20
17259 % U+1E21 LATIN SMALL LETTER G WITH MACRON; gmacron
17260 \DeclareTextCompositeCommand{=} {PU}{g}{\9036\041}% U+1E21
17261 % U+1E22 LATIN CAPITAL LETTER H WITH DOT ABOVE; Hdotaccent
17262 \DeclareTextCompositeCommand{\.}{PU}{H}{\9036\042}% U+1E22
17263 % U+1E23 LATIN SMALL LETTER H WITH DOT ABOVE; hdotaccent
17264 \DeclareTextCompositeCommand{\.}{PU}{h}{\9036\043}% U+1E23
17265 % U+1E24 LATIN CAPITAL LETTER H WITH DOT BELOW; Hdotbelow
17266 \DeclareTextCompositeCommand{\d}{PU}{H}{\9036\044}% U+1E24
17267 % U+1E25 LATIN SMALL LETTER H WITH DOT BELOW; hdotbelow
17268 \DeclareTextCompositeCommand{\d}{PU}{h}{\9036\045}% U+1E25
17269 % U+1E26 LATIN CAPITAL LETTER H WITH DIAERESIS; Hdieresis
17270 \DeclareTextCompositeCommand{"}{PU}{H}{\9036\046}% U+1E26
17271 % U+1E27 LATIN SMALL LETTER H WITH DIAERESIS; hdieresis
17272 \DeclareTextCompositeCommand{"}{PU}{h}{\9036\047}% U+1E27
17273 % U+1E28 LATIN CAPITAL LETTER H WITH CEDILLA; Hcedilla
17274 \DeclareTextCompositeCommand{\c}{PU}{H}{\9036\050}% U+1E28
17275 % U+1E29 LATIN SMALL LETTER H WITH CEDILLA; hcedilla
17276 \DeclareTextCompositeCommand{\c}{PU}{h}{\9036\051}% U+1E29
17277 % U+1E2A LATIN CAPITAL LETTER H WITH BREVE BELOW; Hbrevebelow
17278 \DeclareTextCompositeCommand{\textsubbreve}{PU}{H}{\9036\052}% U+1E2A
17279 % U+1E2B LATIN SMALL LETTER H WITH BREVE BELOW; hbrevebelow
17280 \DeclareTextCompositeCommand{\textsubbreve}{PU}{h}{\9036\053}% U+1E2B
17281 % U+1E2C LATIN CAPITAL LETTER I WITH TILDE BELOW; Itildebelow
17282 \DeclareTextCompositeCommand{\textsubtilde}{PU}{I}{\9036\054}% U+1E2C
17283 % U+1E2D LATIN SMALL LETTER I WITH TILDE BELOW; itildebelow

17284 \DeclareTextCompositeCommand{\textsubtilde}{PU}{i}{\9036\055}% U+1E2D
17285 % U+1E30 LATIN CAPITAL LETTER K WITH ACUTE; Kacute
17286 \DeclareTextCompositeCommand{\'}{PU}{K}{\9036\060}% U+1E30
17287 % U+1E31 LATIN SMALL LETTER K WITH ACUTE; kacute
17288 \DeclareTextCompositeCommand{\'}{PU}{k}{\9036\061}% U+1E31
17289 % U+1E32 LATIN CAPITAL LETTER K WITH DOT BELOW; Kdotbelow
17290 \DeclareTextCompositeCommand{\d}{PU}{K}{\9036\062}% U+1E32
17291 % U+1E33 LATIN SMALL LETTER K WITH DOT BELOW; kdotbelow
17292 \DeclareTextCompositeCommand{\d}{PU}{k}{\9036\063}% U+1E33
17293 % U+1E34 LATIN CAPITAL LETTER K WITH LINE BELOW; Klinebelow
17294 \DeclareTextCompositeCommand{\b}{PU}{K}{\9036\064}% U+1E34
17295 % U+1E35 LATIN SMALL LETTER K WITH LINE BELOW; klinebelow
17296 \DeclareTextCompositeCommand{\b}{PU}{k}{\9036\065}% U+1E35
17297 % U+1E36 LATIN CAPITAL LETTER L WITH DOT BELOW; Ldotbelow
17298 \DeclareTextCompositeCommand{\d}{PU}{L}{\9036\066}% U+1E36
17299 % U+1E37 LATIN SMALL LETTER L WITH DOT BELOW; ldotbelow
17300 \DeclareTextCompositeCommand{\d}{PU}{l}{\9036\067}% U+1E37
17301 % U+1E3A LATIN CAPITAL LETTER L WITH LINE BELOW; Llinebelow
17302 \DeclareTextCompositeCommand{\b}{PU}{L}{\9036\072}% U+1E3A
17303 % U+1E3B LATIN SMALL LETTER L WITH LINE BELOW; llinebelow
17304 \DeclareTextCompositeCommand{\b}{PU}{l}{\9036\073}% U+1E3B
17305 % U+1E3C LATIN CAPITAL LETTER L WITH CIRCUMFLEX BELOW; Lcir-
cumflexbelow
17306 \DeclareTextCompositeCommand{\textsubcircum}{PU}{L}{\9036\074}% U+1E3C
17307 % U+1E3D LATIN SMALL LETTER L WITH CIRCUMFLEX BELOW; lcir-
cumflexbelow
17308 \DeclareTextCompositeCommand{\textsubcircum}{PU}{l}{\9036\075}% U+1E3D
17309 % U+1E3E LATIN CAPITAL LETTER M WITH ACUTE; Macute
17310 \DeclareTextCompositeCommand{\'}{PU}{M}{\9036\076}% U+1E3E
17311 % U+1E3F LATIN SMALL LETTER M WITH ACUTE; macute
17312 \DeclareTextCompositeCommand{\'}{PU}{m}{\9036\077}% U+1E3F
17313 % U+1E40 LATIN CAPITAL LETTER M WITH DOT ABOVE; Mdotaccent
17314 \DeclareTextCompositeCommand{\.}{PU}{M}{\9036\100}% U+1E40
17315 % U+1E41 LATIN SMALL LETTER M WITH DOT ABOVE; mdotaccent
17316 \DeclareTextCompositeCommand{\.}{PU}{m}{\9036\101}% U+1E41
17317 % U+1E42 LATIN CAPITAL LETTER M WITH DOT BELOW; Mdotbelow
17318 \DeclareTextCompositeCommand{\d}{PU}{M}{\9036\102}% U+1E42
17319 % U+1E43 LATIN SMALL LETTER M WITH DOT BELOW; mdotbelow
17320 \DeclareTextCompositeCommand{\d}{PU}{m}{\9036\103}% U+1E43
17321 % U+1E44 LATIN CAPITAL LETTER N WITH DOT ABOVE; Ndotaccent
17322 \DeclareTextCompositeCommand{\.}{PU}{N}{\9036\104}% U+1E44
17323 % U+1E45 LATIN SMALL LETTER N WITH DOT ABOVE; ndotaccent
17324 \DeclareTextCompositeCommand{\.}{PU}{n}{\9036\105}% U+1E45
17325 % U+1E46 LATIN CAPITAL LETTER N WITH DOT BELOW; Ndotbelow
17326 \DeclareTextCompositeCommand{\d}{PU}{N}{\9036\106}% U+1E46
17327 % U+1E47 LATIN SMALL LETTER N WITH DOT BELOW; ndotbelow
17328 \DeclareTextCompositeCommand{\d}{PU}{n}{\9036\107}% U+1E47
17329 % U+1E48 LATIN CAPITAL LETTER N WITH LINE BELOW; Nlinebelow
17330 \DeclareTextCompositeCommand{\b}{PU}{N}{\9036\110}% U+1E48
17331 % U+1E49 LATIN SMALL LETTER N WITH LINE BELOW; nlinebelow
17332 \DeclareTextCompositeCommand{\b}{PU}{n}{\9036\111}% U+1E49
17333 % U+1E4A LATIN CAPITAL LETTER N WITH CIRCUMFLEX BELOW; Ncir-
cumflexbelow
17334 \DeclareTextCompositeCommand{\textsubcircum}{PU}{N}{\9036\112}% U+1E4A

17335 % U+1E4B LATIN SMALL LETTER N WITH CIRCUMFLEX BELOW; ncircumflexbelow
 17336 \DeclareTextCompositeCommand{\textsubcircum}{PU}{n}{\9036\113}% U+1E4B
 17337 % U+1E50 LATIN CAPITAL LETTER O WITH MACRON AND GRAVE;
 17338 % Omacrongrave
 17339 \DeclareTextCompositeCommand{\textgravemacron}{PU}{O}{\9036\120}% U+1E50
 17340 % U+1E51 LATIN SMALL LETTER O WITH MACRON AND GRAVE;
 17341 % omacrongrave
 17342 \DeclareTextCompositeCommand{\textgravemacron}{PU}{o}{\9036\121}% U+1E51
 17343 % U+1E52 LATIN CAPITAL LETTER O WITH MACRON AND ACUTE;
 17344 % Omacronacute
 17345 \DeclareTextCompositeCommand{\textacutemacron}{PU}{O}{\9036\122}% U+1E52
 17346 % U+1E53 LATIN SMALL LETTER O WITH MACRON AND ACUTE;
 17347 % omacronacute
 17348 \DeclareTextCompositeCommand{\textacutemacron}{PU}{o}{\9036\123}% U+1E53
 17349 % U+1E54 LATIN CAPITAL LETTER P WITH ACUTE; Pacute
 17350 \DeclareTextCompositeCommand{\'}{PU}{P}{\9036\124}% U+1E54
 17351 % U+1E55 LATIN SMALL LETTER P WITH ACUTE; pacute
 17352 \DeclareTextCompositeCommand{\'}{PU}{p}{\9036\125}% U+1E55
 17353 % U+1E56 LATIN CAPITAL LETTER P WITH DOT ABOVE; Pdotaccent
 17354 \DeclareTextCompositeCommand{\.}{PU}{P}{\9036\126}% U+1E56
 17355 % U+1E57 LATIN SMALL LETTER P WITH DOT ABOVE; pdotaccent
 17356 \DeclareTextCompositeCommand{\.}{PU}{p}{\9036\127}% U+1E57
 17357 % U+1E58 LATIN CAPITAL LETTER R WITH DOT ABOVE; Rdotaccent
 17358 \DeclareTextCompositeCommand{\.}{PU}{R}{\9036\130}% U+1E58
 17359 % U+1E59 LATIN SMALL LETTER R WITH DOT ABOVE; rdotaccent
 17360 \DeclareTextCompositeCommand{\.}{PU}{r}{\9036\131}% U+1E59
 17361 % U+1E5A LATIN CAPITAL LETTER R WITH DOT BELOW; Rdotbelow
 17362 \DeclareTextCompositeCommand{\d}{PU}{R}{\9036\132}% U+1E5A
 17363 % U+1E5B LATIN SMALL LETTER R WITH DOT BELOW; rdotbelow
 17364 \DeclareTextCompositeCommand{\d}{PU}{r}{\9036\133}% U+1E5B
 17365 % U+1E5E LATIN CAPITAL LETTER R WITH LINE BELOW; Rlinebelow
 17366 \DeclareTextCompositeCommand{\b}{PU}{R}{\9036\136}% U+1E5E
 17367 % U+1E5F LATIN SMALL LETTER R WITH LINE BELOW; rlinebelow
 17368 \DeclareTextCompositeCommand{\b}{PU}{r}{\9036\137}% U+1E5F
 17369 % U+1E60 LATIN CAPITAL LETTER S WITH DOT ABOVE; Sdotaccent
 17370 \DeclareTextCompositeCommand{\.}{PU}{S}{\9036\140}% U+1E60
 17371 % U+1E61 LATIN SMALL LETTER S WITH DOT ABOVE; sdotaccent
 17372 \DeclareTextCompositeCommand{\.}{PU}{s}{\9036\141}% U+1E61
 17373 % U+1E62 LATIN CAPITAL LETTER S WITH DOT BELOW; Sdotbelow
 17374 \DeclareTextCompositeCommand{\d}{PU}{S}{\9036\142}% U+1E62
 17375 % U+1E63 LATIN SMALL LETTER S WITH DOT BELOW; sdotbelow
 17376 \DeclareTextCompositeCommand{\d}{PU}{s}{\9036\143}% U+1E63
 17377 % U+1E6A LATIN CAPITAL LETTER T WITH DOT ABOVE; Tdotaccent
 17378 \DeclareTextCompositeCommand{\.}{PU}{T}{\9036\152}% U+1E6A
 17379 % U+1E6B LATIN SMALL LETTER T WITH DOT ABOVE; tdotaccent
 17380 \DeclareTextCompositeCommand{\.}{PU}{t}{\9036\153}% U+1E6B
 17381 % U+1E6C LATIN CAPITAL LETTER T WITH DOT BELOW; Tdotbelow
 17382 \DeclareTextCompositeCommand{\d}{PU}{T}{\9036\154}% U+1E6C
 17383 % U+1E6D LATIN SMALL LETTER T WITH DOT BELOW; tdotbelow
 17384 \DeclareTextCompositeCommand{\d}{PU}{t}{\9036\155}% U+1E6D
 17385 % U+1E6E LATIN CAPITAL LETTER T WITH LINE BELOW; Tlinebelow
 17386 \DeclareTextCompositeCommand{\b}{PU}{T}{\9036\156}% U+1E6E
 17387 % U+1E6F LATIN SMALL LETTER T WITH LINE BELOW; tlinebelow

17388 \DeclareTextCompositeCommand{\b}{PU}{t}{\9036\157}% U+1E6F
17389 % U+1E70 LATIN CAPITAL LETTER T WITH CIRCUMFLEX BELOW; Tcircumflexbelow
17390 \DeclareTextCompositeCommand{\textsubcircum}{PU}{T}{\9036\160}% U+1E70
17391 % U+1E71 LATIN SMALL LETTER T WITH CIRCUMFLEX BELOW; tcircumflexbelow
17392 \DeclareTextCompositeCommand{\textsubcircum}{PU}{t}{\9036\161}% U+1E71
17393 % U+1E72 LATIN CAPITAL LETTER U WITH DIAERESIS BELOW; Udiere-
sisbelow
17394 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{U}{\9036\162}% U+1E72
17395 % U+1E73 LATIN SMALL LETTER U WITH DIAERESIS BELOW; udiere-
sisbelow
17396 \DeclareTextCompositeCommand{\textsubumlaut}{PU}{u}{\9036\163}% U+1E73
17397 % U+1E74 LATIN CAPITAL LETTER U WITH TILDE BELOW; Utildebelow
17398 \DeclareTextCompositeCommand{\textsubtilde}{PU}{U}{\9036\164}% U+1E74
17399 % U+1E75 LATIN SMALL LETTER U WITH TILDE BELOW; utildebelow
17400 \DeclareTextCompositeCommand{\textsubtilde}{PU}{u}{\9036\165}% U+1E75
17401 % U+1E76 LATIN CAPITAL LETTER U WITH CIRCUMFLEX BELOW; Ucircumflexbelow
17402 \DeclareTextCompositeCommand{\textsubcircum}{PU}{U}{\9036\166}% U+1E76
17403 % U+1E77 LATIN SMALL LETTER U WITH CIRCUMFLEX BELOW; ucircumflexbelow
17404 \DeclareTextCompositeCommand{\textsubcircum}{PU}{u}{\9036\167}% U+1E77
17405 % U+1E7C LATIN CAPITAL LETTER V WITH TILDE; Vtilde
17406 \DeclareTextCompositeCommand{\~}{PU}{V}{\9036\174}% U+1E7C
17407 % U+1E7D LATIN SMALL LETTER V WITH TILDE; vtilde
17408 \DeclareTextCompositeCommand{\~}{PU}{v}{\9036\175}% U+1E7D
17409 % U+1E7E LATIN CAPITAL LETTER V WITH DOT BELOW; Vdotbelow
17410 \DeclareTextCompositeCommand{\d}{PU}{V}{\9036\176}% U+1E7E
17411 % U+1E7F LATIN SMALL LETTER V WITH DOT BELOW; vdotbelow
17412 \DeclareTextCompositeCommand{\d}{PU}{v}{\9036\177}% U+1E7F
17413 % U+1E80 LATIN CAPITAL LETTER W WITH GRAVE; Wgrave
17414 \DeclareTextCompositeCommand{\`}{PU}{W}{\9036\200}% U+1E80
17415 % U+1E81 LATIN SMALL LETTER W WITH GRAVE; wgrave
17416 \DeclareTextCompositeCommand{\`}{PU}{w}{\9036\201}% U+1E81
17417 % U+1E82 LATIN CAPITAL LETTER W WITH ACUTE; Wacute
17418 \DeclareTextCompositeCommand{\'}{PU}{W}{\9036\202}% U+1E82
17419 % U+1E83 LATIN SMALL LETTER W WITH ACUTE; wacute
17420 \DeclareTextCompositeCommand{\'}{PU}{w}{\9036\203}% U+1E83
17421 % U+1E84 LATIN CAPITAL LETTER W WITH DIAERESIS; Wdieresis
17422 \DeclareTextCompositeCommand{\"}{PU}{W}{\9036\204}% U+1E84
17423 % U+1E85 LATIN SMALL LETTER W WITH DIAERESIS; wdieresis
17424 \DeclareTextCompositeCommand{\"}{PU}{w}{\9036\205}% U+1E85
17425 % U+1E86 LATIN CAPITAL LETTER W WITH DOT ABOVE; Wdotaccent
17426 \DeclareTextCompositeCommand{.}{PU}{W}{\9036\206}% U+1E86
17427 % U+1E87 LATIN SMALL LETTER W WITH DOT ABOVE; wdotaccent
17428 \DeclareTextCompositeCommand{.}{PU}{w}{\9036\207}% U+1E87
17429 % U+1E88 LATIN CAPITAL LETTER W WITH DOT BELOW; wdotbelow
17430 \DeclareTextCompositeCommand{\d}{PU}{W}{\9036\210}% U+1E88
17431 % U+1E89 LATIN SMALL LETTER W WITH DOT BELOW; wdotbelow
17432 \DeclareTextCompositeCommand{\d}{PU}{w}{\9036\211}% U+1E89
17433 % U+1E8A LATIN CAPITAL LETTER X WITH DOT ABOVE; Xdotaccent
17434 \DeclareTextCompositeCommand{.}{PU}{X}{\9036\212}% U+1E8A
17435 % U+1E8B LATIN SMALL LETTER X WITH DOT ABOVE; xdotaccent

17436 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\213}% U+1E8B
17437 % U+1E8C LATIN CAPITAL LETTER X WITH DIAERESIS; Xdieresis
17438 \DeclareTextCompositeCommand{\"}{PU}{X}{\9036\214}% U+1E8C
17439 % U+1E8D LATIN SMALL LETTER X WITH DIAERESIS; xdieresis
17440 \DeclareTextCompositeCommand{\.}{PU}{x}{\9036\215}% U+1E8D
17441 % U+1E8E LATIN CAPITAL LETTER Y WITH DOT ABOVE; Ydotaccent
17442 \DeclareTextCompositeCommand{\.}{PU}{Y}{\9036\216}% U+1E8E
17443 % U+1E8F LATIN SMALL LETTER Y WITH DOT ABOVE; ydotaccent
17444 \DeclareTextCompositeCommand{\.}{PU}{y}{\9036\217}% U+1E8F
17445 % U+1E90 LATIN CAPITAL LETTER Z WITH CIRCUMFLEX; Zcircumflex
17446 \DeclareTextCompositeCommand{\^}{PU}{Z}{\9036\220}% U+1E90
17447 % U+1E91 LATIN SMALL LETTER Z WITH CIRCUMFLEX; zcircumflex
17448 \DeclareTextCompositeCommand{\^}{PU}{z}{\9036\221}% U+1E91
17449 % U+1E92 LATIN CAPITAL LETTER Z WITH DOT BELOW; Zdotbelow
17450 \DeclareTextCompositeCommand{\d}{PU}{Z}{\9036\222}% U+1E92
17451 % U+1E93 LATIN SMALL LETTER Z WITH DOT BELOW; zdotbelow
17452 \DeclareTextCompositeCommand{\d}{PU}{z}{\9036\223}% U+1E93
17453 % U+1E94 LATIN CAPITAL LETTER Z WITH LINE BELOW; Zlinebelow
17454 \DeclareTextCompositeCommand{\b}{PU}{Z}{\9036\224}% U+1E94
17455 % U+1E95 LATIN SMALL LETTER Z WITH LINE BELOW; zlinebelow
17456 \DeclareTextCompositeCommand{\b}{PU}{z}{\9036\225}% U+1E95
17457 % U+1E96 LATIN SMALL LETTER H WITH LINE BELOW; hlinebelow
17458 \DeclareTextCompositeCommand{\b}{PU}{h}{\9036\226}% U+1E96
17459 % U+1E97 LATIN SMALL LETTER T WITH DIAERESIS; tdieresis
17460 \DeclareTextCompositeCommand{\"}{PU}{t}{\9036\227}% U+1E97
17461 % U+1E98 LATIN SMALL LETTER W WITH RING ABOVE; wring
17462 \DeclareTextCompositeCommand{\r}{PU}{w}{\9036\230}% U+1E98
17463 % U+1E99 LATIN SMALL LETTER Y WITH RING ABOVE; yring
17464 \DeclareTextCompositeCommand{\r}{PU}{y}{\9036\231}% U+1E99
17465 % U+1E9B LATIN SMALL LETTER LONG S WITH DOT ABOVE; slongdotaccent
17466 \DeclareTextCompositeCommand{\.}{PU}{\textlongS}{\9036\233}% U+1E9B
17467 % U+1EA0 LATIN CAPITAL LETTER A WITH DOT BELOW; Adotbelow
17468 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0
17469 % U+1EA1 LATIN SMALL LETTER A WITH DOT BELOW; adotbelow
17470 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1
17471 % U+1EB8 LATIN CAPITAL LETTER E WITH DOT BELOW; Edotbelow
17472 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8
17473 % U+1EB9 LATIN SMALL LETTER E WITH DOT BELOW; edotbelow
17474 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9
17475 % U+1EBC LATIN CAPITAL LETTER E WITH TILDE; Etilde
17476 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
17477 % U+1EBD LATIN SMALL LETTER E WITH TILDE; etilde
17478 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
17479 % U+1ECA LATIN CAPITAL LETTER I WITH DOT BELOW; Idotbelow
17480 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA
17481 % U+1ECB LATIN SMALL LETTER I WITH DOT BELOW; idotbelow
17482 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB
17483 % U+1ECC LATIN CAPITAL LETTER O WITH DOT BELOW; Odotbelow
17484 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC
17485 % U+1ECD LATIN SMALL LETTER O WITH DOT BELOW; odotbelow
17486 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD
17487 % U+1EE4 LATIN CAPITAL LETTER U WITH DOT BELOW; Udotbelow
17488 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4

17489 % U+1EE5 LATIN SMALL LETTER U WITH DOT BELOW; udotbelow
 17490 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5
 17491 % U+1EF2 LATIN CAPITAL LETTER Y WITH GRAVE; Ygrave
 17492 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
 17493 % U+1EF3 LATIN SMALL LETTER Y WITH GRAVE; ygrave
 17494 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3
 17495 % U+1EF4 LATIN CAPITAL LETTER Y WITH DOT BELOW; Ydotbelow
 17496 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4
 17497 % U+1EF5 LATIN SMALL LETTER Y WITH DOT BELOW; ydotbelow
 17498 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5
 17499 % U+1EF8 LATIN CAPITAL LETTER Y WITH TILDE; Ytilde
 17500 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
 17501 % U+1EF9 LATIN SMALL LETTER Y WITH TILDE; ytilde
 17502 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9

46.2.16 General Punctuation: U+2000 to U+206F

17503 % U+200C ZERO WIDTH NON-JOINER; *afii61664, zerowidthnonjoiner
 17504 \DeclareTextCommand{\textcompwordmark}{PU}{\9040\014}% U+200C
 17505 % U+2013 EN DASH; endash
 17506 \DeclareTextCommand{\textendash}{PU}{\9040\023}% U+2013
 17507 % U+2014 EM DASH; emdash
 17508 \DeclareTextCommand{\textemdash}{PU}{\9040\024}% U+2014
 17509 % U+2016 DOUBLE VERTICAL LINE; dblverticalbar
 17510 \DeclareTextCommand{\textbardbl}{PU}{\9040\026}% U+2016
 17511 %* \textbardbl -> \textdoublevertline (tipa)
 17512 % U+2018 LEFT SINGLE QUOTATION MARK; quoteleft
 17513 \DeclareTextCommand{\textquoteleft}{PU}{\9040\030}% U+2018
 17514 % U+2019 RIGHT SINGLE QUOTATION MARK; quoteright
 17515 \DeclareTextCommand{\textquoteright}{PU}{\9040\031}% U+2019
 17516 % U+201A SINGLE LOW-9 QUOTATION MARK; quotesinglbase
 17517 \DeclareTextCommand{\quotesinglbase}{PU}{\9040\032}% U+201A
 17518 % U+201C LEFT DOUBLE QUOTATION MARK; quotedblleft
 17519 \DeclareTextCommand{\textquotedblleft}{PU}{\9040\034}% U+201C
 17520 % U+201D RIGHT DOUBLE QUOTATION MARK; quotedblright
 17521 \DeclareTextCommand{\textquotedblright}{PU}{\9040\035}% U+201D
 17522 % U+201E DOUBLE LOW-9 QUOTATION MARK; quotedblbase
 17523 \DeclareTextCommand{\quotedblbase}{PU}{\9040\036}% U+201E
 17524 % U+2020 DAGGER; dagger
 17525 \DeclareTextCommand{\textdagger}{PU}{\9040\040}%* U+2020
 17526 %* \textdagger -> \dag (LaTeX)
 17527 % U+2021 DOUBLE DAGGER; daggerdbl; \ddagger (LaTeX)
 17528 \DeclareTextCommand{\textdaggerdbl}{PU}{\9040\041}% U+2021
 17529 %* \textdaggerdbl -> \ddagger (LaTeX)
 17530 %* \textdaggerdbl -> \ddag (LaTeX)
 17531 % U+2022 BULLET; bullet
 17532 \DeclareTextCommand{\textbullet}{PU}{\9040\042}%* U+2022
 17533 % U+2025 TWO DOT LEADER; \hdotfor (MnSymbol)
 17534 \DeclareTextCommand{\texthdotfor}{PU}{\9040\045}%* U+2025
 17535 % U+2026 HORIZONTAL ELLIPSIS; ellipsis
 17536 \DeclareTextCommand{\textellipsis}{PU}{\9040\046}% U+2026
 17537 %* \textellipsis -> \mathellipsis
 17538 % U+2030 PER MILLE SIGN; perthousand
 17539 \DeclareTextCommand{\textperthousand}{PU}{\9040\060}% U+2030
 17540 % U+2031 PER TEN THOUSAND SIGN

17541 \DeclareTextCommand{\textpertenthousand}{PU}{\9040\061}% U+2031
 17542 % U+2032 PRIME; minute; \prime (MnSymbol)
 17543 \DeclareTextCommand{\textprime}{PU}{\9040\062}%* U+2032
 17544 % U+2033 DOUBLE PRIME; \second (mathabx)
 17545 \DeclareTextCommand{\textsecond}{PU}{\9040\063}%* U+2033
 17546 % U+2034 TRIPLE PRIME; \third (mathabx)
 17547 \DeclareTextCommand{\textthird}{PU}{\9040\064}%* U+2034
 17548 % U+2035 REVERSED PRIME; \backprime (AmS)
 17549 \DeclareTextCommand{\textbackprime}{PU}{\9040\065}%* U+2035
 17550 % U+2039 SINGLE LEFT-POINTING ANGLE QUOTATION MARK; guil-
 ingleft
 17551 \DeclareTextCommand{\guilsingleft}{PU}{\9040\071}% U+2039
 17552 % U+203A SINGLE RIGHT-POINTING ANGLE QUOTATION MARK; guil-
 singright
 17553 \DeclareTextCommand{\guilsingright}{PU}{\9040\072}% U+203A
 17554 % U+203B REFERENCE MARK; referencemark
 17555 \DeclareTextCommand{\textreferencemark}{PU}{\9040\073}% U+203B
 17556 % U+203D INTERROBANG
 17557 \DeclareTextCommand{\textinterrobang}{PU}{\9040\075}% U+203D
 17558 % U+2044 FRACTION SLASH; fraction
 17559 \DeclareTextCommand{\textfractionsolidus}{PU}{\9040\104}% U+2044
 17560 % U+2045 LEFT SQUARE BRACKET WITH QUILL
 17561 \DeclareTextCommand{\textlquill}{PU}{\9040\105}% U+2045
 17562 % U+2046 RIGHT SQUARE BRACKET WITH QUILL
 17563 \DeclareTextCommand{\textrquill}{PU}{\9040\106}% U+2046
 17564 % U+2052 COMMERCIAL MINUS SIGN
 17565 \DeclareTextCommand{\textdiscount}{PU}{\9040\122}% U+2052
 17566 % U+2056 THREE DOT PUNCTUATION; \lefttherefore (MnSymbol)
 17567 \DeclareTextCommand{\textlefttherefore}{PU}{\9040\126}%* U+2056
 17568 % U+2057 QUADRUPLE PRIME; \fourth (mathabx)
 17569 \DeclareTextCommand{\textfourth}{PU}{\9040\127}%* U+2057
 17570 % U+2058 FOUR DOT PUNCTUATION; \diamonddots (MnSymbol)
 17571 \DeclareTextCommand{\textdiamonddots}{PU}{\9040\130}%* U+2058

46.2.17 Superscripts and Subscripts: U+2070 to U+209F

17572 % U+2070 SUPERSCRIPT ZERO; zerosuperior
 17573 \DeclareTextCommand{\textzerosuperior}{PU}{\9040\160}%* U+2070
 17574 % U+2071 SUPERSCRIPT LATIN SMALL LETTER I
 17575 \DeclareTextCommand{\textisuperior}{PU}{\9040\161}%* U+2071
 17576 % U+2074 SUPERSCRIPT FOUR; foursuperior
 17577 \DeclareTextCommand{\textfoursuperior}{PU}{\9040\164}%* U+2074
 17578 % U+2075 SUPERSCRIPT FIVE; fivesuperior
 17579 \DeclareTextCommand{\textfivesuperior}{PU}{\9040\165}%* U+2075
 17580 % U+2076 SUPERSCRIPT SIX; sixsuperior
 17581 \DeclareTextCommand{\textsixsuperior}{PU}{\9040\166}%* U+2076
 17582 % U+2077 SUPERSCRIPT SEVEN; sevensuperior
 17583 \DeclareTextCommand{\textsevensuperior}{PU}{\9040\167}%* U+2077
 17584 % U+2078 SUPERSCRIPT EIGHT; eightsuperior
 17585 \DeclareTextCommand{\texteightsuperior}{PU}{\9040\170}%* U+2078
 17586 % U+2079 SUPERSCRIPT NINE; ninesuperior
 17587 \DeclareTextCommand{\textninesuperior}{PU}{\9040\171}%* U+2079
 17588 % U+207A SUPERSCRIPT PLUS SIGN; plussuperior
 17589 \DeclareTextCommand{\textplussuperior}{PU}{\9040\172}%* U+207A
 17590 % U+207B SUPERSCRIPT MINUS

17591 \DeclareTextCommand{\textminussuperior}{PU}{\9040\173}%* U+207B
17592 % U+207C SUPERSCRIPT EQUALS SIGN; equalsuperior
17593 \DeclareTextCommand{\textequalsuperior}{PU}{\9040\174}%* U+207C
17594 % U+207D SUPERSCRIPT LEFT PARENTHESIS; parenleftsuperior
17595 \DeclareTextCommand{\textparenleftsuperior}{PU}{\9040\175}%* U+207D
17596 % U+207E SUPERSCRIPT RIGHT PARENTHESIS; parenrightsuperior
17597 \DeclareTextCommand{\textparenrightsuperior}{PU}{\9040\176}%* U+207E
17598 % U+207F SUPERSCRIPT LATIN SMALL LETTER N; nsuperior
17599 \DeclareTextCommand{\textnsuperior}{PU}{\9040\177}%* U+207F
17600 % U+2080 SUBSCRIPT ZERO; zeroinferior
17601 \DeclareTextCommand{\textzeroinferior}{PU}{\9040\200}%* U+2080
17602 % U+2081 SUBSCRIPT ONE; oneinferior
17603 \DeclareTextCommand{\textoneinferior}{PU}{\9040\201}%* U+2081
17604 % U+2082 SUBSCRIPT TWO; twoinferior
17605 \DeclareTextCommand{\texttwoinferior}{PU}{\9040\202}%* U+2082
17606 % U+2083 SUBSCRIPT THREE; threeinferior
17607 \DeclareTextCommand{\textthreeinferior}{PU}{\9040\203}%* U+2083
17608 % U+2084 SUBSCRIPT FOUR; fourinferior
17609 \DeclareTextCommand{\textfourinferior}{PU}{\9040\204}%* U+2084
17610 % U+2085 SUBSCRIPT FIVE; fiveinferior
17611 \DeclareTextCommand{\textfiveinferior}{PU}{\9040\205}%* U+2085
17612 % U+2086 SUBSCRIPT SIX; sixinferior
17613 \DeclareTextCommand{\textsixinferior}{PU}{\9040\206}%* U+2086
17614 % U+2087 SUBSCRIPT SEVEN; seveninferior
17615 \DeclareTextCommand{\textseveninferior}{PU}{\9040\207}%* U+2087
17616 % U+2088 SUBSCRIPT EIGHT; eightinferior
17617 \DeclareTextCommand{\texteightinferior}{PU}{\9040\210}%* U+2088
17618 % U+2089 SUBSCRIPT NINE; nineinferior
17619 \DeclareTextCommand{\textnineinferior}{PU}{\9040\211}%* U+2089
17620 % U+208A SUBSCRIPT PLUS SIGN
17621 \DeclareTextCommand{\textplusinferior}{PU}{\9040\212}%* U+208A
17622 % U+208B SUBSCRIPT MINUS
17623 \DeclareTextCommand{\textminusinferior}{PU}{\9040\213}%* U+208B
17624 % U+208C SUBSCRIPT EQUALS SIGN
17625 \DeclareTextCommand{\textequalsinferior}{PU}{\9040\214}%* U+208C
17626 % U+208D SUBSCRIPT LEFT PARENTHESIS; parenleftinferior
17627 \DeclareTextCommand{\textparenleftinferior}{PU}{\9040\215}%* U+208D
17628 % U+208E SUBSCRIPT RIGHT PARENTHESIS; parenrightinferior
17629 \DeclareTextCommand{\textparenrightinferior}{PU}{\9040\216}%* U+208E
17630 % U+2090 LATIN SUBSCRIPT SMALL LETTER A
17631 \DeclareTextCommand{\textainferior}{PU}{\9040\220}%* U+2090
17632 % U+2091 LATIN SUBSCRIPT SMALL LETTER E
17633 \DeclareTextCommand{\texteinferior}{PU}{\9040\221}%* U+2091
17634 % U+2092 LATIN SUBSCRIPT SMALL LETTER O
17635 \DeclareTextCommand{\textoinferior}{PU}{\9040\222}%* U+2092
17636 % U+2093 LATIN SUBSCRIPT SMALL LETTER X
17637 \DeclareTextCommand{\textxinferior}{PU}{\9040\223}%* U+2093
17638 % U+2094 LATIN SUBSCRIPT SMALL LETTER SCHWA
17639 \DeclareTextCommand{\textschwainferior}{PU}{\9040\224}%* U+2094
17640 % U+2095 LATIN SUBSCRIPT SMALL LETTER H
17641 \DeclareTextCommand{\texthinferior}{PU}{\9040\225}%* U+2095
17642 % U+2096 LATIN SUBSCRIPT SMALL LETTER K
17643 \DeclareTextCommand{\textkinferior}{PU}{\9040\226}%* U+2096
17644 % U+2097 LATIN SUBSCRIPT SMALL LETTER L

17645 \DeclareTextCommand{\textlinferior}{PU}{\9040\227}%* U+2097
 17646 % U+2098 LATIN SUBSCRIPT SMALL LETTER M
 17647 \DeclareTextCommand{\textminferior}{PU}{\9040\230}%* U+2098
 17648 % U+2099 LATIN SUBSCRIPT SMALL LETTER N
 17649 \DeclareTextCommand{\textninferior}{PU}{\9040\231}%* U+2099
 17650 % U+209A LATIN SUBSCRIPT SMALL LETTER P
 17651 \DeclareTextCommand{\textpinferior}{PU}{\9040\232}%* U+209A
 17652 % U+209B LATIN SUBSCRIPT SMALL LETTER S
 17653 \DeclareTextCommand{\textsinferior}{PU}{\9040\233}%* U+209B
 17654 % U+209C LATIN SUBSCRIPT SMALL LETTER T
 17655 \DeclareTextCommand{\texttinferior}{PU}{\9040\234}%* U+209C

46.2.18 Currency Symbols: U+20A0 to U+20CF

17656 % U+20A1 COLON SIGN; *colonmonetary, colonsign
 17657 \DeclareTextCommand{\textcolonmonetary}{PU}{\9040\241}% U+20A1
 17658 % U+20A4 LIRA SIGN; afii08941, *lira
 17659 \DeclareTextCommand{\textlira}{PU}{\9040\244}% U+20A4
 17660 % U+20A6 NAIRA SIGN
 17661 \DeclareTextCommand{\textnaira}{PU}{\9040\246}% U+20A6
 17662 % U+20A7 PESETA SIGN; peseta
 17663 \DeclareTextCommand{\textpeseta}{PU}{\9040\247}% U+20A7
 17664 % U+20A9 WON SIGN; won
 17665 \DeclareTextCommand{\textwon}{PU}{\9040\251}% U+20A9
 17666 % U+20AB DONG SIGN; dong
 17667 \DeclareTextCommand{\textdong}{PU}{\9040\253}% U+20AB
 17668 % U+20AC EURO SIGN; *Euro, euro
 17669 \DeclareTextCommand{\texteuro}{PU}{\9040\254}% U+20AC
 17670 %* \texteuro -> \EurDig (marvosym)
 17671 %* \texteuro -> \EURdig (marvosym)
 17672 %* \texteuro -> \EurHv (marvosym)
 17673 %* \texteuro -> \EURhv (marvosym)
 17674 %* \texteuro -> \EurCr (marvosym)
 17675 %* \texteuro -> \EURcr (marvosym)
 17676 %* \texteuro -> \EurTm (marvosym)
 17677 %* \texteuro -> \EURtm (marvosym)
 17678 %* \texteuro -> \Eur (marvosym)
 17679 % U+20B0 GERMAN PENNY SIGN; \Deleatur (marvosym)
 17680 \DeclareTextCommand{\textDeleatur}{PU}{\9040\260}%* U+20B0
 17681 %* \textDeleatur -> \Denarius (marvosym)
 17682 % U+20B1 PESO SIGN
 17683 \DeclareTextCommand{\textpeso}{PU}{\9040\261}% U+20B1
 17684 % U+20B2 GUARANI SIGN
 17685 \DeclareTextCommand{\textguarani}{PU}{\9040\262}% U+20B2

46.2.19 Letterlike Symbols: U+2100 to U+214F

17686 % U+2103 DEGREE CELSIUS; centigrade
 17687 \DeclareTextCommand{\textcelsius}{PU}{\9041\003}% U+2103
 17688 % U+210F PLANCK CONSTANT OVER TWO PI; \hslash (AmS)
 17689 \DeclareTextCommand{\texthslash}{PU}{\9041\017}%* U+210F
 17690 % U+2111 BLACK-LETTER CAPITAL I (=imaginary part); Ifraktur; \Im (LaTeX)
 17691 \DeclareTextCommand{\textIm}{PU}{\9041\021}%* U+2111
 17692 % U+2113 SCRIPT SMALL L (=ell, liter); afii61289, lsquare; \ell (LaTeX)
 17693 \DeclareTextCommand{\textell}{PU}{\9041\023}%* U+2113

17694 % U+2116 NUMERO SIGN; *afii61352, numero
 17695 \DeclareTextCommand{\textnumero}{PU}{\9041\026}% U+2116
 17696 % U+2117 SOUND RECORDING COPYRIGHT
 17697 \DeclareTextCommand{\textcircledP}{PU}{\9041\027}% U+2117
 17698 % U+2118 SCRIPT CAPITAL P (=Weierstrass elliptic function);
 17699 % weierstrass; \wp (LaTeX)
 17700 \DeclareTextCommand{\textwp}{PU}{\9041\030}%* U+2118
 17701 % U+211C BLACK-LETTER CAPITAL R (=real part); Rfraktur; \Re (LaTeX)
 17702 \DeclareTextCommand{\textRe}{PU}{\9041\034}%* U+211C
 17703 % U+211E PRESCRIPTION TAKE; prescription
 17704 \DeclareTextCommand{\textrecipe}{PU}{\9041\036}% U+211E
 17705 % U+2120 SERVICE MARK
 17706 \DeclareTextCommand{\textservicemark}{PU}{\9041\040}% U+2120
 17707 % U+2122 TRADE MARK SIGN; trademark
 17708 \DeclareTextCommand{\texttrademark}{PU}{\9041\042}% U+2122
 17709 % U+2126 OHM SIGN; Ohm, Omega
 17710 \DeclareTextCommand{\textohm}{PU}{\9041\046}% U+2126
 17711 % U+2127 INVERTED OHM SIGN
 17712 \DeclareTextCommand{\textmho}{PU}{\9041\047}%* U+2127
 17713 %* \textmho -> \agemO (wasysym)
 17714 % U+2129 TURNED GREEK SMALL LETTER IOTA; \riota (phonetic)
 17715 \DeclareTextCommand{\textriota}{PU}{\9041\051}%* U+2129
 17716 % U+212B ANGSTROM SIGN; angstrom
 17717 \DeclareTextCommand{\textangstrom}{PU}{\9041\053}% U+212B
 17718 % U+212E ESTIMATED SYMBOL; estimated
 17719 \DeclareTextCommand{\textestimated}{PU}{\9041\056}% U+212E
 17720 %* \textestimated -> \EstimatedSign (marvosym)
 17721 %* \textestimated -> \Ecommerce (marvosym)
 17722 % U+2132 TURNED CAPITAL F; \Finv (AmS)
 17723 \DeclareTextCommand{\textFinv}{PU}{\9041\062}%* U+2132
 17724 % U+2135 ALEF SYMBOL; aleph; \aleph (LaTeX)
 17725 \DeclareTextCommand{\textaleph}{PU}{\9041\065}%* U+2135
 17726 % U+2136 BET SYMBOL; \beth (AmS, MnSymbol)
 17727 \DeclareTextCommand{\textbeth}{PU}{\9041\066}%* U+2136
 17728 % U+2137 GIMEL SYMBOL; \gimel (AmS, MnSymbol)
 17729 \DeclareTextCommand{\textgimel}{PU}{\9041\067}%* U+2137
 17730 % U+2138 DALET SYMBOL; \daleth (AmS, MnSymbol)
 17731 \DeclareTextCommand{\textdaleth}{PU}{\9041\070}%* U+2138
 17732 % U+213B FACSIMILE SIGN; \fax (marvosym)
 17733 \DeclareTextCommand{\textfax}{PU}{\9041\073}%* U+213B
 17734 % U+2141 TURNED SANS-SERIF CAPITAL G (=game); \Game
 17735 \DeclareTextCommand{\textGame}{PU}{\9041\101}%* U+2141
 17736 % U+214B TURNED AMPERSAND; \invamp (txfonts/pxfonts)
 17737 \DeclareTextCommand{\textinvamp}{PU}{\9041\113}% U+214B
 17738 %* \textinvamp -> \bindnasrepma (stmaryrd)
 17739 %* \textinvamp -> \parr (cml)

46.2.20 Number Forms: U+2150 to U+218F

17740 % U+2150 VULGAR FRACTION ONE SEVENTH
 17741 \DeclareTextCommand{\textoneseventh}{PU}{\9041\120}% U+2150
 17742 % U+2151 VULGAR FRACTION ONE NINTH
 17743 \DeclareTextCommand{\textoneninth}{PU}{\9041\121}% U+2151
 17744 % U+2152 VULGAR FRACTION ONE TENTH
 17745 \DeclareTextCommand{\textonetenth}{PU}{\9041\122}% U+2152

17746 % U+2153 VULGAR FRACTION ONE THIRD; onethird
 17747 \DeclareTextCommand{\textonethird}{PU}{\9041\123}% U+2153
 17748 % U+2154 VULGAR FRACTION TWO THIRDS; twothirds
 17749 \DeclareTextCommand{\texttwothirds}{PU}{\9041\124}% U+2154
 17750 % U+2155 VULGAR FRACTION ONE FIFTH
 17751 \DeclareTextCommand{\textonefifth}{PU}{\9041\125}% U+2155
 17752 % U+2156 VULGAR FRACTION TWO FIFTHS
 17753 \DeclareTextCommand{\texttwofifths}{PU}{\9041\126}% U+2156
 17754 % U+2157 VULGAR FRACTION THREE FIFTHS
 17755 \DeclareTextCommand{\textthreefifths}{PU}{\9041\127}% U+2157
 17756 % U+2158 VULGAR FRACTION FOUR FIFTHS
 17757 \DeclareTextCommand{\textfourfifths}{PU}{\9041\130}% U+2158
 17758 % U+2159 VULGAR FRACTION ONE SIXTH
 17759 \DeclareTextCommand{\textonesixth}{PU}{\9041\131}% U+2159
 17760 % U+215A VULGAR FRACTION FIVE SIXTHS
 17761 \DeclareTextCommand{\textfivesixths}{PU}{\9041\132}% U+215A
 17762 % U+215B VULGAR FRACTION ONE EIGHTH; oneeighth
 17763 \DeclareTextCommand{\textoneeighth}{PU}{\9041\133}% U+215B
 17764 % U+215C VULGAR FRACTION THREE EIGHTHS; threeeighths
 17765 \DeclareTextCommand{\textthreeeighths}{PU}{\9041\134}% U+215C
 17766 % U+215D VULGAR FRACTION FIVE EIGHTHS; fiveeighths
 17767 \DeclareTextCommand{\textfiveeighths}{PU}{\9041\135}% U+215D
 17768 % U+215E VULGAR FRACTION SEVEN EIGHTHS; seveneighths
 17769 \DeclareTextCommand{\textseveneighths}{PU}{\9041\136}% U+215E
 17770 % U+2184 LATIN SMALL LETTER REVERSED C
 17771 \DeclareTextCommand{\textrevc}{PU}{\9041\204}% U+2184
 17772 % U+2189 VULGAR FRACTION ZERO THIRDS
 17773 \DeclareTextCommand{\textzerthirds}{PU}{\9041\211}% U+2189

46.2.21 Arrows: U+2190 to U+21FF

17774 % U+2190 LEFTWARDS ARROW; arrowleft
 17775 \DeclareTextCommand{\textleftarrow}{PU}{\9041\220}%* U+2190
 17776 % U+2191 UPWARDS ARROW; arrowup
 17777 \DeclareTextCommand{\textuparrow}{PU}{\9041\221}%* U+2191
 17778 % U+2192 RIGHTWARDS ARROW; arrowright
 17779 \DeclareTextCommand{\textrightarrow}{PU}{\9041\222}%* U+2192
 17780 %* \textrightarrow -> \MVRightArrow (marvosym)
 17781 %* \textrightarrow -> \MVRightarrow (marvosym)
 17782 % U+2193 DOWNWARDS ARROW; arrowdown
 17783 \DeclareTextCommand{\textdownarrow}{PU}{\9041\223}%* U+2193
 17784 %* \textdownarrow -> \MVARrowDown (marvosym)
 17785 %* \textdownarrow -> \Force (marvosym)
 17786 % U+2194 LEFT RIGHT ARROW; arrowboth; \leftrightarrow (LaTeX)
 17787 \DeclareTextCommand{\textleftrightarrow}{PU}{\9041\224}%* U+2194
 17788 % U+2195 UP DOWN ARROW; arrowupdn; \updownarrow (LaTeX)
 17789 \DeclareTextCommand{\textupdownarrow}{PU}{\9041\225}%* U+2195
 17790 % U+2196 NORTH WEST ARROW; arrowupleft; \nwarrow (LaTeX)
 17791 \DeclareTextCommand{\textnwarrow}{PU}{\9041\226}%* U+2196
 17792 % U+2197 NORTH EAST ARROW; arrowupright; \nearrow (LaTeX)
 17793 \DeclareTextCommand{\textnearrow}{PU}{\9041\227}%* U+2197
 17794 %* \textnearrow -> \textglobrise (tipa)
 17795 % U+2198 SOUTH EAST ARROW; arrowdownright; \searrow (LaTeX)
 17796 \DeclareTextCommand{\textsearrow}{PU}{\9041\230}%* U+2198
 17797 %* \textsearrow -> \textglobfall (tipa)

17798 % U+2199 SOUTH WEST ARROW; arrowdownleft; \swarrow (LaTeX)
17799 \DeclareTextCommand{\textswarrow}{PU}{\9041\231}%* U+2199
17800 % U+219A LEFTWARDS ARROW WITH STROKE; \nleftarrow (AmS)
17801 \DeclareTextCommand{\textnleftarrow}{PU}{\9041\232}%* U+219A
17802 % U+219B RIGHTWARDS ARROW WITH STROKE; \nrightarrow (AmS)
17803 \DeclareTextCommand{\textnrightarrow}{PU}{\9041\233}%* U+219B
17804 % U+219E LEFTWARDS TWO HEADED ARROW; \twoheadleftarrow (AmS)
17805 \DeclareTextCommand{\texttwoheadleftarrow}{PU}{\9041\236}%* U+219E
17806 % \twoheadleftarrow (txfonts/pxfonts)
17807 \DeclareTextCommand{\textntwoheadleftarrow}{PU}{\9041\236\83\070}%* U+219E U+0338
17808 % U+219F UPWARDS TWO HEADED ARROW; \twoheaduparrow (MnSymbol)
17809 \DeclareTextCommand{\texttwoheaduparrow}{PU}{\9041\237}%* U+219F
17810 % U+21A0 RIGHTWARDS TWO HEADED ARROW;
17811 % \twoheadrightarrow (AmS)
17812 \DeclareTextCommand{\texttwoheadrightarrow}{PU}{\9041\240}%* U+21A0
17813 % \twoheadrightarrow (txfonts/pxfonts)
17814 \DeclareTextCommand{\textntwoheadrightarrow}{PU}{\9041\240\83\070}%* U+21A0 U+0338
17815 % U+21A1 DOWNWARDS TWO HEADED ARROW; \twoheaddownarrow (Mn-
Symbol)
17816 \DeclareTextCommand{\texttwoheaddownarrow}{PU}{\9041\241}%* U+21A1
17817 % U+21A2 LEFTWARDS ARROW WITH TAIL; \leftarrowtail (AmS)
17818 \DeclareTextCommand{\textleftarrowtail}{PU}{\9041\242}%* U+21A2
17819 % U+21A3 RIGHTWARDS ARROW WITH TAIL; \rightarrowtail (AmS)
17820 \DeclareTextCommand{\textrightarrowtail}{PU}{\9041\243}%* U+21A3
17821 % U+21A6 RIGHTWARDS ARROW FROM BAR; \mapsto (LaTeX)
17822 \DeclareTextCommand{\textmapsto}{PU}{\9041\246}%* U+21A6
17823 % U+21A9 LEFTWARDS ARROW WITH HOOK; \hookleftarrow (LaTeX)
17824 \DeclareTextCommand{\texthookleftarrow}{PU}{\9041\251}%* U+21A9
17825 % U+21AA RIGHTWARDS ARROW WITH HOOK; \hookrightarrow (LaTeX)
17826 \DeclareTextCommand{\texthookrightarrow}{PU}{\9041\252}%* U+21AA
17827 % U+21AB LEFTWARDS ARROW WITH LOOP; \looparrowleft (AmS)
17828 \DeclareTextCommand{\textlooparrowleft}{PU}{\9041\253}%* U+21AB
17829 % U+21AC RIGHTWARDS ARROW WITH LOOP; \looparrowright (AmS)
17830 \DeclareTextCommand{\textlooparrowright}{PU}{\9041\254}%* U+21AC
17831 % U+21AE LEFT RIGHT ARROW WITH STROKE; \leftrightarrow (AmS)
17832 \DeclareTextCommand{\textleftrightarrow}{PU}{\9041\256}%* U+21AE
17833 % U+21AF DOWNWARDS ZIGZAG ARROW; \lightning (stmaryrd)
17834 \DeclareTextCommand{\textlightning}{PU}{\9041\257}%* U+21AF
17835 %* \textlightning -> \Lightning (marvosym)
17836 % U+21B5 DOWNWARDS ARROW WITH CORNER LEFTWARDS;
17837 % \dls (mathabx)
17838 \DeclareTextCommand{\textdls}{PU}{\9041\265}%* U+21B5
17839 % U+21B6 ANTICLOCKWISE TOP SEMICIRCLE ARROW;
17840 % \curvearrowleft (AmS)
17841 \DeclareTextCommand{\textcurvearrowleft}{PU}{\9041\266}%* U+21B6
17842 % U+21B7 CLOCKWISE TOP SEMICIRCLE ARROW; \curvearrowright (AmS)
17843 \DeclareTextCommand{\textcurvearrowright}{PU}{\9041\267}%* U+21B7
17844 % U+21BC LEFTWARDS HARPOON WITH BARB UPWARDS; harpoonleft-
barbup;
17845 % \leftharpoonup (LaTeX)
17846 \DeclareTextCommand{\textleftharpoonup}{PU}{\9041\274}%* U+21BC
17847 % U+21BD LEFTWARDS HARPOON WITH BARB DOWNWARDS;
17848 % \leftharpoondown (LaTeX)
17849 \DeclareTextCommand{\textleftharpoondown}{PU}{\9041\275}%* U+21BD

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17850 % U+21BE UPWARDS HARPOON WITH BARB RIGHTWARDS;
17851 % \upharpoonright (AmS)
17852 \DeclareTextCommand{\textupharpoonright}{PU}{\9041\276}%* U+21BE
17853 % U+21BF UPWARDS HARPOON WITH BARB LEFTWARDS;
17854 % \upharpoonleft (AmS)
17855 \DeclareTextCommand{\textupharpoonleft}{PU}{\9041\277}%* U+21BF
17856 % U+21C0 RIGHTWARDS HARPOON WITH BARB UPWARDS; harpoonright-
    barbup
17857 % \rightharpoonup (LaTeX)
17858 \DeclareTextCommand{\textrightharpoonup}{PU}{\9041\300}%* U+21C0
17859 % U+21C1 RIGHTWARDS HARPOON WITH BARB DOWNWARDS;
17860 % \rightharpoontdown (LaTeX)
17861 \DeclareTextCommand{\textrightharpoontdown}{PU}{\9041\301}%* U+21C1
17862 % U+21C2 DOWNWARDS HARPOON WITH BARB RIGHTWARDS;
17863 % \downharpoonright (AmS)
17864 \DeclareTextCommand{\textdownharpoonright}{PU}{\9041\302}%* U+21C2
17865 % U+21C3 DOWNWARDS HARPOON WITH BARB LEFTWARDS;
17866 % \downharpoonleft (AmS)
17867 \DeclareTextCommand{\textdownharpoonleft}{PU}{\9041\303}%* U+21C3
17868 % U+21C4 RIGHTWARDS ARROW OVER LEFTWARDS ARROW;
17869 % arrowrightoverleft; \rightleftarrows (MnSymbol)
17870 \DeclareTextCommand{\textrightleftarrows}{PU}{\9041\304}%* U+21C4
17871 % U+21C5 UPWARDS ARROW LEFTWARDS OF DOWNWARDS ARROW; ar-
    rowupleftofdown;
17872 % \updownarrows (MnSymbol)
17873 \DeclareTextCommand{\textupdownarrows}{PU}{\9041\305}%* U+21C5
17874 % U+21C6 LEFTWARDS ARROW OVER RIGHTWARDS ARROW; arrowleft-
    overright;
17875 % \leftrightarrows (AmS)
17876 \DeclareTextCommand{\textleftrightarrows}{PU}{\9041\306}%* U+21C6
17877 % U+21C7 LEFTWARDS PAIRED ARROWS; \leftleftarrows (AmS)
17878 \DeclareTextCommand{\textleftleftarrows}{PU}{\9041\307}%* U+21C7
17879 % U+21C8 UPWARDS PAIRED ARROWS; \upuparrows (AmS)
17880 \DeclareTextCommand{\textupuparrows}{PU}{\9041\310}%* U+21C8
17881 % U+21C9 RIGHTWARDS PAIRED ARROWS; \rightrightarrows (AmS)
17882 \DeclareTextCommand{\textrightarrows}{PU}{\9041\311}%* U+21C9
17883 % U+21CA DOWNWARDS PAIRED ARROWS; \downdownarrows (AmS)
17884 \DeclareTextCommand{\textdowndownarrows}{PU}{\9041\312}%* U+21CA
17885 % U+21CB LEFTWARDS HARPOON OVER RIGHTWARDS HARPOON;
17886 % \leftrightharpoons (AmS);
17887 \DeclareTextCommand{\textleftrightharpoons}{PU}{\9041\313}%* U+21CB
17888 % U+21CC RIGHTWARDS HARPOON OVER LEFTWARDS HARPOON;
17889 % \rightleftharpoons (LaTeX, AmS)
17890 \DeclareTextCommand{\textrightleftharpoons}{PU}{\9041\314}%* U+21CC
17891 % U+21CD LEFTWARDS DOUBLE ARROW WITH STROKE; arrowleftd-
    blstroke;
17892 % \nLeftarrow (AmS)
17893 \DeclareTextCommand{\textnLeftarrow}{PU}{\9041\315}%* U+21CD
17894 % U+21CE LEFT RIGHT DOUBLE ARROW WITH STROKE; \nLefttrightar-
    row (AmS)
17895 \DeclareTextCommand{\textnLefttrightarrow}{PU}{\9041\316}%* U+21CE
17896 % U+21CF RIGHTWARDS DOUBLE ARROW WITH STROKE; arrowrightd-
    blstroke;
17897 % \nRightarrow (AmS)

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17898 \DeclareTextCommand{\textnRightarrow}{PU}{\9041\317}%* U+21CF
17899 % U+21D0 LEFTWARDS DOUBLE ARROW; arrowdblleft, arrowleftdbl;
17900 % \Leftarrow (LaTeX)
17901 \DeclareTextCommand{\textLeftarrow}{PU}{\9041\320}%* U+21D0
17902 % U+21D1 UPWARDS DOUBLE ARROW; arrowdblup; \Uparrow (LaTeX)
17903 \DeclareTextCommand{\textUparrow}{PU}{\9041\321}%* U+21D1
17904 % U+21D2 RIGHTWARDS DOUBLE ARROW; arrowdblright, dblarrowright;
17905 % \rightarrow (LaTeX)
17906 \DeclareTextCommand{\textrightarrow}{PU}{\9041\322}%* U+21D2
17907 %* \textrightarrow -> \Conclusion (marvosym)
17908 % U+21D3 DOWNWARDS DOUBLE ARROW; arrowdbldown; \Downarrow (La-
TeX)
17909 \DeclareTextCommand{\textDownarrow}{PU}{\9041\323}%* U+21D3
17910 % U+21D4 LEFT RIGHT DOUBLE ARROW; arrowdblboth;
17911 % \Leftrightarrow (LaTeX)
17912 \DeclareTextCommand{\textLeftrightarrow}{PU}{\9041\324}%* U+21D4
17913 %* \textLeftrightarrow -> \Equivalence (marvosym)
17914 % U+21D5 UP DOWN DOUBLE ARROW; \Updownarrow (LaTeX)
17915 \DeclareTextCommand{\textUpdownarrow}{PU}{\9041\325}%* U+21D5
17916 % U+21D6 NORTH WEST DOUBLE ARROW; \Nwarrow (MnSymbol)
17917 \DeclareTextCommand{\textNwarrow}{PU}{\9041\326}%* U+21D6
17918 % U+21D7 NORTH EAST DOUBLE ARROW; \Nearrow (MnSymbol)
17919 \DeclareTextCommand{\textNearrow}{PU}{\9041\327}%* U+21D7
17920 % U+21D8 SOUTH EAST DOUBLE ARROW; \Searrow (MnSymbol)
17921 \DeclareTextCommand{\textSearrow}{PU}{\9041\330}%* U+21D8
17922 % U+21D9 SOUTH WEST DOUBLE ARROW; \Swarrow (MnSymbol)
17923 \DeclareTextCommand{\textSwarrow}{PU}{\9041\331}%* U+21D9
17924 % U+21DA LEFTWARDS TRIPLE ARROW; \Lleftarrow (AmS)
17925 \DeclareTextCommand{\textLleftarrow}{PU}{\9041\332}%* U+21DA
17926 % U+21DB RIGHTWARDS TRIPLE ARROW; \Rrightarrow (MnSymbol)
17927 \DeclareTextCommand{\textRrightarrow}{PU}{\9041\333}%* U+21DB
17928 % U+21DC LEFTWARDS SQUIGGLE ARROW; \leftsquigarrow (mathabx)
17929 \DeclareTextCommand{\textleftsquigarrow}{PU}{\9041\334}%* U+21DC
17930 % U+21DD RIGHTWARDS SQUIGGLE ARROW; \rightsquigarrow (mathabx)
17931 \DeclareTextCommand{\textright squigarrow}{PU}{\9041\335}%* U+21DD
17932 % U+21E0 LEFTWARDS DASHED ARROW; arrowdashleft;
17933 % \dashleftarrow (AmS)
17934 \DeclareTextCommand{\textdashleftarrow}{PU}{\9041\340}%* U+21E0
17935 %* \textdashleftarrow -> \dashedleftarrow (MnSymbol)
17936 % U+21E1 UPWARDS DASHED ARROW; arrowdashup; \dasheduparrow (Mn-
Symbol)
17937 \DeclareTextCommand{\textdasheduparrow}{PU}{\9041\341}%* U+21E1
17938 % U+21E2 RIGHTWARDS DASHED ARROW; arrowdashright; \dashrightar-
row (AmS)
17939 \DeclareTextCommand{\textdashrightarrow}{PU}{\9041\342}%* U+21E2
17940 %* \textdashrightarrow -> \dashedrightarrow (MnSymbol)
17941 % U+21E3 DOWNWARDS DASHED ARROW; arrowdashdown; \dasheddownar-
row (MnSymbol)
17942 \DeclareTextCommand{\textdasheddownarrow}{PU}{\9041\343}%* U+21E3
17943 % U+21E8 RIGHTWARDS WHITE ARROW; \pointer (wasysym)
17944 \DeclareTextCommand{\textpointer}{PU}{\9041\350}%* U+21E8
17945 % U+21F5 DOWNWARDS ARROW LEFTWARDS OF UPWARDS ARROW;
17946 % \downuparrows (MnSymbol)
17947 \DeclareTextCommand{\textdownuparrows}{PU}{\9041\365}%* U+21F5

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17948 % U+21FD LEFTWARDS OPEN-HEADED ARROW; \leftarrowtriangle (stmaryrd)
17949 \DeclareTextCommand{\textleftarrowtriangle}{PU}{\9041\375}%* U+21FD
17950 % U+21FE RIGHTWARDS OPEN-HEADED ARROW; \rightarrowtriangle (stmaryrd)
17951 \DeclareTextCommand{\textrightarrowtriangle}{PU}{\9041\376}%* U+21FE
17952 % U+21FF LEFT RIGHT OPEN-HEADED ARROW; \leftrightarrowtriangle
      (stmaryrd)
17953 \DeclareTextCommand{\textleftrightarrowtriangle}{PU}{\9041\377}%* U+21FF

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46.2.22 Mathematical Operators: U+2200 to U+22FF

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17954 % U+2200 FOR ALL; forall; \forall (LaTeX)
17955 \DeclareTextCommand{\textforall}{PU}{\9042\000}%* U+2200
17956 % U+2201 COMPLEMENT; \complement (AmS)
17957 \DeclareTextCommand{\textcomplement}{PU}{\9042\001}%* U+2201
17958 % U+2202 PARTIAL DIFFERENTIAL; partialdiff; \partial (LaTeX)
17959 \DeclareTextCommand{\textpartial}{PU}{\9042\002}%* U+2202
17960 % U+2203 THERE EXISTS; existential; \exists (LaTeX)
17961 \DeclareTextCommand{\textexists}{PU}{\9042\003}%* U+2203
17962 % U+2204 THERE DOES NOT EXIST; \nexists (AmS)
17963 \DeclareTextCommand{\textnexists}{PU}{\9042\004}%* U+2204
17964 % U+2205 EMPTY SET; emptyset; \emptyset (LaTeX), \varnothing (AmS)
17965 \DeclareTextCommand{\textemptyset}{PU}{\9042\005}%* U+2205
17966 %* \textemptyset -> \varnothing (AmS)
17967 % U+2206 INCREMENT; increment, Delta; \triangle (LaTeX)
17968 \DeclareTextCommand{\texttriangle}{PU}{\9042\006}%* U+2206
17969 % U+2207 NABLA; nabla, gradient; \nabla (LaTeX)
17970 \DeclareTextCommand{\textnabla}{PU}{\9042\007}%* U+2207
17971 % U+2208 ELEMENT OF; element; \in (LaTeX)
17972 \DeclareTextCommand{\textin}{PU}{\9042\010}%* U+2208
17973 % U+2209 NOT AN ELEMENT OF; notelement, notelementof; \notin (LaTeX)
17974 \DeclareTextCommand{\textnotin}{PU}{\9042\011}%* U+2209
17975 % U+220A SMALL ELEMENT OF; \smallin (mathdesign)
17976 \DeclareTextCommand{\textsmallin}{PU}{\9042\012}%* U+220A
17977 % U+220B CONTAINS AS MEMBER; suchthat; \ni (LaTeX)
17978 \DeclareTextCommand{\textni}{PU}{\9042\013}%* U+220B
17979 %* \textni -> \owns (mathabx)
17980 % U+220C DOES NOT CONTAIN AS MEMBER; \notowner (mathabx)
17981 \DeclareTextCommand{\textnotowner}{PU}{\9042\014}%* U+220C
17982 %* \textnotowner -> \notni (txfonts/pxfonts)
17983 % U+220D SMALL CONTAINS AS MEMBER; \smallowns (mathdesign)
17984 \DeclareTextCommand{\textsmallowns}{PU}{\9042\015}%* U+220D
17985 % U+220F N-ARY PRODUCT; \prod (LaTeX)
17986 \DeclareTextCommand{\textprod}{PU}{\9042\017}%* U+220F
17987 % U+2210 N-ARY COPRODUCT; \amalg (LaTeX)
17988 \DeclareTextCommand{\textamalg}{PU}{\9042\020}%* U+2210
17989 % U+2211 N-ARY SUMMATION; summation; \sum (LaTeX)
17990 \DeclareTextCommand{\textsum}{PU}{\9042\021}%* U+2211
17991 % U+2212 MINUS SIGN; minus
17992 \DeclareTextCommand{\textminus}{PU}{\9042\022}%* U+2212
17993 % U+2213 MINUS-OR-PLUS SIGN; minusplus; \mp (LaTeX)
17994 \DeclareTextCommand{\textmp}{PU}{\9042\023}%* U+2213
17995 % U+2214 DOT PLUS; \dotplus (AmS)
17996 \DeclareTextCommand{\textdotplus}{PU}{\9042\024}%* U+2214
17997 % U+2215 DIVISION SLASH; divisionslash; \Divides (marvosym)
17998 \DeclareTextCommand{\textDivides}{PU}{\9042\025}%* U+2215

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17999 % \DividesNot (marvosym)
18000 \DeclareTextCommand{\textDividesNot}{PU}{\9042\025\9040\322}%* U+2215 U+20D2
18001 % U+2216 SET MINUS; \setminus (LaTeX)
18002 \DeclareTextCommand{\textsetminus}{PU}{\9042\026}%* U+2216
18003 % U+2217 ASTERISK OPERATOR; asteriskmath; \ast (LaTeX)
18004 \DeclareTextCommand{\textast}{PU}{\9042\027}%* U+2217
18005 % U+2218 RING OPERATOR; \circ (LaTeX)
18006 \DeclareTextCommand{\textcirc}{PU}{\9042\030}%* U+2218
18007 % U+2219 BULLET OPERATOR; bulletoperator; \bullet (LaTeX)
18008 \DeclareTextCommand{\textbulletoperator}{PU}{\9042\031}% U+2219
18009 % U+221A SQUARE ROOT; radical
18010 \DeclareTextCommand{\textsurd}{PU}{\9042\032}%* U+221A
18011 % U+221D PROPORTIONAL TO; proportional; \propto (LaTeX)
18012 \DeclareTextCommand{\textpropto}{PU}{\9042\035}%* U+221D
18013 %* \textpropto -> \varprop (wasysym)
18014 % U+221E INFINITY; infinity; \infty (LaTeX)
18015 \DeclareTextCommand{\textinfty}{PU}{\9042\036}%* U+221E
18016 % U+2220 ANGLE; angle; \angle (LaTeX)
18017 \DeclareTextCommand{\textangle}{PU}{\9042\040}%* U+2220
18018 % U+2221 MEASURED ANGLE; \measuredangle (mathabx, MnSymbol)
18019 \DeclareTextCommand{\textmeasuredangle}{PU}{\9042\041}%* U+2221
18020 % U+2222 SPHERICAL ANGLE; \sphericalangle (AmS)
18021 \DeclareTextCommand{\textsphericalangle}{PU}{\9042\042}%* U+2222
18022 %* \textsphericalangle -> \varangle (wasysym)
18023 %* \textsphericalangle -> \Anglesign (marvosym)
18024 %* \textsphericalangle -> \AngleSign (marvosym)
18025 % U+2223 DIVIDES; divides; \mid (LaTeX)
18026 \DeclareTextCommand{\textmid}{PU}{\9042\043}%* U+2223
18027 % U+2224 DOES NOT DIVIDE; \nmid (AmS)
18028 \DeclareTextCommand{\textnmid}{PU}{\9042\044}%* U+2224
18029 %* \textnmid -> \notdivides (mathabx)
18030 % U+2225 PARALLEL TO; parallel; \parallel (LaTeX)
18031 \DeclareTextCommand{\textparallel}{PU}{\9042\045}%* U+2225
18032 % U+2226 NOT PARALLEL TO; notparallel; \nparallel (AmS)
18033 \DeclareTextCommand{\textnparallel}{PU}{\9042\046}%* U+2226
18034 %* \textnparallel -> nUpdownline (MnSymbol)
18035 % U+2227 LOGICAL AND; logicaland; \wedge (LaTeX)
18036 \DeclareTextCommand{\textwedge}{PU}{\9042\047}%* U+2227
18037 % \owedge (stmaryrd)
18038 \DeclareTextCommand{\textowedge}{PU}{\9042\047\9040\335}%* U+2227 U+20DD
18039 %* \textowedge -> \varowedge (stmaryrd)
18040 % U+2228 LOGICAL OR; logicalor; \vee (LaTeX)
18041 \DeclareTextCommand{\textvee}{PU}{\9042\050}%* U+2228
18042 % \ovee (stmaryrd)
18043 \DeclareTextCommand{\textovee}{PU}{\9042\050\9040\335}%* U+2228 U+20DD
18044 %* \textovee -> \varovee (stmaryrd)
18045 % U+2229 INTERSECTION; intersection; \cap (LaTeX)
18046 \DeclareTextCommand{\textcap}{PU}{\9042\051}%* U+2229
18047 % U+222A UNION; union; \cup (LaTeX)
18048 \DeclareTextCommand{\textcup}{PU}{\9042\052}%* U+222A
18049 % U+222B INTEGRAL; integral; \int (LaTeX)
18050 \DeclareTextCommand{\textint}{PU}{\9042\053}%* U+222B
18051 %* \textint -> \varint (wasysym)
18052 % U+222C DOUBLE INTEGRAL; dblintegral; \iint (AmS)

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18053 \DeclareTextCommand{\textiint}{PU}{\9042\054}%* U+222C
18054 % U+222D TRIPLE INTEGRAL; \iiint (AmS)
18055 \DeclareTextCommand{\textiiint}{PU}{\9042\055}%* U+222D
18056 % U+222E CONTOUR INTEGRAL; contourintegral; \oint (LaTeX)
18057 \DeclareTextCommand{\textoint}{PU}{\9042\056}%* U+222E
18058 %* \textoint -> \varoint (wasysym)
18059 % U+222F SURFACE INTEGRAL; \oiint (wasysym)
18060 \DeclareTextCommand{\texttooint}{PU}{\9042\057}%* U+222F
18061 % U+2232 CLOCKWISE CONTOUR INTEGRAL;
18062 % \ointclockwise (txfonts/pxfonts)
18063 \DeclareTextCommand{\textointclockwise}{PU}{\9042\062}%* U+2232
18064 % U+2233 ANTICLOCKWISE CONTOUR INTEGRAL; \ointctrclockwise (tx-
    fonts/pxfonts)
18065 \DeclareTextCommand{\textointctrclockwise}{PU}{\9042\063}%* U+2233
18066 % U+2234 THEREFORE; therefore; \therefore (AmS)
18067 \DeclareTextCommand{\texttherefore}{PU}{\9042\064}%* U+2234
18068 %* \texttherefore -> uptherefore (MnSymbol)
18069 % U+2235 BECAUSE; because; \because (AmS)
18070 \DeclareTextCommand{\textbecause}{PU}{\9042\065}%* U+2235
18071 %* \textbecause -> \downtherefore (MnSymbol)
18072 % U+2236 RATIO; \vdotdot (MnSymbol)
18073 \DeclareTextCommand{\textvdotdot}{PU}{\9042\066}%* U+2236
18074 % U+2237 PROPORTION; \squaredots (MnSymbol)
18075 \DeclareTextCommand{\textsquaredots}{PU}{\9042\067}%* U+2237
18076 % U+2238 DOT MINUS; \dotminus (MnSymbol)
18077 \DeclareTextCommand{\textdotminus}{PU}{\9042\070}%* U+2238
18078 %* \textdotminus -> \textdotdiv (mathabx)
18079 % U+2239 EXCESS; \eqcolon (txfonts/pxfonts)
18080 \DeclareTextCommand{\texteqcolon}{PU}{\9042\071}%* U+2239
18081 % U+223C TILDE OPERATOR; similar; \sim (LaTeX)
18082 \DeclareTextCommand{\textsim}{PU}{\9042\074}%* U+223C
18083 %* \textsim -> \AC (wasysym)
18084 % U+223D REVERSED TILDE; reversedtilde; \backsim (AmS)
18085 \DeclareTextCommand{\textbacksim}{PU}{\9042\075}%* U+223D
18086 % \nbacksim (txfonts/pxfonts)
18087 \DeclareTextCommand{\textnbacksim}{PU}{\9042\075\83\070}%* U+223D U+0338
18088 % U+2240 WREATH PRODUCT; \wr (LaTeX)
18089 \DeclareTextCommand{\textwr}{PU}{\9042\100}%* U+2240
18090 %* \textwr -> \wreath (MnSymbol)
18091 % U+2241 NOT TILDE; \nsim (AmS)
18092 \DeclareTextCommand{\textnsim}{PU}{\9042\101}%* U+2241
18093 % U+2242 MINUS TILDE; \eqsim (MnSymbol)
18094 \DeclareTextCommand{\texteqsim}{PU}{\9042\102}%* U+2242
18095 % \neqsim (MnSymbol)
18096 \DeclareTextCommand{\textneqsim}{PU}{\9042\102\83\070}%* U+2242 U+0338
18097 % U+2243 ASYMPTOTICALLY EQUAL TO; asymptoticallyequal; \simeq (La-
    TeX)
18098 \DeclareTextCommand{\textsimeq}{PU}{\9042\103}%* U+2243
18099 % U+2244 NOT ASYMPTOTICALLY EQUAL TO; \nsimeq (txfonts/pxfonts)
18100 \DeclareTextCommand{\textnsimeq}{PU}{\9042\104}%* U+2244
18101 % U+2245 APPROXIMATELY EQUAL TO; approximatelyequal; \cong (LaTeX)
18102 \DeclareTextCommand{\textcong}{PU}{\9042\105}%* U+2245
18103 % U+2247 NEITHER APPROXIMATELY NOR ACTUALLY EQUAL TO;
18104 % \ncong (AmS)

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18105 \DeclareTextCommand{\textncong}{PU}{\9042\107}%* U+2247
18106 % U+2248 ALMOST EQUAL TO; approxequal; \approx (LaTeX)
18107 \DeclareTextCommand{\textapprox}{PU}{\9042\110}%* U+2248
18108 % U+2249 NOT ALMOST EQUAL TO; \napprox (txfonts/pxfonts)
18109 \DeclareTextCommand{\textnapprox}{PU}{\9042\111}%* U+2249
18110 %* \textnapprox -> \nthickapprox (txfonts/pxfonts)
18111 % U+224A ALMOST EQUAL OR EQUAL TO; \approxeq (AmS)
18112 \DeclareTextCommand{\textapproxeq}{PU}{\9042\112}%* U+224A
18113 % \napproxeq (txfonts/pxfonts)
18114 \DeclareTextCommand{\textnapproxeq}{PU}{\9042\112\83\070}%* U+224A U+0338
18115 % U+224B TRIPLE TILDE; \triplesim (MnSymbol)
18116 \DeclareTextCommand{\texttriplesim}{PU}{\9042\113}%* U+224B
18117 %* \texttriplesim -> \VHF (wasysym)
18118 % \ntriplesim (MnSymbol)
18119 \DeclareTextCommand{\textntriplesim}{PU}{\9042\113\83\070}%* U+224B U+0338
18120 % U+224C ALL EQUAL TO; allequal; \backcong (MnSymbol)
18121 \DeclareTextCommand{\textbackcong}{PU}{\9042\114}%* U+224C
18122 % \nbackcong (MnSymbol)
18123 \DeclareTextCommand{\textnbackcong}{PU}{\9042\114\83\070}%* U+224C U+0338
18124 % U+224D EQUIVALENT TO; \asymp (LaTeX)
18125 \DeclareTextCommand{\textasymp}{PU}{\9042\115}%* U+224D
18126 % \nasymp (txfonts/pxfonts)
18127 \DeclareTextCommand{\textnasymp}{PU}{\9042\115\83\070}%* U+224D U+0338
18128 %* \textnasymp -> \notasymp (mathabx)
18129 % U+224E GEOMETRICALLY EQUIVALENT TO; \Bumpeq (AmS)
18130 \DeclareTextCommand{\textBumpeq}{PU}{\9042\116}%* U+224E
18131 % \nBumpeq (txfonts/pxfonts)
18132 \DeclareTextCommand{\textnBumpeq}{PU}{\9042\116\83\070}%* U+224E U+0338
18133 % U+224F DIFFERENCE BETWEEN; \bumpeq (AmS)
18134 \DeclareTextCommand{\textbumpeq}{PU}{\9042\117}%* U+224F
18135 % \nbumpeq (txfonts/pxfonts)
18136 \DeclareTextCommand{\textnbumpeq}{PU}{\9042\117\83\070}%* U+224F U+0338
18137 % U+2250 APPROACHES THE LIMIT; approaches; \doteq (LaTeX)
18138 \DeclareTextCommand{\textdoteq}{PU}{\9042\120}%* U+2250
18139 % \ndoteq (MnSymbol)
18140 \DeclareTextCommand{\textndoteq}{PU}{\9042\120\83\070}%* U+2250 U+0338
18141 % U+2251 GEOMETRICALLY EQUAL TO; geometricallyequal;
18142 % \doteqdot (AmS)
18143 \DeclareTextCommand{\textdoteqdot}{PU}{\9042\121}%* U+2251
18144 %* \textdoteqdot -> \Doteq (MnSymbol)
18145 % \nDoteq (MnSymbol)
18146 \DeclareTextCommand{\textnDoteq}{PU}{\9042\121\83\070}%* U+2251 U+0338
18147 % U+2252 APPROXIMATELY EQUAL TO OR THE IMAGE OF; approx-
qualorimage;
18148 % \fallingdotseq (AmS)
18149 \DeclareTextCommand{\textfallingdotseq}{PU}{\9042\122}%* U+2252
18150 % \nfallingdotseq (MnSymbol)
18151 \DeclareTextCommand{\textnfallingdotseq}{PU}{\9042\122\83\070}%* U+2252 U+0338
18152 % U+2253 IMAGE OF OR APPROXIMATELY EQUAL TO; imageorapproxi-
matelyequal;
18153 % \risingdotseq (AmS)
18154 \DeclareTextCommand{\textrisingdotseq}{PU}{\9042\123}%* U+2253
18155 % \nrisingdotseq (MnSymbol)
18156 \DeclareTextCommand{\textnrisingdotseq}{PU}{\9042\123\83\070}%* U+2253 U+0338

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18157 % U+2254 COLON EQUALS; \colonequals (colonequals)
18158 \DeclareTextCommand{\textcolonequals}{PU}{\9042\124}%* U+2254
18159 % U+2255 EQUALS COLON; \equalscolon (colonequals)
18160 \DeclareTextCommand{\textequalscolon}{PU}{\9042\125}%* U+2255
18161 % U+2256 RING IN EQUAL TO; \eqcirc (AmS)
18162 \DeclareTextCommand{\texteqcirc}{PU}{\9042\126}%* U+2256
18163 % \neqcirc (MnSymbol)
18164 \DeclareTextCommand{\textneqcirc}{PU}{\9042\126\83\070}%* U+2256 U+0338
18165 % U+2257 RING EQUAL TO; \circeq (AmS)
18166 \DeclareTextCommand{\textcirceq}{PU}{\9042\127}%* U+2257
18167 % \ncirceq (MnSymbol)
18168 \DeclareTextCommand{\textncirceq}{PU}{\9042\127\83\070}%* U+2257 U+0338
18169 % U+2259 ESTIMATES; \hateq (MnSymbol)
18170 \DeclareTextCommand{\texthateq}{PU}{\9042\131}%* U+2259
18171 %* \texthateq -> \corresponds (mathabx)
18172 %* \texthateq -> \Corresponds (marvosym)
18173 % \nhateq (MnSymbol)
18174 \DeclareTextCommand{\textnhateq}{PU}{\9042\131\83\070}%* U+2259 U+0338
18175 % U+225C DELTA EQUAL TO; \triangleeq (AmS)
18176 \DeclareTextCommand{\texttriangleeq}{PU}{\9042\134}%* U+225C
18177 % U+2260 NOT EQUAL TO; notequal; \ne (LaTeX), \neq (LaTeX)
18178 \DeclareTextCommand{\textneq}{PU}{\9042\140}%* U+2260
18179 \DeclareTextCommand{\textne}{PU}{\9042\140}%* U+2260
18180 %* \textneq -> \nequal (MnSymbol)
18181 % U+2261 IDENTICAL TO; equivalence; \equiv (LaTeX)
18182 \DeclareTextCommand{\textequiv}{PU}{\9042\141}%* U+2261
18183 %* \textequiv -> \Congruent (marvosym)
18184 % U+2262 NOT IDENTICAL TO; notidentical; \nequiv (txfonts/pxfonts)
18185 \DeclareTextCommand{\textnequiv}{PU}{\9042\142}%* U+2262
18186 %* \textnequiv -> \NotCongruent (marvosym)
18187 %* \textnequiv -> \notequiv (mathabx)
18188 % U+2264 LESS-THAN OR EQUAL TO; lessequal; \le (LaTeX), \leq (LaTeX)
18189 \DeclareTextCommand{\textleq}{PU}{\9042\144}%* U+2264
18190 \DeclareTextCommand{\textle}{PU}{\9042\144}%* U+2264
18191 %* \textleq -> \LessOrEqual (marvosym)
18192 % U+2265 GREATER-THAN OR EQUAL TO; greaterorequal;
18193 % \ge (LaTeX), \geq (LaTeX)
18194 \DeclareTextCommand{\textgeq}{PU}{\9042\145}%* U+2265
18195 \DeclareTextCommand{\textge}{PU}{\9042\145}%* U+2265
18196 %* \textgeq -> \LargerOrEqual (marvosym)
18197 % U+2266 LESS-THAN OVER EQUAL TO; lessorequal; \leqq (AmS)
18198 \DeclareTextCommand{\textleqq}{PU}{\9042\146}%* U+2266
18199 % \nleqq (txfonts/pxfonts)
18200 \DeclareTextCommand{\textnleqq}{PU}{\9042\146\83\070}%* U+2266 U+0338
18201 % U+2267 GREATER-THAN OVER EQUAL TO; greateroverequal; \geqq (AmS)
18202 \DeclareTextCommand{\textgeqq}{PU}{\9042\147}%* U+2267
18203 % \ngeqq (txfonts/pxfonts)
18204 \DeclareTextCommand{\textngeqq}{PU}{\9042\147\83\070}%* U+2267 U+0338
18205 % U+2268 LESS-THAN BUT NOT EQUAL TO; \lneqq (AmS)
18206 \DeclareTextCommand{\textlneqq}{PU}{\9042\150}%* U+2268
18207 % U+2269 GREATER-THAN BUT NOT EQUAL TO; \gneqq (AmS)
18208 \DeclareTextCommand{\textgneqq}{PU}{\9042\151}%* U+2269
18209 % U+226A MUCH LESS-THAN; muchless; \ll (LaTeX)
18210 \DeclareTextCommand{\textll}{PU}{\9042\152}%* U+226A

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18211 % \nll (txfonts/pxfonts)
18212 \DeclareTextCommand{\textnll}{PU}{\9042\152\83\070}%* U+226A U+0338
18213 % U+226B MUCH GREATER-THAN; muchgreater; \gg (LaTeX)
18214 \DeclareTextCommand{\textgg}{PU}{\9042\153}%* U+226B
18215 % \ngg (txfonts/pxfonts)
18216 \DeclareTextCommand{\textngg}{PU}{\9042\153\83\070}%* U+226B U+0338
18217 % U+226C BETWEEN; \between (AmS)
18218 \DeclareTextCommand{\textbetween}{PU}{\9042\154}%* U+226C
18219 % U+226E NOT LESS-THAN; notless; \nless (AmS)
18220 \DeclareTextCommand{\textnless}{PU}{\9042\156}%* U+226E
18221 % U+226F NOT GREATER-THAN; notgreater; \ngtr (AmS)
18222 \DeclareTextCommand{\textngtr}{PU}{\9042\157}%* U+226F
18223 % U+2270 NEITHER LESS-THAN NOR EQUAL TO; notlessnorequal;
18224 % \nleq (AmS)
18225 \DeclareTextCommand{\textnleq}{PU}{\9042\160}%* U+2270
18226 % U+2271 NEITHER GREATER-THAN NOR EQUAL TO; notgreaternorequal;
18227 % \ngeq (AmS)
18227 \DeclareTextCommand{\textngeq}{PU}{\9042\161}%* U+2271
18228 % U+2272 LESS-THAN OR EQUIVALENT TO; lessorequivalent; \lessim (AmS)
18229 \DeclareTextCommand{\textlessim}{PU}{\9042\162}%* U+2272
18230 %* \textlessim -> \apprle (wasysym)
18231 % U+2273 GREATER-THAN OR EQUIVALENT TO; greaterorequivalent; \gtrsim (AmS)
18232 \DeclareTextCommand{\textgtrsim}{PU}{\9042\163}%* U+2273
18233 %* \textgtrsim -> \apprge (wasysym)
18234 % U+2274 NEITHER LESS-THAN NOR EQUIVALENT TO; \nlessim (tx-
18235 % fonts/pxfonts)
18235 \DeclareTextCommand{\textnlessim}{PU}{\9042\164}%* U+2274
18236 % U+2275 NEITHER GREATER-THAN NOR EQUIVALENT TO; \ngtrsim (tx-
18237 % fonts/pxfonts)
18237 \DeclareTextCommand{\textngtrsim}{PU}{\9042\165}%* U+2275
18238 % U+2276 LESS-THAN OR GREATER-THAN; lessorgreater; \lessgtr (AmS)
18239 \DeclareTextCommand{\textlessgtr}{PU}{\9042\166}%* U+2276
18240 % U+2277 GREATER-THAN OR LESS-THAN; greaterorless; \gtrless (AmS)
18241 \DeclareTextCommand{\textgtrless}{PU}{\9042\167}%* U+2277
18242 % U+2278 NEITHER LESS-THAN NOR GREATER-THAN; \ngtrless (tx-
18243 % fonts/pxfonts)
18243 \DeclareTextCommand{\textngtrless}{PU}{\9042\170}%* U+2278
18244 % U+2279 NEITHER GREATER-THAN NOR LESS-THAN; \nlessgtr (tx-
18245 % fonts/pxfonts)
18245 \DeclareTextCommand{\textnlessgtr}{PU}{\9042\171}%* U+2279
18246 % U+227A PRECEDES; precedes; \prec (LaTeX)
18247 \DeclareTextCommand{\textprec}{PU}{\9042\172}%* U+227A
18248 % U+227B SUCCEEDS; succeeds; \succ (LaTeX)
18249 \DeclareTextCommand{\textsucc}{PU}{\9042\173}%* U+227B
18250 % U+227C PRECEDES OR EQUAL TO; \preccurlyeq (AmS)
18251 \DeclareTextCommand{\textpreccurlyeq}{PU}{\9042\174}%* U+227C
18252 % U+227D SUCCEEDS OR EQUAL TO; \succcurlyeq (AmS)
18253 \DeclareTextCommand{\textsucccurlyeq}{PU}{\9042\175}%* U+227D
18254 % U+227E PRECEDES OR EQUIVALENT TO; \precsim (AmS)
18255 \DeclareTextCommand{\textprecsim}{PU}{\9042\176}%* U+227E
18256 % \nprecsim (txfonts/pxfonts)
18257 \DeclareTextCommand{\textnprecsim}{PU}{\9042\176\83\070}%* U+227E U+0338
18258 % U+227F SUCCEEDS OR EQUIVALENT TO; \succsim (AmS)

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18259 \DeclareTextCommand{\textsuccsim}{PU}{\9042\177}%* U+227F
18260 % \nsuccsim (txfonts/pxfonts)
18261 \DeclareTextCommand{\textnsuccsim}{PU}{\9042\177\83\070}%* U+227F U+0338
18262 % U+2280 DOES NOT PRECEDE; notprecedes; \nprec (AmS)
18263 \DeclareTextCommand{\textnprec}{PU}{\9042\200}%* U+2280
18264 % U+2281 DOES NOT SUCCEED; notsucceds; \nsucc (AmS)
18265 \DeclareTextCommand{\textnsucc}{PU}{\9042\201}%* U+2281
18266 % U+2282 SUBSET OF; propersubset; \subset (LaTeX)
18267 \DeclareTextCommand{\textsubset}{PU}{\9042\202}%* U+2282
18268 % U+2283 SUPERSET OF; propersuperset; \supset (LaTeX)
18269 \DeclareTextCommand{\textsupset}{PU}{\9042\203}%* U+2283
18270 % U+2284 NOT A SUBSET OF; notsubset; \nsubset (mathabx)
18271 \DeclareTextCommand{\textnsubset}{PU}{\9042\204}%* U+2284
18272 % U+2285 NOT A SUPERSET OF; notsuperset; \nsupset (mathabx)
18273 \DeclareTextCommand{\textnsupset}{PU}{\9042\205}%* U+2285
18274 % U+2286 SUBSET OF OR EQUAL TO; reflexsubset; \subseteq (LaTeX)
18275 \DeclareTextCommand{\textsubseteq}{PU}{\9042\206}%* U+2286
18276 % U+2287 SUPERSET OF OR EQUAL TO; reflexsuperset; \supseteq (LaTeX)
18277 \DeclareTextCommand{\textsupseteq}{PU}{\9042\207}%* U+2287
18278 % U+2288 NEITHER A SUBSET OF NOR EQUAL TO; \nsubseteq (AmS)
18279 \DeclareTextCommand{\textnsubseteq}{PU}{\9042\210}%* U+2288
18280 % U+2289 NEITHER A SUPERSET OF NOR EQUAL TO; \nsupseteq (AmS)
18281 \DeclareTextCommand{\textnsupseteq}{PU}{\9042\211}%* U+2289
18282 % U+228A SUBSET OF WITH NOT EQUAL TO; subsetnotequal; \subsetneq (AmS)
18283 \DeclareTextCommand{\textsubsetneq}{PU}{\9042\212}%* U+228A
18284 % U+228B SUPERSET OF WITH NOT EQUAL TO; supersetnotequal; \supsetneq (AmS)
18285 \DeclareTextCommand{\textsupsetneq}{PU}{\9042\213}%* U+228B
18286 % U+228D MULTISSET MULTIPLICATION; \cupdot (MnSymbol)
18287 \DeclareTextCommand{\textcupdot}{PU}{\9042\215}%* U+228D
18288 % U+228E MULTISSET UNION; \cupplus (MnSymbol)
18289 \DeclareTextCommand{\textcupplus}{PU}{\9042\216}%* U+228E
18290 % U+228F SQUARE IMAGE OF; \sqsubset (latexsym, ...)
18291 \DeclareTextCommand{\textsqsubset}{PU}{\9042\217}%* U+228F
18292 % \nsqsubset (txfonts/pxfonts)
18293 \DeclareTextCommand{\textnsqsubset}{PU}{\9042\217\83\070}%* U+228F U+0338
18294 % U+2290 SQUARE ORIGINAL OF; \sqsupset (latexsym, ...)
18295 \DeclareTextCommand{\textsqsupset}{PU}{\9042\220}%* U+2290
18296 % \nsqsupset (txfonts/pxfonts)
18297 \DeclareTextCommand{\textnsqsupset}{PU}{\9042\220\83\070}%* U+2290 U+0338
18298 % U+2291 SQUARE IMAGE OF OR EQUAL TO; \sqsubseteq (LaTeX)
18299 \DeclareTextCommand{\textsqsubseteq}{PU}{\9042\221}%* U+2291
18300 % \nsqsubseteq (txfonts/pxfonts)
18301 \DeclareTextCommand{\textnsqsubseteq}{PU}{\9042\221\83\070}%* U+2291 U+0338
18302 % U+2292 SQUARE ORIGINAL OF OR EQUAL TO; \sqsupseteq (LaTeX)
18303 \DeclareTextCommand{\textsqsupseteq}{PU}{\9042\222}%* U+2292
18304 % \nsqsupseteq (txfonts/pxfonts)
18305 \DeclareTextCommand{\textnsqsupseteq}{PU}{\9042\222\83\070}%* U+2292 U+0338
18306 % U+2293 SQUARE CAP; \sqcap (LaTeX)
18307 \DeclareTextCommand{\textsqcap}{PU}{\9042\223}%* U+2293
18308 % U+2294 SQUARE CUP; \sqcup (LaTeX)
18309 \DeclareTextCommand{\textsqcup}{PU}{\9042\224}%* U+2294
18310 % U+2295 CIRCLED PLUS; circleplus; \oplus (LaTeX)

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18311 \DeclareTextCommand{\textoplus}{PU}{\9042\225}%* U+2295
18312 %* \textoplus -> \varoplus (stmaryrd)
18313 % U+2296 CIRCLED MINUS; minuscircle; \ominus (LaTeX)
18314 \DeclareTextCommand{\textominus}{PU}{\9042\226}%* U+2296
18315 %* \textominus -> \varominus (stmaryrd)
18316 % U+2297 CIRCLED TIMES; circlemultiply; \otimes (LaTeX)
18317 \DeclareTextCommand{\textotimes}{PU}{\9042\227}%* U+2297
18318 %* \textotimes -> \varotimes (stmaryrd)
18319 % U+2298 CIRCLED DIVISION SLASH; \oslash (LaTeX)
18320 \DeclareTextCommand{\textoslash}{PU}{\9042\230}%* U+2298
18321 %* \textoslash -> \varoslash (stmaryrd)
18322 % U+2299 CIRCLED DOT OPERATOR; circle(d?)ot; \odot (LaTeX)
18323 \DeclareTextCommand{\textodot}{PU}{\9042\231}%* U+2299
18324 %* \textodot -> \varodot (stmaryrd)
18325 % U+229A CIRCLED RING OPERATOR; \circledcirc (AmS)
18326 \DeclareTextCommand{\textcircledcirc}{PU}{\9042\232}%* U+229A
18327 %* \textcircledcirc -> \ocirc (mathabx)
18328 %* \textcircledcirc -> \varocircle (stmaryrd)
18329 % U+229B CIRCLED ASTERISK OPERATOR; \circledast (AmS)
18330 \DeclareTextCommand{\textcircledast}{PU}{\9042\233}%* U+229B
18331 %* \textcircledast -> \varoast (stmaryrd)
18332 %* \textcircledast -> \oasterisk (mathabx)
18333 % U+229D CIRCLED DASH; \circleddash (AmS)
18334 \DeclareTextCommand{\textcircleddash}{PU}{\9042\235}%* U+229D
18335 % U+229E SQUARED PLUS; \boxplus (AmS)
18336 \DeclareTextCommand{\textboxplus}{PU}{\9042\236}%* U+229E
18337 % U+229F SQUARED MINUS; \boxminus (AmS)
18338 \DeclareTextCommand{\textboxminus}{PU}{\9042\237}%* U+229F
18339 % U+22A0 SQUARED TIMES; \boxtimes (AmS)
18340 \DeclareTextCommand{\textboxtimes}{PU}{\9042\240}%* U+22A0
18341 % U+22A1 SQUARED DOT OPERATOR; \boxdot (AmS)
18342 \DeclareTextCommand{\textboxdot}{PU}{\9042\241}%* U+22A1
18343 % U+22A2 RIGHT TACK; \vdash (LaTeX)
18344 \DeclareTextCommand{\textvdash}{PU}{\9042\242}%* U+22A2
18345 %* \textvdash -> \rightvdash (MnSymbol)
18346 % U+22A3 LEFT TACK; tackleft; \dashv (LaTeX)
18347 \DeclareTextCommand{\textdashv}{PU}{\9042\243}%* U+22A3
18348 %* \textdashv -> \leftvdash (MnSymbol)
18349 % \ndashv (mathabx)
18350 \DeclareTextCommand{\textndashv}{PU}{\9042\243\83\070}%* U+22A3 U+0338
18351 %* \textndashv -> \nleftvdash (MnSymbol)
18352 % U+22A4 DOWN TACK (=top); tackdown; \top (LaTeX)
18353 \DeclareTextCommand{\texttop}{PU}{\9042\244}%* U+22A4
18354 %* \texttop -> \downvdash (MnSymbol)
18355 % \ndownvdash (MnSymbol)
18356 \DeclareTextCommand{\textndownvdash}{PU}{\9042\244\83\070}%* U+22A4 U+0338
18357 % U+22A5 UP TACK (=base, bottom); \bot (LaTeX)
18358 \DeclareTextCommand{\textbot}{PU}{\9042\245}%* U+22A5
18359 %* \textbot -> \upvdash (MnSymbol)
18360 % \nupvdash (MnSymbol)
18361 \DeclareTextCommand{\textnupvdash}{PU}{\9042\245\83\070}%* U+22A5 U+0338
18362 %* \textnupvdash -> \nperp (MnSymbol)
18363 % U+22A8 TRUE; \vDash (AmS)
18364 \DeclareTextCommand{\textvDash}{PU}{\9042\250}%* U+22A8

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18365 %* \textvDash -> \models (LaTeX)
18366 %* \textvDash -> \rightmodels (MnSymbol)
18367 % U+22A9 FORCES; \Vdash (AmS)
18368 \DeclareTextCommand{\textVdash}{PU}{\9042\251}%* U+22A9
18369 %* \textVdash -> \rightVdash (MnSymbol)
18370 % U+22AA TRIPLE VERTICAL BAR RIGHT TURNSTILE; \Vvdash (AmS)
18371 \DeclareTextCommand{\textVvdash}{PU}{\9042\252}%* U+22AA
18372 % \nVdash (mathabx)
18373 \DeclareTextCommand{\textnVdash}{PU}{\9042\252\83\070}%* U+22AA U+0338
18374 % U+22AB DOUBLE VERTICAL BAR DOUBLE RIGHT TURNSTILE;
18375 % \VDash (mathabx)
18376 \DeclareTextCommand{\textVDash}{PU}{\9042\253}%* U+22AB
18377 %* \textVDash -> \rightModels (MnSymbol)
18378 % U+22AC DOES NOT PROVE; \nvDash (AmS)
18379 \DeclareTextCommand{\textnvDash}{PU}{\9042\254}%* U+22AC
18380 %* \textnvDash -> \nrighnvDash (MnSymbol)
18381 % U+22AD NOT TRUE; \nvDash (AmS)
18382 \DeclareTextCommand{\textnvDash}{PU}{\9042\255}%* U+22AD
18383 %* \textnvDash -> \nrighmodels (MnSymbol)
18384 %* \textnvDash -> \nmodels (MnSymbol)
18385 % U+22AE DOES NOT FORCE; \nVdash (txfonts/pxfonts)
18386 \DeclareTextCommand{\textnVdash}{PU}{\9042\256}%* U+22AE
18387 %* \textnVdash -> \nrighVdash (MnSymbol)
18388 % U+22AF NEGATED DOUBLE VERTICAL BAR DOUBLE RIGHT TURN-
STILE; \nVDash (AmS)
18389 \DeclareTextCommand{\textnVDash}{PU}{\9042\257}%* U+22AF
18390 %* \textnVDash -> \nrighModels (MnSymbol)
18391 % U+22B2 NORMAL SUBGROUP OF; \lhd (latexsym, ...)
18392 \DeclareTextCommand{\textlhd}{PU}{\9042\262}%* U+22B2
18393 %* \textlhd -> \lessclosed (MnSymbol)
18394 % U+22B3 CONTAINS AS NORMAL SUBGROUP; \rhd (latexsym, ...)
18395 \DeclareTextCommand{\textrhd}{PU}{\9042\263}%* U+22B3
18396 %* \textrhd -> \gtrclosed (MnSymbol)
18397 % U+22B4 NORMAL SUBGROUP OF OR EQUAL TO; \unlhd (latexsym, ...)
18398 \DeclareTextCommand{\textunlhd}{PU}{\9042\264}%* U+22B4
18399 %* \textunlhd -> \leqclosed (MnSymbol)
18400 %* \textunlhd -> \trianglelefteq (MnSymbol)
18401 % U+22B5 CONTAINS AS NORMAL SUBGROUP OR EQUAL TO; \unrhd (la-
texsym, ...)
18402 \DeclareTextCommand{\textunrhd}{PU}{\9042\265}%* U+22B5
18403 %* \textunrhd -> \geqclosed (MnSymbol)
18404 %* \textunrhd -> \trianglerighteq (MnSymbol)
18405 % U+22B6 ORIGINAL OF; \multimapdotbothA (txfonts/pxfonts)
18406 \DeclareTextCommand{\textmultimapdotbothA}{PU}{\9042\266}%* U+22B6
18407 % U+22B7 IMAGE OF; \multimapdotbothB (txfonts/pxfonts)
18408 \DeclareTextCommand{\textmultimapdotbothB}{PU}{\9042\267}%* U+22B7
18409 % U+22B8 MULTIMAP; \multimap (AmS, txfonts/pxfonts)
18410 \DeclareTextCommand{\textmultimap}{PU}{\9042\270}%* U+22B8
18411 % U+22BB XOR; \veebar (AmS)
18412 \DeclareTextCommand{\textveebar}{PU}{\9042\273}%* U+22BB
18413 % U+22BC NAND; \barwedge (mathabx)
18414 \DeclareTextCommand{\textbarwedge}{PU}{\9042\274}%* U+22BC
18415 % U+22C6 STAR OPERATOR; \star (LaTeX)
18416 \DeclareTextCommand{\textstar}{PU}{\9042\306}%* U+22C6

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18417 % U+22C7 DIVISION TIMES; \divideontimes (AmS)
18418 \DeclareTextCommand{\textdivideontimes}{PU}{\9042\307}%* U+22C7
18419 % U+22C8 BOWTIE; \bowtie (LaTeX)
18420 \DeclareTextCommand{\textbowtie}{PU}{\9042\310}%* U+22C8
18421 %* \textbowtie -> \Bowtie (wasysym)
18422 % U+22C9 LEFT NORMAL FACTOR SEMIDIRECT PRODUCT; \ltimes (AmS)
18423 \DeclareTextCommand{\textltimes}{PU}{\9042\311}%* U+22C9
18424 % U+22CA RIGHT NORMAL FACTOR SEMIDIRECT PRODUCT;
18425 % \rtimes (AmS)
18426 \DeclareTextCommand{\textrtimes}{PU}{\9042\312}%* U+22CA
18427 % U+22CB LEFT SEMIDIRECT PRODUCT; \leftthreetimes (AmS)
18428 \DeclareTextCommand{\textleftthreetimes}{PU}{\9042\313}%* U+22CB
18429 % U+22CC RIGHT SEMIDIRECT PRODUCT; \rightthreetimes (AmS)
18430 \DeclareTextCommand{\textrightthreetimes}{PU}{\9042\314}%* U+22CC
18431 % U+22CD REVERSED TILDE EQUALS; \backsimeq (AmS)
18432 \DeclareTextCommand{\textbacksimeq}{PU}{\9042\315}%* U+22CD
18433 % \nbacksimeq (txfonts/pxfonts)
18434 \DeclareTextCommand{\textnbacksimeq}{PU}{\9042\315\83\070}%* U+22CD U+0338
18435 % U+22CE CURLY LOGICAL OR; curlyor; \curlyvee (AmS)
18436 \DeclareTextCommand{\textcurlyvee}{PU}{\9042\316}%* U+22CE
18437 %* \textcurlyvee -> \varcurlyvee (stmaryrd)
18438 % U+22CF CURLY LOGICAL AND; curlyand; \curlywedge (AmS)
18439 \DeclareTextCommand{\textcurlywedge}{PU}{\9042\317}%* U+22CF
18440 %* \textcurlywedge -> \varcurlywedge (stmaryrd)
18441 % U+22D0 DOUBLE SUBSET; \Subset (AmS)
18442 \DeclareTextCommand{\textSubset}{PU}{\9042\320}%* U+22D0
18443 % \nSubset (txfonts/pxfonts)
18444 \DeclareTextCommand{\textnSubset}{PU}{\9042\320\83\070}%* U+22D0 U+0338
18445 % U+22D1 DOUBLE SUPERSET; \Supset (AmS)
18446 \DeclareTextCommand{\textSupset}{PU}{\9042\321}%* U+22D1
18447 % \nSupset (txfonts/pxfonts)
18448 \DeclareTextCommand{\textnSupset}{PU}{\9042\321\83\070}%* U+22D1 U+0338
18449 % U+22D2 DOUBLE INTERSECTION; \Cap (AmS)
18450 \DeclareTextCommand{\textCap}{PU}{\9042\322}%* U+22D2
18451 %* \textCap -> \doublecap (mathabx)
18452 % U+22D3 DOUBLE UNION; \Cup (AmS)
18453 \DeclareTextCommand{\textCup}{PU}{\9042\323}%* U+22D3
18454 %* \textCup -> \doublecup (mathabx)
18455 % U+22D4 PITCHFORK; \pitchfork (mathabx)
18456 \DeclareTextCommand{\textpitchfork}{PU}{\9042\324}%* U+22D4
18457 % U+22D6 LESS-THAN WITH DOT; \lessdot (AmS)
18458 \DeclareTextCommand{\textlessdot}{PU}{\9042\326}%* U+22D6
18459 % U+22D7 GREATER-THAN WITH DOT; \gtrdot (AmS)
18460 \DeclareTextCommand{\textgtrdot}{PU}{\9042\327}%* U+22D7
18461 % U+22D8 VERY MUCH LESS-THAN; \lll (AmS)
18462 \DeclareTextCommand{\textlll}{PU}{\9042\330}%* U+22D8
18463 % U+22D9 VERY MUCH GREATER-THAN; \ggg (AmS)
18464 \DeclareTextCommand{\textggg}{PU}{\9042\331}%* U+22D9
18465 % U+22DA LESS-THAN EQUAL TO OR GREATER-THAN; lesseqqualorgreater;
18466 % \lesseqgtr (AmS)
18467 \DeclareTextCommand{\textlesseqgtr}{PU}{\9042\332}%* U+22DA
18468 % U+22DB GREATER-THAN EQUAL TO OR LESS-THAN; greaterequalorless;
18469 % \gtreqless (AmS)
18470 \DeclareTextCommand{\textgtreqless}{PU}{\9042\333}%* U+22DB

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18471 % U+22DE EQUAL TO OR PRECEDES; \curlyeqprec (MnSymbol)
18472 \DeclareTextCommand{\textcurlyeqprec}{PU}{\9042\336}%* U+22DE
18473 % \ncurlyeqprec (mathabx)
18474 \DeclareTextCommand{\textncurlyeqprec}{PU}{\9042\336\83\070}%* U+22DE U+0338
18475 % U+22DF EQUAL TO OR SUCCEEDS; \curlyeqsucc (MnSymbol)
18476 \DeclareTextCommand{\textcurlyeqsucc}{PU}{\9042\337}%* U+22DF
18477 % \ncurlyeqsucc (mathabx)
18478 \DeclareTextCommand{\textncurlyeqsucc}{PU}{\9042\337\83\070}%* U+22DF U+0338
18479 % U+22E0 DOES NOT PRECEDE OR EQUAL; \npreccurlyeq (txfonts/pxfonts)
18480 \DeclareTextCommand{\textnpreccurlyeq}{PU}{\9042\340}%* U+22E0
18481 % U+22E1 DOES NOT SUCCEED OR EQUAL; \nsucccurlyeq (txfonts/pxfonts)
18482 \DeclareTextCommand{\textnsucccurlyeq}{PU}{\9042\341}%* U+22E1
18483 % U+22E2 NOT SQUARE IMAGE OF OR EQUAL TO; \nsqsubseteq (tx-
      fonts/pxfonts)
18484 \DeclareTextCommand{\textnqsqsubseteq}{PU}{\9042\342}%* U+22E2
18485 % U+22E3 NOT SQUARE ORIGINAL OF OR EQUAL TO; \nsqsupseteq (tx-
      fonts/pxfonts)
18486 \DeclareTextCommand{\textnqsqsupseteq}{PU}{\9042\343}%* U+22E3
18487 % U+22E4 SQUARE IMAGE OF OR NOT EQUAL TO; \sqsubsetneq (mathabx)
18488 \DeclareTextCommand{\textsqsubsetneq}{PU}{\9042\344}%* U+22E4
18489 %* \textsqsubsetneq -> \varsqsubsetneq (mathabx)
18490 % U+22E5 SQUARE ORIGINAL OF OR NOT EQUAL TO; \sqsupsetneq (math-
      abx)
18491 \DeclareTextCommand{\textsqsupsetneq}{PU}{\9042\345}%* U+22E5
18492 %* \textsqsupsetneq -> \varsqsupsetneq (mathabx)
18493 % U+22E6 LESS-THAN BUT NOT EQUIVALENT TO; \lnsim (AmS)
18494 \DeclareTextCommand{\textlnsim}{PU}{\9042\346}%* U+22E6
18495 % U+22E7 GREATER-THAN BUT NOT EQUIVALENT TO; \gnsim (AmS)
18496 \DeclareTextCommand{\textgnsim}{PU}{\9042\347}%* U+22E7
18497 % U+22E8 PRECEDES BUT NOT EQUIVALENT TO; \precnsim (AmS)
18498 \DeclareTextCommand{\textprecnsim}{PU}{\9042\350}%* U+22E8
18499 % U+22E9 SUCCEEDS BUT NOT EQUIVALENT TO; \succnsim (AmS)
18500 \DeclareTextCommand{\textsuccnsim}{PU}{\9042\351}%* U+22E9
18501 % U+22EA NOT NORMAL SUBGROUP OF; \ntriangleleft (AmS)
18502 \DeclareTextCommand{\textntriangleleft}{PU}{\9042\352}%* U+22EA
18503 %* \textntriangleleft -> \nlessclosed (MnSymbol)
18504 % U+22EB DOES NOT CONTAIN AS NORMAL SUBGROUP; \ntriangleright
      (AmS)
18505 \DeclareTextCommand{\textntriangleright}{PU}{\9042\353}%* U+22EB
18506 %* \textntriangleright -> \ngtrclosed (MnSymbol)
18507 % U+22EC NOT NORMAL SUBGROUP OF OR EQUAL TO;
18508 % \ntrianglelefteq (AmS)
18509 \DeclareTextCommand{\textntrianglelefteq}{PU}{\9042\354}%* U+22EC
18510 % U+22ED DOES NOT CONTAIN AS NORMAL SUBGROUP OR EQUAL;
18511 % \ntrianglerighteq (AmS)
18512 \DeclareTextCommand{\textntrianglerighteq}{PU}{\9042\355}%* U+22ED
18513 %* \textntrianglerighteq -> textngeqclosed
18514 % U+22EE VERTICAL ELLIPSIS; \vdots (LaTeX)
18515 \DeclareTextCommand{\textvdots}{PU}{\9042\356}%* U+22EE
18516 % U+22EF MIDLINE HORIZONTAL ELLIPSIS; \cdots (LaTeX)
18517 \DeclareTextCommand{\textcdots}{PU}{\9042\357}%* U+22EF
18518 % U+22F0 UP RIGHT DIAGONAL ELLIPSIS; \udots (MnSymbol)
18519 \DeclareTextCommand{\textudots}{PU}{\9042\360}%* U+22F0
18520 % U+22F1 DOWN RIGHT DIAGONAL ELLIPSIS; \ddots (LaTeX)

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18521 \DeclareTextCommand{\textddots}{PU}{\9042\361}%* U+22F1
 18522 % U+22F6 ELEMENT OF WITH OVERBAR; \barin (mathabx)
 18523 \DeclareTextCommand{\textbarin}{PU}{\9042\366}%* U+22F6

46.2.23 Miscellaneous Technical: U+2300 to U+23FF

18524 % U+2300 DIAMETER SIGN; \diameter (mathabx,wasysym)
 18525 \DeclareTextCommand{\textdiameter}{PU}{\9043\000}%* U+2300
 18526 % U+2310 REVERSED NOT SIGN; \backneg (MnSymbol)
 18527 \DeclareTextCommand{\textbackneg}{PU}{\9043\020}%* U+2310
 18528 % U+2311 SQUARE LOZENGE; \wasylozenge (wasysym)
 18529 \DeclareTextCommand{\textwasylozenge}{PU}{\9043\021}%* U+2311
 18530 % U+2319 TURNED NOT SIGN; \invbackneg (MnSymbol)
 18531 \DeclareTextCommand{\textinvbackneg}{PU}{\9043\031}%* U+2319
 18532 % U+231A WATCH; \clock (wasysym)
 18533 \DeclareTextCommand{\textclock}{PU}{\9043\032}%* U+231A
 18534 %* \textclock -> \Clocklogo (marvosym)
 18535 %* \textclock -> \ClockLogo (marvosym)
 18536 % U+231C TOP LEFT CORNER; \ulcorner (AmS)
 18537 \DeclareTextCommand{\textulcorner}{PU}{\9043\034}%* U+231C
 18538 % U+231D TOP RIGHT CORNER; \urcorner (AmS)
 18539 \DeclareTextCommand{\texturcorner}{PU}{\9043\035}%* U+231D
 18540 % U+231E BOTTOM LEFT CORNER; \llcorner (AmS)
 18541 \DeclareTextCommand{\textllcorner}{PU}{\9043\036}%* U+231E
 18542 % U+231F BOTTOM RIGHT CORNER; \lrcorner (AmS)
 18543 \DeclareTextCommand{\textlrcorner}{PU}{\9043\037}%* U+231F
 18544 % U+2322 FROWN; \frown (LaTeX)
 18545 \DeclareTextCommand{\textfrown}{PU}{\9043\042}%* U+2322
 18546 % U+2323 SMILE; \smile (LaTeX)
 18547 \DeclareTextCommand{\textsmile}{PU}{\9043\043}%* U+2323
 18548 % U+2328 KEYBOARD; \Keyboard (marvosym)
 18549 \DeclareTextCommand{\textKeyboard}{PU}{\9043\050}%* U+2328
 18550 % U+2329 LEFT-POINTING ANGLE BRACKET; \angleleft; \langle (LaTeX)
 18551 \DeclareTextCommand{\textlangle}{PU}{\9043\051}%* U+2329
 18552 % U+232A RIGHT-POINTING ANGLE BRACKET; \angleright; \rangle (LaTeX)
 18553 \DeclareTextCommand{\textrangle}{PU}{\9043\052}%* U+232A
 18554 % U+2339 APL FUNCTIONAL SYMBOL QUAD DIVIDE; \APLinv (wasysym)
 18555 \DeclareTextCommand{\textAPLinv}{PU}{\9043\071}%* U+2339
 18556 % U+233C APL FUNCTIONAL SYMBOL QUAD CIRCLE; \Tumbler (marvosym)
 18557 \DeclareTextCommand{\textTumbler}{PU}{\9043\074}%* U+233C
 18558 % U+233D APL FUNCTIONAL SYMBOL CIRCLE STILE; \baro (stmaryrd)
 18559 \DeclareTextCommand{\textstmaryrdbaro}{PU}{\9043\075}% U+233D
 18560 %* \textstmaryrdbaro -> \baro (stmaryrd)
 18561 % U+233F APL FUNCTIONAL SYMBOL SLASH BAR; \notslash (wasysym)
 18562 \DeclareTextCommand{\textnotslash}{PU}{\9043\077}%* U+233F
 18563 % U+2340 APL FUNCTIONAL SYMBOL BACKSLASH BAR;
 18564 % \notbackslash (wasysym)
 18565 \DeclareTextCommand{\textnotbackslash}{PU}{\9043\100}%* U+2340
 18566 % U+2342 APL FUNCTIONAL SYMBOL QUAD BACKSLASH; \boxbackslash (mathabx)
 18567 \DeclareTextCommand{\textboxbackslash}{PU}{\9043\102}%* U+2342
 18568 % U+2347 APL FUNCTIONAL SYMBOL QUAD LEFTWARDS ARROW;
 18569 % \APLleftarrowbox (wasysym)
 18570 \DeclareTextCommand{\textAPLleftarrowbox}{PU}{\9043\107}%* U+2347

18571 % U+2348 APL FUNCTIONAL SYMBOL QUAD RIGHTWARDS ARROW;
 18572 % \APLrightharrowbox (wasysym)
 18573 \DeclareTextCommand{\textAPLrightharrowbox}{PU}{\9043\110}%* U+2348
 18574 % U+2350 APL FUNCTIONAL SYMBOL QUAD UPWARDS ARROW; \APLu-
 parrowbox (wasysym)
 18575 \DeclareTextCommand{\textAPLuparrowbox}{PU}{\9043\120}%* U+2350
 18576 % U+2357 APL FUNCTIONAL SYMBOL QUAD DOWNWARDS ARROW;
 18577 % \APLdownarrowbox (wasysym)
 18578 \DeclareTextCommand{\textAPLdownarrowbox}{PU}{\9043\127}%* U+2357
 18579 % U+235E APL FUNCTIONAL SYMBOL QUOTE QUAD;
 18580 % \APLinput (wasysym)
 18581 \DeclareTextCommand{\textAPLinput}{PU}{\9043\136}%* U+235E
 18582 % U+2370 APL FUNCTIONAL SYMBOL QUAD QUESTION; \Request (china2e)
 18583 \DeclareTextCommand{\textRequest}{PU}{\9043\160}%* U+2370
 18584 % U+2393 DIRECT CURRENT SYMBOL FORM TWO; \Beam (marvosym)
 18585 \DeclareTextCommand{\textBeam}{PU}{\9043\223}%* U+2393
 18586 % U+2394 SOFTWARE-FUNCTION SYMBOL; \hexagon (wasysym)
 18587 \DeclareTextCommand{\texthexagon}{PU}{\9043\224}%* U+2394
 18588 % U+2395 APL FUNCTIONAL SYMBOL QUAD; \APLbox (wasysym)
 18589 \DeclareTextCommand{\textAPLbox}{PU}{\9043\225}%* U+2395
 18590 % U+23ED BLACK RIGHT-POINTING DOUBLE TRIANGLE WITH VERTI-
 CAL BAR;
 18591 % \ForwardToIndex (marvosym)
 18592 \DeclareTextCommand{\textForwardToIndex}{PU}{\9043\355}%* U+23ED
 18593 % U+23EE BLACK LEFT-POINTING DOUBLE TRIANGLE WITH VERTI-
 CAL BAR;
 18594 % \RewindToIndex (marvosym)
 18595 \DeclareTextCommand{\textRewindToIndex}{PU}{\9043\356}%* U+23EE

46.2.24 Control Pictures: U+2400 to U+243F

18596 % U+2422 BLANK SYMBOL
 18597 \DeclareTextCommand{\textblank}{PU}{\9044\042}% U+2422
 18598 % U+2423 OPEN BOX; blank
 18599 \DeclareTextCommand{\textvisiblespace}{PU}{\9044\043}% U+2423

46.2.25 Optical Character Recognition: U+2440 to U+245F

18600 % U+244A OCR DOUBLE BACKSLASH; \bbslash (stmaryrd)
 18601 \DeclareTextCommand{\textbbslash}{PU}{\9044\112}%* U+244A
 18602 %* \textbbslash -> \varparallelinv (txfonts/pxfonts)

46.2.26 Enclosed Alphanumerics: U+2460 to U+24FF

18603 % U+2460 CIRCLED DIGIT ONE; onecircle
 18604 \DeclareTextCompositeCommand{\textcircled}{PU}{1}{\9044\140}% U+2460
 18605 % U+2461 CIRCLED DIGIT TWO; twocircle
 18606 \DeclareTextCompositeCommand{\textcircled}{PU}{2}{\9044\141}% U+2461
 18607 % U+2462 CIRCLED DIGIT THREE; threecircle
 18608 \DeclareTextCompositeCommand{\textcircled}{PU}{3}{\9044\142}% U+2462
 18609 % U+2463 CIRCLED DIGIT FOUR; fourcircle
 18610 \DeclareTextCompositeCommand{\textcircled}{PU}{4}{\9044\143}% U+2463
 18611 % U+2464 CIRCLED DIGIT FIVE; fivecircle
 18612 \DeclareTextCompositeCommand{\textcircled}{PU}{5}{\9044\144}% U+2464
 18613 % U+2465 CIRCLED DIGIT SIX; sixcircle
 18614 \DeclareTextCompositeCommand{\textcircled}{PU}{6}{\9044\145}% U+2465
 18615 % U+2466 CIRCLED DIGIT SEVEN; sevendigit

18616 \DeclareTextCompositeCommand{\textcircled}{PU}{7}{\9044\146}% U+2466
18617 % U+2467 CIRCLED DIGIT EIGHT; eightcircle
18618 \DeclareTextCompositeCommand{\textcircled}{PU}{8}{\9044\147}% U+2467
18619 % U+2468 CIRCLED DIGIT NINE; ninecircle
18620 \DeclareTextCompositeCommand{\textcircled}{PU}{9}{\9044\150}% U+2468
18621 % U+2469 CIRCLED NUMBER TEN; tencircle
18622 \DeclareTextCompositeCommand{\textcircled}{PU}{10}{\9044\151}% U+2469
18623 % U+246A CIRCLED NUMBER ELEVEN; elevencircle
18624 \DeclareTextCompositeCommand{\textcircled}{PU}{11}{\9044\152}% U+246A
18625 % U+246B CIRCLED NUMBER TWELVE; twelvecircle
18626 \DeclareTextCompositeCommand{\textcircled}{PU}{12}{\9044\153}% U+246B
18627 % U+246C CIRCLED NUMBER THIRTEEN; thirteencircle
18628 \DeclareTextCompositeCommand{\textcircled}{PU}{13}{\9044\154}% U+246C
18629 % U+246D CIRCLED NUMBER FOURTEEN; fourteencircle
18630 \DeclareTextCompositeCommand{\textcircled}{PU}{14}{\9044\155}% U+246D
18631 % U+246E CIRCLED NUMBER FIFTEEN; fifteencircle
18632 \DeclareTextCompositeCommand{\textcircled}{PU}{15}{\9044\156}% U+246E
18633 % U+246F CIRCLED NUMBER SIXTEEN; sixteencircle
18634 \DeclareTextCompositeCommand{\textcircled}{PU}{16}{\9044\157}% U+246F
18635 % U+2470 CIRCLED NUMBER SEVENTEEN; seventeencircle
18636 \DeclareTextCompositeCommand{\textcircled}{PU}{17}{\9044\160}% U+2470
18637 % U+2471 CIRCLED NUMBER EIGHTEEN; eighteencircle
18638 \DeclareTextCompositeCommand{\textcircled}{PU}{18}{\9044\161}% U+2471
18639 % U+2472 CIRCLED NUMBER NINETEEN; nineteencircle
18640 \DeclareTextCompositeCommand{\textcircled}{PU}{19}{\9044\162}% U+2472
18641 % U+2473 CIRCLED NUMBER TWENTY; twentycircle
18642 \DeclareTextCompositeCommand{\textcircled}{PU}{20}{\9044\163}% U+2473
18643 % U+24B6 CIRCLED LATIN CAPITAL LETTER A; Acircle
18644 \DeclareTextCompositeCommand{\textcircled}{PU}{A}{\9044\266}% U+24B6
18645 % \CircledA (marvosym)
18646 \DeclareTextCommand{\textCircledA}{PU}{\9044\266}%* U+24B6
18647 %* \textCircledA -> \CleaningA
18648 % U+24B7 CIRCLED LATIN CAPITAL LETTER B; Bcircle
18649 \DeclareTextCompositeCommand{\textcircled}{PU}{B}{\9044\267}% U+24B7
18650 % U+24B8 CIRCLED LATIN CAPITAL LETTER C; Ccircle
18651 \DeclareTextCompositeCommand{\textcircled}{PU}{C}{\9044\270}% U+24B8
18652 % U+24B9 CIRCLED LATIN CAPITAL LETTER D; Dcircle
18653 \DeclareTextCompositeCommand{\textcircled}{PU}{D}{\9044\271}% U+24B9
18654 % U+24BA CIRCLED LATIN CAPITAL LETTER E; Ecircle
18655 \DeclareTextCompositeCommand{\textcircled}{PU}{E}{\9044\272}% U+24BA
18656 % U+24BB CIRCLED LATIN CAPITAL LETTER F; Fcircle
18657 \DeclareTextCompositeCommand{\textcircled}{PU}{F}{\9044\273}% U+24BB
18658 % \CleaningF (marvosym)
18659 \DeclareTextCommand{\textCleaningF}{PU}{\9044\273}%* U+24BB
18660 % \CleaningFF (marvosym)
18661 \DeclareTextCommand{\textCleaningFF}{PU}{\9044\273\83\062}%* U+24BB U+0332
18662 % U+24BC CIRCLED LATIN CAPITAL LETTER G; Gcircle
18663 \DeclareTextCompositeCommand{\textcircled}{PU}{G}{\9044\274}% U+24BC
18664 % U+24BD CIRCLED LATIN CAPITAL LETTER H; Hcircle
18665 \DeclareTextCompositeCommand{\textcircled}{PU}{H}{\9044\275}% U+24BD
18666 % U+24BE CIRCLED LATIN CAPITAL LETTER I; Icircle
18667 \DeclareTextCompositeCommand{\textcircled}{PU}{I}{\9044\276}% U+24BE
18668 % U+24BF CIRCLED LATIN CAPITAL LETTER J; Jcircle
18669 \DeclareTextCompositeCommand{\textcircled}{PU}{J}{\9044\277}% U+24BF

18670 % U+24C0 CIRCLED LATIN CAPITAL LETTER K; Kcircle
 18671 \DeclareTextCompositeCommand{\textcircled}{PU}{K}{\9044\300}% U+24C0
 18672 % U+24C1 CIRCLED LATIN CAPITAL LETTER L; Lcircle
 18673 \DeclareTextCompositeCommand{\textcircled}{PU}{L}{\9044\301}% U+24C1
 18674 % U+24C2 CIRCLED LATIN CAPITAL LETTER M; Mcircle
 18675 \DeclareTextCompositeCommand{\textcircled}{PU}{M}{\9044\302}% U+24C2
 18676 % U+24C3 CIRCLED LATIN CAPITAL LETTER N; Ncircle
 18677 \DeclareTextCompositeCommand{\textcircled}{PU}{N}{\9044\303}% U+24C3
 18678 % U+24C4 CIRCLED LATIN CAPITAL LETTER O; Ocircle
 18679 \DeclareTextCompositeCommand{\textcircled}{PU}{O}{\9044\304}% U+24C4
 18680 % U+24C5 CIRCLED LATIN CAPITAL LETTER P; Pcircle
 18681 \DeclareTextCompositeCommand{\textcircled}{PU}{P}{\9044\305}% U+24C5
 18682 % \CleaningP (marvosym)
 18683 \DeclareTextCompositeCommand{\textCleaningP}{PU}{\9044\305}%* U+24C5
 18684 % \CleaningPP (marvosym)
 18685 \DeclareTextCompositeCommand{\textCleaningPP}{PU}{\9044\305\83\062}%* U+24C5 U+0332
 18686 % U+24C6 CIRCLED LATIN CAPITAL LETTER Q; Qcircle
 18687 \DeclareTextCompositeCommand{\textcircled}{PU}{Q}{\9044\306}% U+24C6
 18688 % U+24C7 CIRCLED LATIN CAPITAL LETTER R; Rcircle
 18689 \DeclareTextCompositeCommand{\textcircled}{PU}{R}{\9044\307}% U+24C7
 18690 % U+24C8 CIRCLED LATIN CAPITAL LETTER S; Scircle
 18691 \DeclareTextCompositeCommand{\textcircled}{PU}{S}{\9044\310}% U+24C8
 18692 % U+24C9 CIRCLED LATIN CAPITAL LETTER T; Tcircle
 18693 \DeclareTextCompositeCommand{\textcircled}{PU}{T}{\9044\311}% U+24C9
 18694 % U+24CA CIRCLED LATIN CAPITAL LETTER U; Ucircle
 18695 \DeclareTextCompositeCommand{\textcircled}{PU}{U}{\9044\312}% U+24CA
 18696 % U+24CB CIRCLED LATIN CAPITAL LETTER V; Vcircle
 18697 \DeclareTextCompositeCommand{\textcircled}{PU}{V}{\9044\313}% U+24CB
 18698 % U+24CC CIRCLED LATIN CAPITAL LETTER W; Wcircle
 18699 \DeclareTextCompositeCommand{\textcircled}{PU}{W}{\9044\314}% U+24CC
 18700 % U+24CD CIRCLED LATIN CAPITAL LETTER X; Xcircle
 18701 \DeclareTextCompositeCommand{\textcircled}{PU}{X}{\9044\315}% U+24CD
 18702 % U+24CE CIRCLED LATIN CAPITAL LETTER Y; Ycircle
 18703 \DeclareTextCompositeCommand{\textcircled}{PU}{Y}{\9044\316}% U+24CE
 18704 % U+24CF CIRCLED LATIN CAPITAL LETTER Z; Zcircle
 18705 \DeclareTextCompositeCommand{\textcircled}{PU}{Z}{\9044\317}% U+24CF
 18706 % U+24D0 CIRCLED LATIN SMALL LETTER A; acircle
 18707 \DeclareTextCompositeCommand{\textcircled}{PU}{a}{\9044\320}% U+24D0
 18708 % U+24D1 CIRCLED LATIN SMALL LETTER B; bcircle
 18709 \DeclareTextCompositeCommand{\textcircled}{PU}{b}{\9044\321}% U+24D1
 18710 % U+24D2 CIRCLED LATIN SMALL LETTER C; ccircle
 18711 \DeclareTextCompositeCommand{\textcircled}{PU}{c}{\9044\322}% U+24D2
 18712 % U+24D3 CIRCLED LATIN SMALL LETTER D; dcircle
 18713 \DeclareTextCompositeCommand{\textcircled}{PU}{d}{\9044\323}% U+24D3
 18714 % U+24D4 CIRCLED LATIN SMALL LETTER E; ecircle
 18715 \DeclareTextCompositeCommand{\textcircled}{PU}{e}{\9044\324}% U+24D4
 18716 % U+24D5 CIRCLED LATIN SMALL LETTER F; fcircle
 18717 \DeclareTextCompositeCommand{\textcircled}{PU}{f}{\9044\325}% U+24D5
 18718 % U+24D6 CIRCLED LATIN SMALL LETTER G; gcircle
 18719 \DeclareTextCompositeCommand{\textcircled}{PU}{g}{\9044\326}% U+24D6
 18720 % U+24D7 CIRCLED LATIN SMALL LETTER H; hcircle
 18721 \DeclareTextCompositeCommand{\textcircled}{PU}{h}{\9044\327}% U+24D7
 18722 % U+24D8 CIRCLED LATIN SMALL LETTER I; icircle
 18723 \DeclareTextCompositeCommand{\textcircled}{PU}{i}{\9044\330}% U+24D8

18724 % U+24D9 CIRCLED LATIN SMALL LETTER J; jcircle
 18725 \DeclareTextCompositeCommand{\textcircled}{PU}{j}{\9044\331}% U+24D9
 18726 % U+24DA CIRCLED LATIN SMALL LETTER K; kcircle
 18727 \DeclareTextCompositeCommand{\textcircled}{PU}{k}{\9044\332}% U+24DA
 18728 % U+24DB CIRCLED LATIN SMALL LETTER L; lcircle
 18729 \DeclareTextCompositeCommand{\textcircled}{PU}{l}{\9044\333}% U+24DB
 18730 % U+24DC CIRCLED LATIN SMALL LETTER M; mcircle
 18731 \DeclareTextCompositeCommand{\textcircled}{PU}{m}{\9044\334}% U+24DC
 18732 % U+24DD CIRCLED LATIN SMALL LETTER N; ncircle
 18733 \DeclareTextCompositeCommand{\textcircled}{PU}{n}{\9044\335}% U+24DD
 18734 % U+24DE CIRCLED LATIN SMALL LETTER O; ocircle
 18735 \DeclareTextCompositeCommand{\textcircled}{PU}{o}{\9044\336}% U+24DE
 18736 % U+24DF CIRCLED LATIN SMALL LETTER P; pcircle
 18737 \DeclareTextCompositeCommand{\textcircled}{PU}{p}{\9044\337}% U+24DF
 18738 % U+24E0 CIRCLED LATIN SMALL LETTER Q; qcircle
 18739 \DeclareTextCompositeCommand{\textcircled}{PU}{q}{\9044\340}% U+24E0
 18740 % U+24E1 CIRCLED LATIN SMALL LETTER R; rcircle
 18741 \DeclareTextCompositeCommand{\textcircled}{PU}{r}{\9044\341}% U+24E1
 18742 % U+24E2 CIRCLED LATIN SMALL LETTER S; scircle
 18743 \DeclareTextCompositeCommand{\textcircled}{PU}{s}{\9044\342}% U+24E2
 18744 % U+24E3 CIRCLED LATIN SMALL LETTER T; tcircle
 18745 \DeclareTextCompositeCommand{\textcircled}{PU}{t}{\9044\343}% U+24E3
 18746 % U+24E4 CIRCLED LATIN SMALL LETTER U; ucircle
 18747 \DeclareTextCompositeCommand{\textcircled}{PU}{u}{\9044\344}% U+24E4
 18748 % U+24E5 CIRCLED LATIN SMALL LETTER V; vcircle
 18749 \DeclareTextCompositeCommand{\textcircled}{PU}{v}{\9044\345}% U+24E5
 18750 % U+24E6 CIRCLED LATIN SMALL LETTER W; wcircle
 18751 \DeclareTextCompositeCommand{\textcircled}{PU}{w}{\9044\346}% U+24E6
 18752 % U+24E7 CIRCLED LATIN SMALL LETTER X; xcircle
 18753 \DeclareTextCompositeCommand{\textcircled}{PU}{x}{\9044\347}% U+24E7
 18754 % U+24E8 CIRCLED LATIN SMALL LETTER Y; ycircle
 18755 \DeclareTextCompositeCommand{\textcircled}{PU}{y}{\9044\350}% U+24E8
 18756 % U+24E9 CIRCLED LATIN SMALL LETTER Z; zcircle
 18757 \DeclareTextCompositeCommand{\textcircled}{PU}{z}{\9044\351}% U+24E9
 18758 % U+24EA CIRCLED DIGIT ZERO
 18759 \DeclareTextCompositeCommand{\textcircled}{PU}{0}{\9044\352}% U+24EA

46.2.27 Box Drawing: U+2500 to 257F

18760 % U+2504 BOX DRAWINGS LIGHT TRIPLE DASH HORIZONTAL; \Cutting-
 Line (marvosym)
 18761 \DeclareTextCommand{\textCuttingLine}{PU}{\9045\004}%* U+2504
 18762 %* \textCuttingLine -> \Kutline (marvosym)
 18763 %* \textCuttingLine -> \CutLine (marvosym)
 18764 %* \textCuttingLine -> \Cutline (marvosym)

46.2.28 Geometric Shapes: U+25A0 to U+25FF

18765 % U+25B2 BLACK UP-POINTING TRIANGLE; \UParrow (wasysym)
 18766 \DeclareTextCommand{\textUParrow}{PU}{\9045\262}%* U+25B2
 18767 %* \textUParrow -> \MoveUp (marvosym)
 18768 % U+25B3 WHITE UP-POINTING TRIANGLE; whiteuppointingtriangle;
 18769 % \bigtriangleup (LaTeX)
 18770 \DeclareTextCommand{\textbigtriangleup}{PU}{\9045\263}%* U+25B3
 18771 %* \textbigtriangleup -> \APLup (wasysym)
 18772 %* \textbigtriangleup -> \Bleech (marvosym)

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18773 % U+25B6 BLACK RIGHT-POINTING TRIANGLE; \Forward (marvosym)
18774 \DeclareTextCommand{\textForward}{PU}{\9045\266}%* U+25B6
18775 % U+25B7 WHITE RIGHT-POINTING TRIANGLE (= z notation range restric-
tion);
18776 % whiterightpointingtriangle; \triangleright (LaTeX)
18777 \DeclareTextCommand{\texttriangleright}{PU}{\9045\267}%* U+25B7
18778 % U+25BA BLACK RIGHT-POINTING POINTER; \RHD (wasysym)
18779 \DeclareTextCommand{\textRHD}{PU}{\9045\272}%* U+25BA
18780 % U+25BC BLACK DOWN-POINTING TRIANGLE; \DOWNarrow (wasysym)
18781 \DeclareTextCommand{\textDOWNarrow}{PU}{\9045\274}%* U+25BC
18782 %* \textDOWNarrow -> \MoveDown (marvosym)
18783 % U+25BD WHITE DOWN-POINTING TRIANGLE; whitedownpointingtrian-
gle;
18784 % \bigtriangledown (LaTeX)
18785 \DeclareTextCommand{\textbigtriangledown}{PU}{\9045\275}%* U+25BD
18786 %* \textbigtriangledown -> \APLdown (wasysym)
18787 % U+25C0 BLACK LEFT-POINTING TRIANGLE; \Rewind (marvosym)
18788 \DeclareTextCommand{\textRewind}{PU}{\9045\300}%* U+25C0
18789 % U+25C1 WHITE RIGHT-POINTING TRIANGLE (= z notation domain re-
striction);
18790 % whiteleftpointingtriangle; \triangleleft (LaTeX)
18791 \DeclareTextCommand{\texttriangleleft}{PU}{\9045\301}%* U+25C1
18792 % U+25C4 BLACK LEFT-POINTING POINTER; \LHD (wasysym)
18793 \DeclareTextCommand{\textLHD}{PU}{\9045\304}%* U+25C4
18794 % U+25C7 WHITE DIAMOND; whitediamond; \diamond (LaTeX)
18795 \DeclareTextCommand{\textdiamond}{PU}{\9045\307}%* U+25C7
18796 %* \textdiamond -> \Diamond (wasysym)
18797 % U+25CA LOZENGE; lozenge; \lozenge (AmS)
18798 \DeclareTextCommand{\textlozenge}{PU}{\9045\312}%* U+25CA
18799 % U+25D6 LEFT HALF BLACK CIRCLE; \LEFTCIRCLE (wasysym)
18800 \DeclareTextCommand{\textLEFTCIRCLE}{PU}{\9045\326}%* U+25D6
18801 % U+25D7 RIGHT HALF BLACK CIRCLE; \RIGHTCIRCLE (wasysym)
18802 \DeclareTextCommand{\textRIGHTCIRCLE}{PU}{\9045\327}%* U+25D7
18803 % U+25E6 WHITE BULLET; *openbullet, whitebullet
18804 \DeclareTextCommand{\textopenbullet}{PU}{\9045\346}%* U+25E6
18805 % U+25EB WHITE SQUARE WITH VERTICAL BISECTING LINE;
18806 % \boxbar (stmaryrd)
18807 \DeclareTextCommand{\textboxbar}{PU}{\9045\353}%* U+25EB
18808 % U+25EF LARGE CIRCLE; largecircle
18809 \DeclareTextCommand{\textbigcircle}{PU}{\9045\357}%* U+25EF
18810 %* \textbigcircle -> \varbigcirc (stmaryrd)
18811 %

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46.2.29 Miscellaneous Symbols: U+2600 to U+26FF

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18812 % U+2601 CLOUD; \Cloud (ifsym)
18813 \DeclareTextCommand{\textCloud}{PU}{\9046\001}%* U+2601
18814 % U+2605 BLACK STAR; \FiveStar (bbding)
18815 \DeclareTextCommand{\textFiveStar}{PU}{\9046\005}%* U+2605
18816 % U+2606 WHITE STAR; \FiveStarOpen (bbding)
18817 \DeclareTextCommand{\textFiveStarOpen}{PU}{\9046\006}%* U+2606
18818 % U+260E BLACK TELEPHONE; telephoneblack; \Phone (bbding)
18819 \DeclareTextCommand{\textPhone}{PU}{\9046\016}%* U+260E
18820 %* \textPhone -> \Telefon (marvosym)
18821 % U+2610 BALLOT BOX; \boxempty (stmaryrd)

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18822 \DeclareTextCommand{\textboxempty}{PU}{\9046\020}%* U+2610
18823 %* \textboxempty -> \Box (wasysym)
18824 % U+2611 BALLOT BOX WITH CHECK; \Checkedbox (marvosym)
18825 \DeclareTextCommand{\textCheckedbox}{PU}{\9046\021}%* U+2611
18826 %* \textCheckedbox -> \CheckedBox (marvosym)
18827 % U+2612 BALLOT BOX WITH X; \Crossedbox (marvosym)
18828 \DeclareTextCommand{\textCrossedbox}{PU}{\9046\022}%* U+2612
18829 %* \textCrossedbox -> \XBox (wasysym)
18830 %* \textCrossedbox -> \CrossedBox (marvosym)
18831 % U+2615 HOT BEVERAGE; \Coffeecup (marvosym)
18832 \DeclareTextCommand{\textCoffeecup}{PU}{\9046\025}%* U+2615
18833 % U+261A BLACK LEFT POINTING INDEX; \HandCuffLeft (bbding)
18834 \DeclareTextCommand{\textHandCuffLeft}{PU}{\9046\032}%* U+261A
18835 % U+261B BLACK RIGHT POINTING INDEX; \HandCuffRight (bbding)
18836 \DeclareTextCommand{\textHandCuffRight}{PU}{\9046\033}%* U+261B
18837 % U+261C WHITE LEFT POINTING INDEX; \HandLeft (bbding)
18838 \DeclareTextCommand{\textHandLeft}{PU}{\9046\034}%* U+261C
18839 %* \textHandLeft -> \rightpointleft (fourier)
18840 % U+261E WHITE RIGHT POINTING INDEX; \HandRight (bbding)
18841 \DeclareTextCommand{\textHandRight}{PU}{\9046\036}%* U+261E
18842 %* \textHandRight -> \leftpointright (fourier)
18843 %* \textHandRight -> \PointingHand (marvosym)
18844 %* \textHandRight -> \Pointinghand (marvosym)
18845 % U+2622 RADIOACTIVE SIGN; \Radioactivity (marvosym)
18846 \DeclareTextCommand{\textRadioactivity}{PU}{\9046\042}%* U+2622
18847 %* \textRadioactivity -> \Radiation (ifsym)
18848 % U+2623 BIOHAZARD SIGN; \Biohazard (marvosym)
18849 \DeclareTextCommand{\textBiohazard}{PU}{\9046\043}%* U+2623
18850 % U+2625 ANKH; \Ankh (marvosym)
18851 \DeclareTextCommand{\textAnkh}{PU}{\9046\045}%* U+2625
18852 % U+262F YIN YANG; \YinYang (marvosym)
18853 \DeclareTextCommand{\textYinYang}{PU}{\9046\057}%* U+262F
18854 %* \textYinYang -> \Yinyang (marvosym)
18855 %* \textYinYang -> \YingYang (marvosym)
18856 %* \textYinYang -> \Yingyang (marvosym)
18857 % U+2639 WHITE FROWNING FACE; \frownie (wasysym)
18858 \DeclareTextCommand{\textfrownie}{PU}{\9046\071}%* U+2639
18859 %* \textfrownie -> \Frowny (marvosym)
18860 % U+263A WHITE SMILING FACE; \smiley (wasysym)
18861 \DeclareTextCommand{\textsmiley}{PU}{\9046\072}%* U+263A
18862 %* \textsmiley -> \Smiley (marvosym)
18863 % U+263B BLACK SMILING FACE; \blacksmiley (wasysym)
18864 \DeclareTextCommand{\textblacksmiley}{PU}{\9046\073}%* U+263B
18865 % U+263C WHITE SUN WITH RAYS; \sun (wasysym)
18866 \DeclareTextCommand{\textsun}{PU}{\9046\074}%* U+263C
18867 %* \textsun -> \Sun (marvosym)
18868 % U+263D FIRST QUARTER MOON; \leftmoon (wasysym, mathabx)
18869 \DeclareTextCommand{\textleftmoon}{PU}{\9046\075}%* U+263D
18870 % U+263E LAST QUARTER MOON; \rightmoon (wasysym, mathabx)
18871 \DeclareTextCommand{\textrightmoon}{PU}{\9046\076}%* U+263E
18872 % U+263F MERCURY; \mercury (wasysym)
18873 \DeclareTextCommand{\textmercury}{PU}{\9046\077}%* U+263F
18874 %* \textmercury -> \Mercury (marvosym)
18875 % U+2640 FEMALE SIGN; female; \female (wasysym)

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18876 \DeclareTextCommand{\textPUfemale}{PU}{\9046\100}% U+2640
18877 %* \textPUfemale -> \textfemale (tipx)
18878 %* \textPUfemale -> \female (wasysym)
18879 %* \textPUfemale -> \venus (wasysym)
18880 %* \textPUfemale -> \Venus (marvosym)
18881 %* \textPUfemale -> \Female (marvosym)
18882 % U+2641 EARTH; \earth (wasysym)
18883 \DeclareTextCommand{\textearth}{PU}{\9046\101}%* U+2641
18884 %* \textearth -> \Earth (marvosym)
18885 % U+2642 MALE SIGN; \male, \mars; \male (wasysym)
18886 \DeclareTextCommand{\textmale}{PU}{\9046\102}%* U+2642
18887 %* \textmale -> \mars (wasysym)
18888 %* \textmale -> \Mars (marvosym)
18889 %* \textmale -> \Male (marvosym)
18890 % U+2643 JUPITER; \jupiter (wasysym)
18891 \DeclareTextCommand{\textjupiter}{PU}{\9046\103}%* U+2643
18892 %* \textjupiter -> \Jupiter (marvosym)
18893 % U+2644 SATURN; \saturn (wasysym)
18894 \DeclareTextCommand{\textsaturn}{PU}{\9046\104}%* U+2644
18895 %* \textsaturn -> \Saturn (marvosym)
18896 % U+2645 URANUS; \uranus (wasysym)
18897 \DeclareTextCommand{\texturanus}{PU}{\9046\105}%* U+2645
18898 %* \texturanus -> \Uranus (marvosym)
18899 % U+2646 NEPTUNE; \neptune (wasysym)
18900 \DeclareTextCommand{\textneptune}{PU}{\9046\106}%* U+2646
18901 %* \textneptune -> \Neptune (marvosym)
18902 % U+2647 PLUTO; \pluto (wasysym)
18903 \DeclareTextCommand{\textpluto}{PU}{\9046\107}%* U+2647
18904 %* \textpluto -> \Pluto (marvosym)
18905 % U+2648 ARIES; \aries (wasysym)
18906 \DeclareTextCommand{\textaries}{PU}{\9046\110}%* U+2648
18907 %* \textaries -> \Aries (marvosym)
18908 % U+2649 TAURUS; \taurus (wasysym)
18909 \DeclareTextCommand{\texttaurus}{PU}{\9046\111}%* U+2649
18910 %* \texttaurus -> \Taurus (marvosym)
18911 % U+264A GEMINI; \gemini (wasysym)
18912 \DeclareTextCommand{\textgemini}{PU}{\9046\112}%* U+264A
18913 %* \textgemini -> \Gemini (marvosym)
18914 % U+264B CANCER; \cancer (wasysym)
18915 \DeclareTextCommand{\textcancer}{PU}{\9046\113}%* U+264B
18916 %* \textcancer -> \Cancer (marvosym)
18917 % U+264C LEO; \leo (wasysym)
18918 \DeclareTextCommand{\textleo}{PU}{\9046\114}%* U+264C
18919 %* \textleo -> \Leo (marvosym)
18920 % U+264D VIRGO; \virgo (wasysym)
18921 \DeclareTextCommand{\textvirgo}{PU}{\9046\115}%* U+264D
18922 %* \textvirgo -> \Virgo (marvosym)
18923 % U+264E LIBRA; \libra (wasysym)
18924 \DeclareTextCommand{\textlibra}{PU}{\9046\116}%* U+264E
18925 %* \textlibra -> \Libra (marvosym)
18926 % U+264F SCORPIO; \scorpio (wasysym)
18927 \DeclareTextCommand{\textscorpio}{PU}{\9046\117}%* U+264F
18928 %* \textscorpio -> \Scorpio (marvosym)
18929 % U+2650 SAGITTARIUS; \sagittarius (wasysym)

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18930 \DeclareTextCommand{\textsagittarius}{PU}{\9046\120}%* U+2650
18931 %* \textsagittarius -> \Sagittarius (marvosym)
18932 % U+2651 CAPRICORN; \capricornus (wasysym)
18933 \DeclareTextCommand{\textcapricornus}{PU}{\9046\121}%* U+2651
18934 %* \textcapricornus -> \Capricorn (marvosym)
18935 % U+2652 AQUARIUS; \aquarius (wasysym)
18936 \DeclareTextCommand{\textaquarius}{PU}{\9046\122}%* U+2652
18937 %* \textaquarius -> \Aquarius (marvosym)
18938 % U+2653 PISCES; \pisces (wasysym)
18939 \DeclareTextCommand{\textpisces}{PU}{\9046\123}%* U+2653
18940 %* \textpisces -> \Pisces (marvosym)
18941 % U+2660 BLACK SPADE SUIT; spade, spadesuitblack; \spadesuit (LaTeX)
18942 \DeclareTextCommand{\textspadesuitblack}{PU}{\9046\140}% U+2660
18943 %* \textspadesuitblack -> \spadesuit (MnSymbol)
18944 % U+2661 WHITE HEART SUIT; heartsuitwhite; \heartsuit (LaTeX)
18945 \DeclareTextCommand{\textheartsuitwhite}{PU}{\9046\141}% U+2661
18946 %* \textheartsuitwhite -> \Heart (marvosym)
18947 %* \textheartsuitwhite -> \heartsuit (MnSymbol)
18948 % U+2662 WHITE DIAMOND SUIT; diamondsuitwhite; \diamondsuit (LaTeX)
18949 \DeclareTextCommand{\textdiamondsuitwhite}{PU}{\9046\142}% U+2662
18950 %* \textdiamondsuitwhite -> \diamondsuit (MnSymbol)
18951 % U+2663 BLACK CLUB SUIT; club, clubsuitblack; \clubsuit (LaTeX)
18952 \DeclareTextCommand{\textclubsuitblack}{PU}{\9046\143}% U+2663
18953 %* \textclubsuitblack -> \clubsuit (MnSymbol)
18954 % U+2664 WHITE SPADE SUIT; spadesuitwhite
18955 \DeclareTextCommand{\textspadesuitwhite}{PU}{\9046\144}% U+2664
18956 % U+2665 BLACK HEART SUIT; heartsuitblack, heart
18957 \DeclareTextCommand{\textheartsuitblack}{PU}{\9046\145}% U+2665
18958 % U+2666 BLACK DIAMOND SUIT; diamond
18959 \DeclareTextCommand{\textdiamondsuitblack}{PU}{\9046\146}% U+2666
18960 % U+2667 WHITE CLUB SUIT; clubsuitwhite
18961 \DeclareTextCommand{\textclubsuitwhite}{PU}{\9046\147}% U+2667
18962 % U+2669 QUARTER NOTE; quarternote; \quarternote (wasysym, arev)
18963 \DeclareTextCommand{\textquarternote}{PU}{\9046\151}%* U+2669
18964 % U+266A EIGHTH NOTE; musicalnote; \textmusicalnote (textcomp)
18965 \DeclareTextCommand{\textmusicalnote}{PU}{\9046\152}% U+266A
18966 %* \textmusicalnote -> \eighthnote (wasysym, arev)
18967 % U+266B BEAMED EIGHTH NOTES; eighthnotebeamed; \twonotes (wasysym)
18968 \DeclareTextCommand{\texttwonotes}{PU}{\9046\153}%* U+266B
18969 % U+266C BEAMED SIXTEENTH NOTES; beamedsixteenthnotes; \sixteenth-
note (arev)
18970 \DeclareTextCommand{\textsixteenthnote}{PU}{\9046\154}%* U+266C
18971 % U+266D MUSIC FLAT SIGN; musicflatsign; \flat (LaTeX)
18972 \DeclareTextCommand{\textflat}{PU}{\9046\155}%* U+266D
18973 % U+266E MUSIC NATURAL SIGN; \natural (LaTeX)
18974 \DeclareTextCommand{\textnatural}{PU}{\9046\156}%* U+266E
18975 % U+266F MUSIC SHARP SIGN; musicsharpsign; \sharp (LaTeX)
18976 \DeclareTextCommand{\textsharp}{PU}{\9046\157}%* U+266F
18977 % U+2672 UNIVERSAL RECYCLING SYMBOL; \recycle (recycle)
18978 \DeclareTextCommand{\textrecycle}{PU}{\9046\162}%* U+2672
18979 %* \textrecycle -> \Recycling (marvosym)
18980 % U+267F WHEELCHAIR SYMBOL; \Wheelchair (marvosym)
18981 \DeclareTextCommand{\textWheelchair}{PU}{\9046\177}%* U+267F
18982 % U+2691 BLACK FLAG; \Flag (ifsym)

18983 \DeclareTextCommand{\textFlag}{PU}{\9046\221}%* U+2691
18984 %* \textFlag -> \VarFlag (ifsym)
18985 % U+2692 HAMMER AND PICK; \MineSign (marvosym)
18986 \DeclareTextCommand{\textMineSign}{PU}{\9046\222}%* U+2692
18987 % U+2694 CROSSED SWORDS; \dsmilitary (dictsym)
18988 \DeclareTextCommand{\textdsmilitary}{PU}{\9046\224}%* U+2694
18989 %* \textdsmilitary -> \textxswup (fourier)
18990 % U+2695 STAFF OF AESCULAPIUS; \dsmedical (dictsym)
18991 \DeclareTextCommand{\textdsmedical}{PU}{\9046\225}%* U+2695
18992 % U+2696 SCALES; \dsjuridical (dictsym)
18993 \DeclareTextCommand{\textdsjuridical}{PU}{\9046\226}%* U+2696
18994 % U+2697 ALEMBIC; \dschemical (dictsym)
18995 \DeclareTextCommand{\textdschemical}{PU}{\9046\227}%* U+2697
18996 % U+2698 FLOWER; \dsbiological (dictsym)
18997 \DeclareTextCommand{\textdsbiological}{PU}{\9046\230}%* U+2698
18998 % U+269A STAFF OF HERMES; \dscommercial (dictsym)
18999 \DeclareTextCommand{\textdscommercial}{PU}{\9046\232}%* U+269A
19000 % U+269D OUTLINED WHITE STAR; \manstar (manfnt)
19001 \DeclareTextCommand{\textmanstar}{PU}{\9046\235}%* U+269D
19002 % U+26A0 WARNING SIGN; \danger (fourier)
19003 \DeclareTextCommand{\textdanger}{PU}{\9046\240}%* U+26A0
19004 % U+26A2 DOUBLED FEMALE SIGN; \FemaleFemale (marvosym)
19005 \DeclareTextCommand{\textFemaleFemale}{PU}{\9046\242}%* U+26A2
19006 % U+26A3 DOUBLED MALE SIGN; \MaleMale (marvosym)
19007 \DeclareTextCommand{\textMaleMale}{PU}{\9046\243}%* U+26A3
19008 % U+26A4 INTERLOCKED FEMALE AND MALE SIGN; \FemaleMale (marvosym)
19009 \DeclareTextCommand{\textFemaleMale}{PU}{\9046\244}%* U+26A4
19010 % U+26A5 MALE AND FEMALE SIGN; \Hermaphrodite (marvosym)
19011 \DeclareTextCommand{\textHermaphrodite}{PU}{\9046\245}%* U+26A5
19012 % U+26AA MEDIUM WHITE CIRCLE; \Neural (marvosym)
19013 \DeclareTextCommand{\textNeutral}{PU}{\9046\252}%* U+26AA
19014 % U+26AD MARRIAGE SYMBOL
19015 \DeclareTextCommand{\textmarried}{PU}{\9046\255}% U+26AD
19016 % U+26AE DIVORCE SYMBOL
19017 \DeclareTextCommand{\textdivorced}{PU}{\9046\256}% U+26AE
19018 % U+26B2 NEUTER; \textunconfemale (tipx)
19019 \DeclareTextCommand{\textPUunconfemale}{PU}{\9046\262}% U+26B2
19020 %* \textPUunconfemale -> \textunconfemale (tipx)
19021 % U+26B9 SEXTILE; \hexstar (wasysym)
19022 \DeclareTextCommand{\texthexstar}{PU}{\9046\271}%* U+26B9
19023 % U+26BD SOCCER BALL; \Football (marvosym)
19024 \DeclareTextCommand{\textSoccerBall}{PU}{\9046\275}% U+26BD
19025 %* \textSoccerBall -> \Football (marvosym)
19026 % U+26C5 SUN BEHIND CLOUD; \SunCloud (ifsym)
19027 \DeclareTextCommand{\textSunCloud}{PU}{\9046\305}%* U+26C5
19028 % U+26C6 RAIN; \Rain (ifsym)
19029 \DeclareTextCommand{\textRain}{PU}{\9046\306}%* U+26C6
19030 % U+26D4 NO ENTRY; \noway (fourier)
19031 \DeclareTextCommand{\textnoway}{PU}{\9046\324}%* U+26D4
19032 % U+26F0 MOUNTAIN; \Mountain (ifsym)
19033 \DeclareTextCommand{\textMountain}{PU}{\9046\360}%* U+26F0
19034 % U+26FA TENT; \Tent (ifsym)
19035 \DeclareTextCommand{\textTent}{PU}{\9046\372}%* U+26FA

46.2.30 Dingbats: U+2700 to U+27BF

19036 % U+2701 UPPER BLADE SCISSORS; \ScissorRightBrokenBottom (bding)
19037 \DeclareTextCommand{\textScissorRightBrokenBottom}{PU}{\9047\001}% U+2701
19038 %* \textScissorRightBrokenBottom -> \CutLeft (marvosym)
19039 %* \textScissorRightBrokenBottom -> \Cutright (marvosym)
19040 % U+2702 BLACK SCISSORS; \ScissorRight (bding)
19041 \DeclareTextCommand{\textScissorRight}{PU}{\9047\002}%* U+2702
19042 %* \textScissorRight -> \RightScissors (marvosym)
19043 %* \textScissorRight -> \Leftscissors (marvosym)
19044 % U+2703 LOWER BLADE SCISSORS; \ScissorRightBrokenTop (bding)
19045 \DeclareTextCommand{\textScissorRightBrokenTop}{PU}{\9047\003}%* U+2703
19046 % U+2704 WHITE SCISSORS; \ScissorHollowRight (bding)
19047 \DeclareTextCommand{\textScissorHollowRight}{PU}{\9047\004}%* U+2704
19048 % U+2706 TELEPHONE LOCATION SIGN; \PhoneHandset (bding)
19049 \DeclareTextCommand{\textPhoneHandset}{PU}{\9047\006}%* U+2706
19050 % U+2707 TAPE DRIVE; \Tape (bding)
19051 \DeclareTextCommand{\textTape}{PU}{\9047\007}%* U+2707
19052 % U+2708 AIRPLANE; \Plane (bding)
19053 \DeclareTextCommand{\textPlane}{PU}{\9047\010}%* U+2708
19054 % U+2709 ENVELOPE; \Envelope (bding),
19055 \DeclareTextCommand{\textEnvelope}{PU}{\9047\011}%* U+2709
19056 %* \textEnvelope -> \Letter (marvosym)
19057 % U+270C VICTORY HAND; \Peace (bding)
19058 \DeclareTextCommand{\textPeace}{PU}{\9047\014}%* U+270C
19059 % U+270D WRITING HAND; \WritingHand (marvosym)
19060 \DeclareTextCommand{\textWritingHand}{PU}{\9047\015}%* U+270D
19061 %* \textWritingHand -> \Writinghand (marvosym)
19062 % U+270E LOWER RIGHT PENCIL; \PencilRightDown (bding)
19063 \DeclareTextCommand{\textPencilRightDown}{PU}{\9047\016}%* U+270E
19064 % U+270F PENCIL; \PencilRight (bding)
19065 \DeclareTextCommand{\textPencilRight}{PU}{\9047\017}%* U+270F
19066 % U+2710 UPPER RIGHT PENCIL; \PencilRightUp (bding)
19067 \DeclareTextCommand{\textPencilRightUp}{PU}{\9047\020}%* U+2710
19068 % U+2711 WHITE NIB; \NibRight (bding)
19069 \DeclareTextCommand{\textNibRight}{PU}{\9047\021}%* U+2711
19070 % U+2712 BLACK NIB; \NibSolidRight (bding)
19071 \DeclareTextCommand{\textNibSolidRight}{PU}{\9047\022}%* U+2712
19072 % U+2713 CHECK MARK; checkmark; \Checkmark (bding)
19073 \DeclareTextCommand{\textCheckmark}{PU}{\9047\023}%* U+2713
19074 %* \textCheckmark -> \checkmark (MnSymbol)
19075 % U+2714 HEAVY CHECK MARK; \CheckmarkBold (bding)
19076 \DeclareTextCommand{\textCheckmarkBold}{PU}{\9047\024}%* U+2714
19077 % U+2715 MULTIPLICATION X; \XSolid (bding)
19078 \DeclareTextCommand{\textXSolid}{PU}{\9047\025}%* U+2715
19079 % U+2716 HEAVY MULTIPLICATION X; \XSolidBold (bding)
19080 \DeclareTextCommand{\textXSolidBold}{PU}{\9047\026}%* U+2716
19081 % U+2717 BALLOT X; \XSolidBrush (bding)
19082 \DeclareTextCommand{\textXSolidBrush}{PU}{\9047\027}%* U+2717
19083 % U+2719 OUTLINED GREEK CROSS; \PlusOutline (bding)
19084 \DeclareTextCommand{\textPlusOutline}{PU}{\9047\031}%* U+2719
19085 % U+271A HEAVY GREEK CROSS; \Plus (bding)
19086 \DeclareTextCommand{\textPlus}{PU}{\9047\032}%* U+271A
19087 % U+271B OPEN CENTRE CROSS; \PlusThinCenterOpen (bding)

19088 \DeclareTextCommand{\textPlusThinCenterOpen}{PU}{\9047\033}%* U+271B
19089 % U+271C HEAVY OPEN CENTRE CROSS; \PlusCenterOpen (bding)
19090 \DeclareTextCommand{\textPlusCenterOpen}{PU}{\9047\034}%* U+271C
19091 % U+271D LATIN CROSS; \Cross (bding)
19092 \DeclareTextCommand{\textCross}{PU}{\9047\035}%* U+271D
19093 % U+271E SHADOWED WHITE LATIN CROSS; \CrossOpenShadow (bding)
19094 \DeclareTextCommand{\textCrossOpenShadow}{PU}{\9047\036}%* U+271E
19095 % U+271F OUTLINED LATIN CROSS; \CrossOutline (bding)
19096 \DeclareTextCommand{\textCrossOutline}{PU}{\9047\037}%* U+271F
19097 % U+2720 MALTESE CROSS; \CrossMaltese (bding)
19098 \DeclareTextCommand{\textCrossMaltese}{PU}{\9047\040}%* U+2720
19099 % U+2721 STAR OF DAVID; \DavidStar (bding)
19100 \DeclareTextCommand{\textDavidStar}{PU}{\9047\041}%* U+2721
19101 %* \textDavidStar -> \davidstar (wasysym)
19102 % U+2722 FOUR TEARDROP-SPOKED ASTERISK; \FourAsterisk (bding)
19103 \DeclareTextCommand{\textFourAsterisk}{PU}{\9047\042}%* U+2722
19104 % U+2723 FOUR BALLOON-SPOKED ASTERISK; \JackStar (bding)
19105 \DeclareTextCommand{\textJackStar}{PU}{\9047\043}%* U+2723
19106 % U+2724 HEAVY FOUR BALLOON-SPOKED ASTERISK; \JackStarBold (bding)
19107 \DeclareTextCommand{\textJackStarBold}{PU}{\9047\044}%* U+2724
19108 % U+2725 FOUR CLUB-SPOKED ASTERISK; \CrossClowerTips (bding)
19109 \DeclareTextCommand{\textClowerTips}{PU}{\9047\045}%* U+2725
19110 % U+2726 BLACK FOUR POINTED STAR; \FourStar (bding)
19111 \DeclareTextCommand{\textFourStar}{PU}{\9047\046}%* U+2726
19112 % U+2727 WHITE FOUR POINTED STAR; \FourStarOpen (bding)
19113 \DeclareTextCommand{\textFourStarOpen}{PU}{\9047\047}%* U+2727
19114 % U+272A CIRCLED WHITE STAR; \FiveStarOpenCircled (bding)
19115 \DeclareTextCommand{\textFiveStarOpenCircled}{PU}{\9047\052}%* U+272A
19116 % U+272B OPEN CENTRE BLACK STAR; \FiveStarCenterOpen (bding)
19117 \DeclareTextCommand{\textFiveStarCenterOpen}{PU}{\9047\053}%* U+272B
19118 % U+272C BLACK CENTRE WHITE STAR; \FiveStarOpenDotted (bding)
19119 \DeclareTextCommand{\textFiveStarOpenDotted}{PU}{\9047\054}%* U+272C
19120 % U+272D OUTLINED BLACK STAR; \FiveStarOutline (bding)
19121 \DeclareTextCommand{\textFiveStarOutline}{PU}{\9047\055}%* U+272D
19122 % U+272E HEAVY OUTLINED BLACK STAR; \FiveStarOutlineHeavy (bding)
19123 \DeclareTextCommand{\textFiveStarOutlineHeavy}{PU}{\9047\056}%* U+272E
19124 % U+272F PINWHEEL STAR; \FiveStarConvex (bding)
19125 \DeclareTextCommand{\textFiveStarConvex}{PU}{\9047\057}%* U+272F
19126 % U+2730 SHADOWED WHITE STAR; \FiveStarShadow (bding)
19127 \DeclareTextCommand{\textFiveStarShadow}{PU}{\9047\060}%* U+2730
19128 % U+2731 HEAVY ASTERISK; \AsteriskBold (bding)
19129 \DeclareTextCommand{\textAsteriskBold}{PU}{\9047\061}%* U+2731
19130 % U+2732 OPEN CENTRE ASTERISK; \AsteriskCenterOpen (bding)
19131 \DeclareTextCommand{\textAsteriskCenterOpen}{PU}{\9047\062}%* U+2732
19132 % U+2734 EIGHT POINTED BLACK STAR; \EightStarTaper (bding)
19133 \DeclareTextCommand{\textEightStarTaper}{PU}{\9047\064}%* U+2734
19134 % U+2735 EIGHT POINTED PINWHEEL STAR; \EightStarConvex (bding)
19135 \DeclareTextCommand{\textEightStarConvex}{PU}{\9047\065}%* U+2735
19136 % U+2736 SIX POINTED BLACK STAR; \SixStar (bding)
19137 \DeclareTextCommand{\textSixStar}{PU}{\9047\066}%* U+2736
19138 % U+2737 EIGHT POINTED RECTILINEAR BLACK STAR; \EightStar (bding)
19139 \DeclareTextCommand{\textEightStar}{PU}{\9047\067}%* U+2737

19140 % U+2738 HEAVY EIGHT POINTED RECTILINEAR BLACK STAR; \EightStarBold (bding)
 19141 \DeclareTextCommand{\textEightStarBold}{PU}{\9047\070}%* U+2738
 19142 % U+2739 TWELVE POINTED BLACK STAR; \TwelveStar (bding)
 19143 \DeclareTextCommand{\textTwelveStar}{PU}{\9047\071}%* U+2739
 19144 % U+273A SIXTEEN POINTED ASTERISK; \SixteenStarLight (bding)
 19145 \DeclareTextCommand{\textSixteenStarLight}{PU}{\9047\072}%* U+273A
 19146 % U+273B TEARDROP-SPOKED ASTERISK; \SixFlowerPetalRemoved (bding)
 19147 \DeclareTextCommand{\textSixFlowerPetalRemoved}{PU}{\9047\073}%* U+273B
 19148 % U+273C OPEN CENTRE TEARDROP-SPOKED ASTERISK;
 19149 % \SixFlowerOpenCenter (bding)
 19150 \DeclareTextCommand{\textSixFlowerOpenCenter}{PU}{\9047\074}%* U+273C
 19151 % U+273D HEAVY TEARDROP-SPOKED ASTERISK; \Asterisk (bding)
 19152 \DeclareTextCommand{\textAsterisk}{PU}{\9047\075}%* U+273D
 19153 % U+273E SIX PETALLED BLACK AND WHITE FLORETTE; \SixFlowerAlternate (bding)
 19154 \DeclareTextCommand{\textSixFlowerAlternate}{PU}{\9047\076}%* U+273E
 19155 % U+273F BLACK FLORETTE; \FiveFlowerPetal (bding)
 19156 \DeclareTextCommand{\textFiveFlowerPetal}{PU}{\9047\077}%* U+273F
 19157 % U+2740 WHITE FLORETTE; \FiveFlowerOpen (bding)
 19158 \DeclareTextCommand{\textFiveFlowerOpen}{PU}{\9047\100}%* U+2740
 19159 % U+2741 EIGHT PETALLED OUTLINED BLACK FLORETTE; \EightFlowerPetal (bding)
 19160 \DeclareTextCommand{\textEightFlowerPetal}{PU}{\9047\101}%* U+2741
 19161 % U+2742 CIRCLED OPEN CENTRE EIGHT POINTED STAR; \SunshineOpenCircled (bding)
 19162 \DeclareTextCommand{\textSunshineOpenCircled}{PU}{\9047\102}%* U+2742
 19163 % U+2743 HEAVY TEARDROP-SPOKED PINWHEEL ASTERISK; \SixFlowerAltPetal (bding)
 19164 \DeclareTextCommand{\textSixFlowerAltPetal}{PU}{\9047\103}%* U+2743
 19165 % U+2744 SNOWFLAKE; \SnowflakeChevron (bding)
 19166 \DeclareTextCommand{\textSnowflakeChevron}{PU}{\9047\104}%* U+2744
 19167 % U+2745 TIGHT TRIFOLIATE SNOWFLAKE; \Snowflake (bding)
 19168 \DeclareTextCommand{\textSnowflake}{PU}{\9047\105}%* U+2745
 19169 % U+2746 HEAVY CHEVRON SNOWFLAKE; \SnowflakeChevronBold (bding)
 19170 \DeclareTextCommand{\textSnowflakeChevronBold}{PU}{\9047\106}%* U+2746
 19171 % U+2747 SPARKLE; \Sparkle (bding)
 19172 \DeclareTextCommand{\textSparkle}{PU}{\9047\107}%* U+2747
 19173 % U+2748 HEAVY SPARKLE; \SparkleBold (bding)
 19174 \DeclareTextCommand{\textSparkleBold}{PU}{\9047\110}%* U+2748
 19175 % U+2749 BALLOON-SPOKED ASTERISK; \AsteriskRoundedEnds (bding)
 19176 \DeclareTextCommand{\textAsteriskRoundedEnds}{PU}{\9047\111}%* U+2749
 19177 % U+274A EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;
 19178 % \EightFlowerPetalRemoved (bding)
 19179 \DeclareTextCommand{\textEightFlowerPetalRemoved}{PU}{\9047\112}%* U+274A
 19180 % U+274B HEAVY EIGHT TEARDROP-SPOKED PROPELLER ASTERISK;
 19181 % \EightAsterisk (bding)
 19182 \DeclareTextCommand{\textEightAsterisk}{PU}{\9047\113}%* U+274B
 19183 % U+274D SHADOWED WHITE CIRCLE; \CircleShadow (bding)
 19184 \DeclareTextCommand{\textCircleShadow}{PU}{\9047\115}%* U+274D
 19185 % U+274F LOWER RIGHT DROP-SHADOWED WHITE SQUARE;
 19186 % \SquareShadowBottomRight (bding)
 19187 \DeclareTextCommand{\textSquareShadowBottomRight}{PU}{\9047\117}%* U+274F

19188 % U+2750 UPPER RIGHT DROP-SHADOWED WHITE SQUARE;
 19189 % \SquareShadowTopRight (bbding)
 19190 \DeclareTextCommand{\textSquareTopRight}{PU}{\9047\120}%* U+2750
 19191 % U+2751 LOWER RIGHT SHADOWED WHITE SQUARE;
 19192 % \SquareCastShadowBottomRight (bbding)
 19193 \DeclareTextCommand{\textSquareCastShadowBottomRight}{PU}{\9047\121}%* U+2751
 19194 % U+2752 UPPER RIGHT SHADOWED WHITE SQUARE;
 19195 % \SquareCastShadowTopRight (bbding)
 19196 \DeclareTextCommand{\textSquareCastShadowTopRight}{PU}{\9047\122}%* U+2752
 19197 % U+2756 BLACK DIAMOND MINUS WHITE X; \OrnamentDiamandSolid (bb-
 ding)
 19198 \DeclareTextCommand{\textDiamandSolid}{PU}{\9047\126}%* U+2756
 19199 % U+2758 LIGHT VERTICAL BAR; \RectangleThin (bbding)
 19200 \DeclareTextCommand{\textRectangleThin}{PU}{\9047\130}%* U+2758
 19201 % U+2759 MEDIUM VERTICAL BAR; \Rectangle (bbding)
 19202 \DeclareTextCommand{\textRectangle}{PU}{\9047\131}%* U+2759
 19203 % U+275A HEAVY VERTICAL BAR; \RectangleBold (bbding)
 19204 \DeclareTextCommand{\textRectangleBold}{PU}{\9047\132}%* U+275A

46.2.31 Miscellaneous Mathematical Symbols-A: U+27C0 to U+27EF

19205 % U+27C2 PERPENDICULAR; perpendicular; \perp (LaTeX)
 19206 \DeclareTextCommand{\textperp}{PU}{\9047\302}%* U+27C2
 19207 % \notperp (mathabx)
 19208 \DeclareTextCommand{\textnotperp}{PU}{\9047\302\83\070}%* U+27C2 U+0338
 19209 % U+27C7 OR WITH DOT INSIDE; \veedot (MnSymbol)
 19210 \DeclareTextCommand{\textveedot}{PU}{\9047\307}%* U+27C7
 19211 % U+27D1 AND WITH DOT; \wedgedot (MnSymbol)
 19212 \DeclareTextCommand{\textwedgedot}{PU}{\9047\321}%* U+27D1
 19213 % U+27DC LEFT MULTIMAP; \leftspoon (MnSymbol)
 19214 \DeclareTextCommand{\textleftspoon}{PU}{\9047\334}%* U+27DC
 19215 % U+27E6 MATHEMATICAL LEFT WHITE SQUARE BRACKET
 19216 \DeclareTextCommand{\textlbrackdbl}{PU}{\9047\346}%* U+27E6
 19217 %* \textlbrackdbl -> \llbracket (stmaryrd)
 19218 % U+27E7 MATHEMATICAL RIGHT WHITE SQUARE BRACKET
 19219 \DeclareTextCommand{\textrbrackdbl}{PU}{\9047\347}%* U+27E7
 19220 %* \textrbrackdbl -> \rrbracket (stmaryrd)

46.2.32 Supplemental Arrows-A: U+27F0 to U+27FF

19221 % U+27F2 ANTICLOCKWISE GAPPED CIRCLE ARROW;
 19222 % \circlearrowleft (AmS)
 19223 \DeclareTextCommand{\textcirclearrowleft}{PU}{\9047\362}%* U+27F2
 19224 % U+27F3 CLOCKWISE GAPPED CIRCLE ARROW; \circlearrowright (AmS)
 19225 \DeclareTextCommand{\textcirclearrowright}{PU}{\9047\363}%* U+27F3
 19226 % U+27F5 LONG LEFTWARDS ARROW; \longleftarrow (AmS)
 19227 \DeclareTextCommand{\textlongleftarrow}{PU}{\9047\365}%* U+27F5
 19228 % U+27F6 LONG RIGHTWARDS ARROW; \longrightarrow (AmS)
 19229 \DeclareTextCommand{\textlongrightarrow}{PU}{\9047\366}%* U+27F6
 19230 % U+27F7 LONG LEFT RIGHT ARROW; \longlefttrightarrow (AmS)
 19231 \DeclareTextCommand{\textlonglefttrightarrow}{PU}{\9047\367}%* U+27F7
 19232 % U+27F8 LONG LEFTWARDS DOUBLE ARROW; \Longleftarrow (AmS)
 19233 \DeclareTextCommand{\textLongleftarrow}{PU}{\9047\370}%* U+27F8
 19234 % U+27F9 LONG RIGHTWARDS DOUBLE ARROW; \Longrightarrow (AmS)
 19235 \DeclareTextCommand{\textLongrightarrow}{PU}{\9047\371}%* U+27F9
 19236 % U+27FA LONG LEFT RIGHT DOUBLE ARROW; \Longlefttrightarrow (AmS)

19237 \DeclareTextCommand{\textLongleftarrow}{PU}{\9047\372}%* U+27FA
 19238 % U+27FC LONG RIGHTWARDS ARROW FROM BAR; \longmapsto (AmS)
 19239 \DeclareTextCommand{\textlongmapsto}{PU}{\9047\374}%* U+27FC
 19240 % U+27FD LONG LEFTWARDS DOUBLE ARROW FROM BAR; \Longmaps-
 from (stmaryrd)
 19241 \DeclareTextCommand{\textLongmapsfrom}{PU}{\9047\375}%* U+27FD
 19242 % U+27FE LONG RIGHTWARDS DOUBLE ARROW FROM BAR; \Longmap-
 sto (stmaryrd)
 19243 \DeclareTextCommand{\textLongmapsto}{PU}{\9047\376}%* U+27FE

46.2.33 Supplemental Arrows-B: U+2900 to U+297F

19244 % U+2921 NORTH WEST AND SOUTH EAST ARROW; \nwsearrow (MnSym-
 bol)
 19245 \DeclareTextCommand{\textnwsearrow}{PU}{\9051\041}%* U+2921
 19246 % U+2922 NORTH EAST AND SOUTH WEST ARROW; \neswarrow (MnSym-
 bol)
 19247 \DeclareTextCommand{\textneswarrow}{PU}{\9051\042}%* U+2922
 19248 % U+2923 NORTH WEST ARROW WITH HOOK; \hooknwarrow (MnSymbol)
 19249 \DeclareTextCommand{\texthooknwarrow}{PU}{\9051\043}%* U+2923
 19250 % U+2924 NORTH EAST ARROW WITH HOOK; \hooknearrow (MnSymbol)
 19251 \DeclareTextCommand{\textrhooknearrow}{PU}{\9051\044}%* U+2924
 19252 % U+2925 SOUTH EAST ARROW WITH HOOK; \hooksearrow (MnSymbol)
 19253 \DeclareTextCommand{\texthooksearrow}{PU}{\9051\045}%* U+2925
 19254 % U+2926 SOUTH WEST ARROW WITH HOOK; \hookswarrow (MnSymbol)
 19255 \DeclareTextCommand{\textrhookswarrow}{PU}{\9051\046}%* U+2926
 19256 % U+2933 WAVE ARROW POINTING DIRECTLY RIGHT; \leadsto (wasysym)
 19257 \DeclareTextCommand{\textleadsto}{PU}{\9051\063}%* U+2933
 19258 % U+2934 ARROW POINTING RIGHTWARDS THEN CURVING UPWARDS;
 19259 % \rcurvearrowne (MnSymbol)
 19260 \DeclareTextCommand{\textrcurvearrowne}{PU}{\9051\064}%* U+2934
 19261 % U+2935 ARROW POINTING RIGHTWARDS THEN CURVING DOWN-
 WARDS;
 19262 % \lcurvearrowse (MnSymbol)
 19263 \DeclareTextCommand{\textlcurvearrowse}{PU}{\9051\065}%* U+2935
 19264 % U+2936 ARROW POINTING DOWNWARDS THEN CURVING LEFT-
 WARDS;
 19265 % \lcurvearrowsw (MnSymbol)
 19266 \DeclareTextCommand{\textlcurvearrowsw}{PU}{\9051\066}%* U+2936
 19267 % U+2937 ARROW POINTING DOWNWARDS THEN CURVING RIGHT-
 WARDS;
 19268 % \rcurvearrowse (MnSymbol)
 19269 \DeclareTextCommand{\textrcurvearrowse}{PU}{\9051\067}%* U+2937
 19270 % U+2938 RIGHT-SIDE ARC CLOCKWISE ARROW; \lcurvearrowdown (Mn-
 Symbol)
 19271 \DeclareTextCommand{\textlcurvearrowdown}{PU}{\9051\070}%* U+2938
 19272 %* \textlcurvearrowdown -> \RightTorque (marvosym)
 19273 %* \textlcurvearrowdown -> \Righttorque (marvosym)
 19274 % U+2939 LEFT-SIDE ARC ANTICLOCKWISE ARROW;
 19275 % \rcurvearrowdown (MnSymbol)
 19276 \DeclareTextCommand{\textrcurvearrowdown}{PU}{\9051\071}%* U+2939
 19277 %* \textrcurvearrowdown -> \LeftTorque (marvosym)
 19278 %* \textrcurvearrowdown -> \Lefttorque (marvosym)
 19279 % U+293A TOP ARC ANTICLOCKWISE ARROW; \rcurvearrowleft (MnSym-
 bol)

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19280 \DeclareTextCommand{\texttrcurvearrowleft}{PU}{\9051\072}%* U+293A
19281 % U+293B BOTTOM ARC ANTICLOCKWISE ARROW;
19282 % \rcurvearrowright (MnSymbol)
19283 \DeclareTextCommand{\texttrcurvearrowright}{PU}{\9051\073}%* U+293B
19284 % U+294A LEFT BARB UP RIGHT BARB DOWN HARPOON; \leftrightharpoon (mathabx)
19285 \DeclareTextCommand{\textleftrightharpoon}{PU}{\9051\112}%* U+294A
19286 % U+294B LEFT BARB DOWN RIGHT BARB UP HARPOON; \rightleftharpoon (mathabx)
19287 \DeclareTextCommand{\textrightleftharpoon}{PU}{\9051\113}%* U+294B
19288 % U+294C UP BARB RIGHT DOWN BARB LEFT HARPOON;
19289 % \updownharpoonrightleft (MnSymbol)
19290 \DeclareTextCommand{\textupdownharpoonrightleft}{PU}{\9051\114}%* U+294C
19291 % U+294D UP BARB LEFT DOWN BARB RIGHT HARPOON;
19292 % \updownharpoonleftright (MnSymbol)
19293 \DeclareTextCommand{\textupdownharpoonleftright}{PU}{\9051\115}%* U+294D
19294 % U+2962 LEFTWARDS HARPOON WITH BARB UP ABOVE LEFTWARDS
19295 % HARPOON WITH BARB DOWN; \leftleftharpoons (mathabx)
19296 \DeclareTextCommand{\textleftleftharpoons}{PU}{\9051\142}%* U+2962
19297 % U+2963 UPWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS
19298 % HARPOON WITH BARB RIGHT; \upupharpoons (mathabx)
19299 \DeclareTextCommand{\textupupharpoons}{PU}{\9051\143}%* U+2963
19300 % U+2964 RIGHTWARDS HARPOON WITH BARB UP ABOVE RIGHTWARDS HARPOON
19301 % WITH BARB DOWN; \rightrightharpoons (mathabx)
19302 \DeclareTextCommand{\textrightrightharpoons}{PU}{\9051\144}%* U+2964
19303 % U+2965 DOWNWARDS HARPOON WITH BARB LEFT BESIDE DOWNWARDS HARPOON
19304 % WITH BARB RIGHT; \downdownharpoons (mathabx)
19305 \DeclareTextCommand{\textdowndownharpoons}{PU}{\9051\145}%* U+2965
19306 % U+296A LEFTWARDS HARPOON WITH BARB UP ABOVE LONG DASH;
19307 % \leftbarharpoon (mathabx)
19308 \DeclareTextCommand{\textleftbarharpoon}{PU}{\9051\152}%* U+296A
19309 % U+296B LEFTWARDS HARPOON WITH BARB DOWN BELOW
19310 % LONG DASH; \barleftharpoon (mathabx)
19311 \DeclareTextCommand{\textbarleftharpoon}{PU}{\9051\153}%* U+296B
19312 % U+296C RIGHTWARDS HARPOON WITH BARB UP ABOVE
19313 % LONG DASH; \rightbarharpoon (mathabx)
19314 \DeclareTextCommand{\textrightbarharpoon}{PU}{\9051\154}%* U+296C
19315 % U+296D RIGHTWARDS HARPOON WITH BARB DOWN BELOW
19316 % LONG DASH; \barrightharpoon (mathabx)
19317 \DeclareTextCommand{\textbarrightharpoon}{PU}{\9051\155}%* U+296D
19318 % U+296E UPWARDS HARPOON WITH BARB LEFT BESIDE DOWNWARDS HARPOON
19319 % WITH BARB RIGHT; \updownharpoons (mathabx)
19320 \DeclareTextCommand{\textupdownharpoons}{PU}{\9051\156}%* U+296E
19321 % U+296F DOWNWARDS HARPOON WITH BARB LEFT BESIDE UPWARDS HARPOON
19322 % WITH BARB RIGHT; \downupharpoons (mathabx)
19323 \DeclareTextCommand{\textdownupharpoons}{PU}{\9051\157}%* U+296F
19324 % U+297F DOWN FISH TAIL
19325 \DeclareTextCommand{\textmoo}{PU}{\9051\177\83\066}%* U+297F U+0336

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46.2.34 Miscellaneous Mathematical Symbols-B: U+2980 to U+29FF

19326 % U+2987 Z NOTATION LEFT IMAGE BRACKET; \lparenthesis (stmaryrd)
 19327 \DeclareTextCommand{\textlparenthesis}{PU}{\9051\207}%* U+2987
 19328 % U+2988 Z NOTATION RIGHT IMAGE BRACKET; \rrparenthesis (stmaryrd)
 19329 \DeclareTextCommand{\textrrparenthesis}{PU}{\9051\210}%* U+2988
 19330 % U+29B0 REVERSED EMPTY SET; \invdiameter (wasysym)
 19331 \DeclareTextCommand{\textinvdiameter}{PU}{\9051\260}%* U+29B0
 19332 % U+29B6 CIRCLED VERTICAL BAR; \obar (stmaryrd)
 19333 \DeclareTextCommand{\textobar}{PU}{\9051\266}%* U+29B6
 19334 %* \textobar -> \textvarobar (stmaryrd)
 19335 % U+29B8 CIRCLED REVERSE SOLIDUS; \obslash (stmaryrd)
 19336 \DeclareTextCommand{\textobslash}{PU}{\9051\270}%* U+29B8
 19337 %* \textobslash -> \circledbslash (txfonts/pxfonts)
 19338 %* \textobslash -> \obackslash (mathabx)
 19339 %* \textobslash -> \varobslash (stmaryrd)
 19340 % U+29BA CIRCLE DIVIDED BY HORIZONTAL BAR AND TOP HALF
 19341 % DIVIDED BY VERTICAL BAR; \obot (mathabx)
 19342 \DeclareTextCommand{\textobot}{PU}{\9051\272}%* U+29BA
 19343 %* \textobot -> \odplus (ulsy)
 19344 % U+29BB CIRCLE WITH SUPERIMPOSED X; \NoChemicalCleaning (marvosym)
 19345 \DeclareTextCommand{\textNoChemicalCleaning}{PU}{\9051\273}%* U+29BB
 19346 % U+29C0 CIRCLED LESS-THAN; \olessthan (stmaryrd)
 19347 \DeclareTextCommand{\textolessthan}{PU}{\9051\300}%* U+29C0
 19348 %* \textolessthan -> \varolessthan (stmaryrd)
 19349 % U+29C1 CIRCLED GREATER-THAN; \ogreaterthan (stmaryrd)
 19350 \DeclareTextCommand{\textogreaterthan}{PU}{\9051\301}%* U+29C1
 19351 %* \textogreaterthan -> \varogreaterthan (stmaryrd)
 19352 % U+29C4 SQUARED RISING DIAGONAL SLASH; \boxslash (mathabx, stmaryrd)
 19353 \DeclareTextCommand{\textboxslash}{PU}{\9051\304}%* U+29C4
 19354 % U+29C5 SQUARED FALLING DIAGONAL SLASH; \boxbslash (stmaryrd)
 19355 \DeclareTextCommand{\textboxbslash}{PU}{\9051\305}%* U+29C5
 19356 % U+29C6 SQUARED ASTERISK; \boxast (stmaryrd)
 19357 \DeclareTextCommand{\textboxast}{PU}{\9051\306}%* U+29C6
 19358 % U+29C7 SQUARED SMALL CIRCLE; \boxcircle (stmaryrd)
 19359 \DeclareTextCommand{\textboxcircle}{PU}{\9051\307}%* U+29C7
 19360 % U+29C8 SQUARED SQUARE; \boxbox (stmaryrd)
 19361 \DeclareTextCommand{\textboxbox}{PU}{\9051\310}%* U+29C8
 19362 % U+29D3 BLACK BOWTIE; \Valve (marvosym)
 19363 \DeclareTextCommand{\textValve}{PU}{\9051\323}%* U+29D3
 19364 % U+29DF DOUBLE-ENDED MULTIMAP; \multimapboth (txfonts/pxfonts)
 19365 \DeclareTextCommand{\textmultimapboth}{PU}{\9051\337}%* U+29DF
 19366 % U+29E2 SHUFFLE PRODUCT; \shuffle (shuffle)
 19367 \DeclareTextCommand{\textshuffle}{PU}{\9051\342}%* U+29E2

46.2.35 Supplemental Mathematical Operators: U+2A00 to U+2AFF

19368 % U+2A04 N-ARY UNION OPERATOR WITH PLUS; \uplus (LaTeX)
 19369 \DeclareTextCommand{\textuplus}{PU}{\9052\004}%* U+2A04
 19370 % U+2A07 TWO LOGICAL AND OPERATOR; \bigdoublewedge (MnSymbol)
 19371 \DeclareTextCommand{\textbigdoublewedge}{PU}{\9052\007}%* U+2A07
 19372 % U+2A08 TWO LOGICAL OR OPERATOR; \bigdoublevee (MnSymbol)
 19373 \DeclareTextCommand{\textbigdoublevee}{PU}{\9052\010}%* U+2A08
 19374 % U+2A1D JOIN; \Join (latexsym, amsfonts, amssymb, mathabx, txfonts,
 19375 % pxfonts, wasysym)
 19376 \DeclareTextCommand{\textJoin}{PU}{\9052\035}%* U+2A1D

19377 % U+2A1F Z NOTATION SCHEMA COMPOSITION; \fatsemi (stmaryrd)
 19378 \DeclareTextCommand{\textfatsemi}{PU}{\9052\037}%* U+2A1F
 19379 % U+2A22 PLUS SIGN WITH SMALL CIRCLE ABOVE; \circplus (mathabx)
 19380 \DeclareTextCommand{\textcircplus}{PU}{\9052\042}%* U+2A22
 19381 % U+2A2A MINUS SIGN WITH DOT BELOW; \minusdot (MnSymbol)
 19382 \DeclareTextCommand{\textminusdot}{PU}{\9052\052}%* U+2A2A
 19383 %* \textminusdot -> \divdot (mathabx)
 19384 % U+2A30 MULTIPLICATION SIGN WITH DOT ABOVE; \dottimes (mathabx)
 19385 \DeclareTextCommand{\textdottimes}{PU}{\9052\060}%* U+2A30
 19386 % U+2A32 SEMIDIRECT PRODUCT WITH BOTTOM CLOSED;
 19387 % \dtimes (mathdesign)
 19388 \DeclareTextCommand{\textdtimes}{PU}{\9052\062}%* U+2A32
 19389 % U+2A38 CIRCLED DIVISION SIGN; \odiv (mathabx)
 19390 \DeclareTextCommand{\textodiv}{PU}{\9052\070}%* U+2A38
 19391 % U+2A3C INTERIOR PRODUCT; \invneg (MnSymbol)
 19392 \DeclareTextCommand{\textinvneg}{PU}{\9052\074}%* U+2A3C
 19393 % U+2A4E DOUBLE SQUARE INTERSECTION; \sqdoublecap (mathabx)
 19394 \DeclareTextCommand{\textsqdoublecap}{PU}{\9052\116}%* U+2A4E
 19395 %* \textsqdoublecap -> \doublesqcap (MnSymbol)
 19396 % U+2A40 INTERSECTION WITH DOT; \capdot (MnSymbol)
 19397 \DeclareTextCommand{\textcapdot}{PU}{\9052\100}%* U+2A40
 19398 % U+2A4F DOUBLE SQUARE UNION; \sqdoublecup (mathabx)
 19399 \DeclareTextCommand{\textsqdoublecup}{PU}{\9052\117}%* U+2A4F
 19400 %* \textsqdoublecup -> \doublesqcup (MnSymbol)
 19401 % U+2A55 TWO INTERSECTING LOGICAL AND; \doublewedge (MnSymbol)
 19402 \DeclareTextCommand{\textdoublewedge}{PU}{\9052\125}%* U+2A55
 19403 % U+2A56 TWO INTERSECTING LOGICAL OR; \doublevee (MnSymbol)
 19404 \DeclareTextCommand{\textdoublevee}{PU}{\9052\126}%* U+2A56
 19405 %* \textdoublevee -> \merge (stmaryrd)
 19406 % U+2A5E LOGICAL AND WITH DOUBLE OVERBAR;
 19407 % \doublebarwedge (AmS)
 19408 \DeclareTextCommand{\textdoublebarwedge}{PU}{\9052\136}%* U+2A5E
 19409 % U+2A63 LOGICAL OR WITH DOUBLE UNDERBAR;
 19410 % \veedoublebar (mahtabx)
 19411 \DeclareTextCommand{\textveedoublebar}{PU}{\9052\143}%* U+2A63
 19412 % U+2A66 EQUALS SIGN WITH DOT BELOW; \eqdot (MnSymbol)
 19413 \DeclareTextCommand{\texteqdot}{PU}{\9052\146}%* U+2A66
 19414 % \neqdot (MnSymbol)
 19415 \DeclareTextCommand{\textneqdot}{PU}{\9052\146\83\070}%* U+2A66 U+0338
 19416 % U+2A74 DOUBLE COLON EQUAL; \coloncolonequals (colonequals)
 19417 \DeclareTextCommand{\textcoloncolonequals}{PU}{\9052\164}%* U+2A74
 19418 % U+2A7D LESS-THAN OR SLANTED EQUAL TO; \leqslant (AmS)
 19419 \DeclareTextCommand{\textleqslant}{PU}{\9052\175}%* U+2A7D
 19420 % \nleqslant (txfonts/pxfonts)
 19421 \DeclareTextCommand{\textnleqslant}{PU}{\9052\175\83\070}%* U+2A7D U+0338
 19422 % U+2A7E GREATER-THAN OR SLANTED EQUAL TO; \geqslant (AmS)
 19423 \DeclareTextCommand{\textgeqslant}{PU}{\9052\176}%* U+2A7E
 19424 % \ngeqslant (txfonts/pxfonts)
 19425 \DeclareTextCommand{\textngeqslant}{PU}{\9052\176\83\070}%* U+2A7E U+0338
 19426 % U+2A85 LESS-THAN OR APPROXIMATE; \lessapprox (AmS)
 19427 \DeclareTextCommand{\textlessapprox}{PU}{\9052\205}%* U+2A85
 19428 % \nlessapprox (txfonts/pxfonts)
 19429 \DeclareTextCommand{\textnlessapprox}{PU}{\9052\205\83\070}%* U+2A85 U+0338
 19430 % U+2A86 GREATER-THAN OR APPROXIMATE; \gtrapprox (AmS)

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19431 \DeclareTextCommand{\textgtrapprox}{PU}{\9052\206}%* U+2A86
19432 % \ngtrapprox (txfonts/pxfonts)
19433 \DeclareTextCommand{\textngtrapprox}{PU}{\9052\206\83\070}%* U+2A86 U+0338
19434 % U+2A87 LESS-THAN AND SINGLE-LINE NOT EQUAL TO; \lneq (AmS)
19435 \DeclareTextCommand{\textlneq}{PU}{\9052\207}%* U+2A87
19436 % U+2A88 GREATER-THAN AND SINGLE-LINE NOT EQUAL TO;
19437 % \gneq (AmS)
19438 \DeclareTextCommand{\textgneq}{PU}{\9052\210}%* U+2A88
19439 % U+2A89 LESS-THAN AND NOT APPROXIMATE; \lnapprox (AmS)
19440 \DeclareTextCommand{\textlnapprox}{PU}{\9052\211}%* U+2A89
19441 % U+2A8A GREATER-THAN AND NOT APPROXIMATE; \gnapprox (AmS)
19442 \DeclareTextCommand{\textgnapprox}{PU}{\9052\212}%* U+2A8A
19443 % U+2A8B LESS-THAN ABOVE DOUBLE-LINE EQUAL ABOVE GREATER-
    THAN;
19444 % \lesseqqgtr (AmS)
19445 \DeclareTextCommand{\textlesseqqgtr}{PU}{\9052\213}%* U+2A8B
19446 % U+2A8C GREATER-THAN ABOVE DOUBLE-LINE EQUAL ABOVE LESS-
    THAN;
19447 % \gtreqless (AmS)
19448 \DeclareTextCommand{\textgtreqless}{PU}{\9052\214}%* U+2A8C
19449 % U+2A95 SLANTED EQUAL TO OR LESS-THAN; \eqslantless (AmS)
19450 \DeclareTextCommand{\texteqslantless}{PU}{\9052\225}%* U+2A95
19451 % U+2A96 SLANTED EQUAL TO OR GREATER-THAN; \eqslantgtr (AmS)
19452 \DeclareTextCommand{\texteqslantgtr}{PU}{\9052\226}%* U+2A96
19453 % U+2AA6 LESS-THAN CLOSED BY CURVE; \leftslice (stmaryrd)
19454 \DeclareTextCommand{\textleftslice}{PU}{\9052\246}%* U+2AA6
19455 % U+2AA7 GREATER-THAN CLOSED BY CURVE; \rightslice (stmaryrd)
19456 \DeclareTextCommand{\textright slice}{PU}{\9052\247}%* U+2AA7
19457 % U+2AAF PRECEDES ABOVE SINGLE-LINE EQUALS SIGN; \preceq (Mn-
    Symbol)
19458 \DeclareTextCommand{\textpreceq}{PU}{\9052\257}%* U+2AAF
19459 % \npreceq (txfonts/pxfonts)
19460 \DeclareTextCommand{\textnpreceq}{PU}{\9052\257\83\070}%* U+2AAF U+0338
19461 % U+2AB0 SUCCEEDS ABOVE SINGLE-LINE EQUALS SIGN; \succeq (Mn-
    Symbol)
19462 \DeclareTextCommand{\textsucceq}{PU}{\9052\260}%* U+2AB0
19463 % \nsucceq (txfonts/pxfonts)
19464 \DeclareTextCommand{\textnsucceq}{PU}{\9052\260\83\070}%* U+2AB0 U+0338
19465 % U+2AB1 PRECEDES ABOVE SINGLE-LINE NOT EQUAL TO; \prec-
    neq (mathabx)
19466 \DeclareTextCommand{\textprecneq}{PU}{\9052\261}%* U+2AB1
19467 % U+2AB2 SUCCEEDS ABOVE SINGLE-LINE NOT EQUAL TO; \succ-
    neq (mathabx)
19468 \DeclareTextCommand{\textsuccneq}{PU}{\9052\262}%* U+2AB2
19469 % U+2AB3 PRECEDES ABOVE EQUALS SIGN; \preceqq (txfonts/pxfonts)
19470 \DeclareTextCommand{\textpreceqq}{PU}{\9052\263}%* U+2AB3
19471 % \npreceqq (txfonts/pxfonts)
19472 \DeclareTextCommand{\textnpreceqq}{PU}{\9052\263\83\070}%* U+2AB3 U+0338
19473 % U+2AB4 SUCCEEDS ABOVE EQUALS SIGN; \succeqq (txfonts/pxfonts)
19474 \DeclareTextCommand{\textsucceqq}{PU}{\9052\264}%* U+2AB4
19475 % \nsucceqq (txfonts/pxfonts)
19476 \DeclareTextCommand{\textnsucceqq}{PU}{\9052\264\83\070}%* U+2AB4 U+0338
19477 % U+2AB5 PRECEDES ABOVE NOT EQUAL TO; \precneqq (txfonts/pxfonts)
19478 \DeclareTextCommand{\textprecneqq}{PU}{\9052\265}%* U+2AB5

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19479 % U+2AB6 SUCCEEDS ABOVE NOT EQUAL TO; \succneqq (txfonts/pxfonts)
 19480 \DeclareTextCommand{\textsuccneqq}{PU}{\9052\266}%* U+2AB6
 19481 % U+2AB7 PRECEDES ABOVE ALMOST EQUAL TO; \precapprox (AmS)
 19482 \DeclareTextCommand{\textprecapprox}{PU}{\9052\267}%* U+2AB7
 19483 % \nprecapprox (txfonts/pxfonts)
 19484 \DeclareTextCommand{\textnprecapprox}{PU}{\9052\267\83\070}%* U+2AB7 U+0338
 19485 % U+2AB8 SUCCEEDS ABOVE ALMOST EQUAL TO; \succapprox (AmS)
 19486 \DeclareTextCommand{\textsuccapprox}{PU}{\9052\270}%* U+2AB8
 19487 % \nsuccapprox (txfonts/pxfonts)
 19488 \DeclareTextCommand{\textnsuccapprox}{PU}{\9052\270\83\070}%* U+2AB8 U+0338
 19489 % U+2AB9 PRECEDES ABOVE NOT ALMOST EQUAL TO; \precnapprox (AmS)
 19490 \DeclareTextCommand{\textprecnapprox}{PU}{\9052\271}%* U+2AB9
 19491 % U+2ABA SUCCEEDS ABOVE NOT ALMOST EQUAL TO; \succnapprox (AmS)
 19492 \DeclareTextCommand{\textsuccnapprox}{PU}{\9052\272}%* U+2ABA
 19493 % U+2AC5 SUBSET OF ABOVE EQUALS SIGN; \subseteqq (AmS)
 19494 \DeclareTextCommand{\textsubseteqq}{PU}{\9052\305}%* U+2AC5
 19495 % \nsubseteqq (txfonts/pxfonts, mathabx)
 19496 \DeclareTextCommand{\textnsubseteqq}{PU}{\9052\305\83\070}%* U+2AC5 U+0338
 19497 % U+2AC6 SUPERSET OF ABOVE EQUALS SIGN; \supseteqq (AmS)
 19498 \DeclareTextCommand{\textsupseteqq}{PU}{\9052\306}%* U+2AC6
 19499 % \nsupseteqq (mathabx)
 19500 \DeclareTextCommand{\textnsupseteqq}{PU}{\9052\306\83\070}%* U+2AC6 U+0338
 19501 % U+2AE3 DOUBLE VERTICAL BAR LEFT TURNSTILE
 19502 \DeclareTextCommand{\textdashV}{PU}{\9052\343}%* U+2AE3
 19503 %* \textdashV -> \leftVdash (MnSymbol)
 19504 % \ndashV (mathabx)
 19505 \DeclareTextCommand{\textndashV}{PU}{\9052\343\83\070}%* U+2AE3 U+0338
 19506 %* \textndashV -> \nleftVdash (MnSymbol)
 19507 % U+2AE4 VERTICAL BAR DOUBLE LEFT TURNSTILE; \Dashv (mathabx)
 19508 \DeclareTextCommand{\textDashv}{PU}{\9052\344}%* U+2AE4
 19509 %* \textDashv -> \leftmodels (MnSymbol)
 19510 % \nDashv (mathabx)
 19511 \DeclareTextCommand{\textnDashv}{PU}{\9052\344\83\070}%* U+2AE4 U+0338
 19512 %* \textnDashv -> \nleftmodels (MnSymbol)
 19513 % U+2AE5 DOUBLE VERTICAL BAR DOUBLE LEFT TURNSTILE;
 19514 % \DashV (mathabx)
 19515 \DeclareTextCommand{\textDashV}{PU}{\9052\345}%* U+2AE5
 19516 %* \textDashV -> \leftModels (MnSymbol)
 19517 % \nDashV (mathabx)
 19518 \DeclareTextCommand{\textnDashV}{PU}{\9052\345\83\070}%* U+2AE5 U+0338
 19519 %* \textnDashV -> \nleftModels (MnSymbol)
 19520 % U+2AEA DOUBLE DOWN TACK; \downmodels (MnSymbol)
 19521 \DeclareTextCommand{\textdownmodels}{PU}{\9052\352}%* U+2AEA
 19522 % \ndownmodels (MnSymbol)
 19523 \DeclareTextCommand{\textndownmodels}{PU}{\9052\352\83\070}%* U+2AEA U+0338
 19524 % U+2AEB DOUBLE UP TACK; \upmodels (MnSymbol)
 19525 \DeclareTextCommand{\textupmodels}{PU}{\9052\353}%* U+2AEB
 19526 % \nupmodels (MnSymbol)
 19527 \DeclareTextCommand{\textnupmodels}{PU}{\9052\353\83\070}%* U+2AEB U+0338
 19528 % U+2AEF VERTICAL LINE WITH CIRCLE ABOVE; \upspoon (MnSymbol)
 19529 \DeclareTextCommand{\textupspoon}{PU}{\9052\357}%* U+2AEF
 19530 % U+2AF4 TRIPLE VERTICAL BAR BINARY RELATION;

19531 % \interleave (stmaryrd)
 19532 \DeclareTextCommand{\textinterleave}{PU}{\9052\364}%* U+2AF4
 19533 % U+2AFD DOUBLE SOLIDUS OPERATOR; \slash (stmaryrd)
 19534 \DeclareTextCommand{\textsslash}{PU}{\9052\375}%* U+2AFD
 19535 %* \textsslash -> \varparallel (txfonts\pxfonts)

46.2.36 Miscellaneous Symbols and Arrows: U+2B00 to U+2BFF

19536 % U+2B20 WHITE PENTAGON; \pentagon (wasysym)
 19537 \DeclareTextCommand{\textpentagon}{PU}{\9053\040}%* U+2B20
 19538 % U+2B21 WHITE HEXAGON; \varhexagon (wasysym)
 19539 \DeclareTextCommand{\textvarhexagon}{PU}{\9053\041}%* U+2B21

46.2.37 Latin Extended-C: U+2C60 to U+2C7F

19540 % U+2C7C LATIN SUBSCRIPT SMALL LETTER J
 19541 \DeclareTextCommand{\textjinferior}{PU}{\9054\174}%* U+2C7C

46.2.38 Supplemental Punctuation: U+2E00 to U+2E7F

19542 % U+2E13 DOTTED OBELOS; \slashdiv (MnSymbol)
 19543 \DeclareTextCommand{\textslashdiv}{PU}{\9056\023}%* U+2E13
 19544 % U+2E18 INVERTED INTERROBANG; \textinterrobangdown (textcomp)
 19545 \DeclareTextCommand{\textinterrobangdown}{PU}{\9056\030}% U+2E18
 19546 % U+2E2D FIVE DOT MARK; \fivedots (MnSymbol)
 19547 \DeclareTextCommand{\textfivedots}{PU}{\9056\055}%* U+2E2D

46.2.39 Modifier Tone Letters: U+A700 to U+A71F

19548 % U+A71B MODIFIER LETTER RAISED UP ARROW; \textupstep (tipa)
 19549 \DeclareTextCommand{\textupstep}{PU}{\9247\033}% U+A71B
 19550 % U+A71C MODIFIER LETTER RAISED DOWN ARROW;
 19551 % \textdownstep (tipa)
 19552 \DeclareTextCommand{\textdownstep}{PU}{\9247\034}% U+A71C

46.2.40 Latin Extended-D: U+A720 to U+A7FF

19553 % U+A727 LATIN SMALL LETTER HENG; \textheng (tipx)
 19554 \DeclareTextCommand{\textPUheng}{PU}{\9247\047}% U+A727
 19555 %* \textPUheng -> \textheng (tipx)
 19556 % U+A72C LATIN CAPITAL LETTER CUATRILLO; \textlhookfour (tipx)
 19557 \DeclareTextCommand{\textPULhookfour}{PU}{\9247\054}% U+A72C
 19558 %* \textPULhookfour -> \textlhookfour (tipx)
 19559 % U+A730 LATIN LETTER SMALL CAPITAL F; \textscf (tipx)
 19560 \DeclareTextCommand{\textPUscf}{PU}{\9247\060}% U+A730
 19561 %* \textPUscf -> \textscf (tipx)
 19562 % U+A735 LATIN SMALL LETTER AO; \textao lig (tipx)
 19563 \DeclareTextCommand{\textPUaolig}{PU}{\9247\065}% U+A735
 19564 %* \textPUaolig -> \textao lig (tipx)
 19565 % U+A74F LATIN SMALL LETTER OO; \oo (wsuipa)
 19566 \DeclareTextCommand{\textoo}{PU}{\9247\117}%* U+A74F
 19567 % U+A788 MODIFIER LETTER LOW CIRCUMFLEX ACCENT
 19568 \DeclareTextCommand{\textcircumlowlow}{PU}{\9247\210}% U+A788

46.2.41 Alphabetic Presentation Forms: U+FB00 to U+FB4F

19569 % U+FB01 LATIN SMALL LIGATURE FI; fi
 19570 \DeclareTextCommand{\textfi}{PU}{\9373\001}% U+FB01
 19571 % U+FB02 LATIN SMALL LIGATURE FL; fl
 19572 \DeclareTextCommand{\textfl}{PU}{\9373\002}% U+FB02

46.2.42 Musical Symbols: U+1D100 to U+1D1FF

19573 % U+1D13B MUSICAL SYMBOL WHOLE REST; \GaPa (harmony)
19574 \DeclareTextCommand{\textGaPa}{PU}{\9330\064\9335\073}%* U+1D13B
19575 % U+1D13C MUSICAL SYMBOL HALF REST; \HaPa (harmony)
19576 \DeclareTextCommand{\textHaPa}{PU}{\9330\064\9335\074}%* U+1D13C
19577 % U+1D13D MUSICAL SYMBOL QUARTER REST; \ViPa (harmony)
19578 \DeclareTextCommand{\textViPa}{PU}{\9330\064\9335\075}%* U+1D13D
19579 % U+1D13E MUSICAL SYMBOL EIGHTH REST; \AcPa (harmony)
19580 \DeclareTextCommand{\textAcPa}{PU}{\9330\064\9335\076}%* U+1D13E
19581 % U+1D13F MUSICAL SYMBOL SIXTEENTH REST; \SePa (harmony)
19582 \DeclareTextCommand{\textSePa}{PU}{\9330\064\9335\077}%* U+1D13F
19583 % U+1D140 MUSICAL SYMBOL THIRTY-SECOND REST; \ZwPa (harmony)
19584 \DeclareTextCommand{\textZwPa}{PU}{\9330\064\9335\100}%* U+1D140
19585 % U+1D15D MUSICAL SYMBOL WHOLE NOTE; \fullnote (wasysym)
19586 \DeclareTextCommand{\textfullnote}{PU}{\9330\064\9335\135}%* U+1D15D
19587 %* \textfullnote -> \Ganz (harmony)
19588 % U+1D15E MUSICAL SYMBOL HALF NOTE; \halfnote (wasysym)
19589 \DeclareTextCommand{\texthalfnote}{PU}{\9330\064\9335\136}%* U+1D15E
19590 %* \texthalfnote -> \Halb (harmony)
19591 % U+1D15F MUSICAL SYMBOL QUARTER NOTE; \Vier (harmony)
19592 \DeclareTextCommand{\textVier}{PU}{\9330\064\9335\137}%* U+1D15F
19593 % U+1D160 MUSICAL SYMBOL EIGHTH NOTE; \Acht (harmony)
19594 \DeclareTextCommand{\textAcht}{PU}{\9330\064\9335\140}%* U+1D160
19595 % U+1D161 MUSICAL SYMBOL SIXTEENTH NOTE; \Sech (harmony)
19596 \DeclareTextCommand{\textSech}{PU}{\9330\064\9335\141}%* U+1D161
19597 % U+1D162 MUSICAL SYMBOL THIRTY-SECOND NOTE; \Zwdr (harmony)
19598 \DeclareTextCommand{\textZwdr}{PU}{\9330\064\9335\142}%* U+1D162

46.2.43 Miscellaneous Symbols and Pictographs: U+1F300 to U+1F5FF

19599 % U+1F30D EARTH GLOBE EUROPE-AFRICA; \Mundus (marvosym)
19600 \DeclareTextCommand{\textMundus}{PU}{\9330\074\9337\015}%* U+1F30D
19601 % U+1F319 CRESCENT MOON; \Moon (marvosym)
19602 \DeclareTextCommand{\textMoon}{PU}{\9330\074\9337\031}%* U+1F319
19603 % U+1F468 MAN; \ManFace (marvosym)
19604 \DeclareTextCommand{\textManFace}{PU}{\9330\075\9334\150}%* U+1F468
19605 % U+1F469 WOMAN; \WomanFace (marvosym)
19606 \DeclareTextCommand{\textWomanFace}{PU}{\9330\075\9334\151}%* U+1F469
19607 %* \textWomanFace -> \Womanface (marvosym)
19608 % U+1F4E0 FAX MACHINE; \Fax (marvosym)
19609 \DeclareTextCommand{\textFax}{PU}{\9330\075\9334\340}%* U+1F4E0
19610 %* \textFax -> \Faxmachine (marvosym)
19611 % U+1F525 FIRE; \Fire (ifsym)
19612 \DeclareTextCommand{\textFire}{PU}{\9330\075\9335\045}%* U+1F525

46.2.44 Transport and Map Symbols: U+1F680 to U+1F6FF

19613 % U+1F6B2 BICYCLE; \Bicycle (marvosym)
19614 \DeclareTextCommand{\textBicycle}{PU}{\9330\075\9336\262}%* U+1F6B2
19615 % U+1F6B9 MENS SYMBOL; \Gentsroom (marvosym)
19616 \DeclareTextCommand{\textGentsroom}{PU}{\9330\075\9336\271}%* U+1F6B9
19617 % U+1F6BA WOMENS SYMBOL; \Ladiesroom (marvosym)
19618 \DeclareTextCommand{\textLadiesroom}{PU}{\9330\075\9336\272}%* U+1F6BA

46.2.45 Miscellaneous

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19619 \DeclareTextCommand{\SS}{PU}{SS}%
19620 % \textcopyleft (textcomp)
19621 \DeclareTextCommand{\textcopyleft}{PU}{\9041\204\9040\335}% U+2184 U+20DD
19622 % \ccnc (ccllicenses)
19623 \DeclareTextCommand{\textccnc}{PU}{\80\044\9040\340}%* U+0024 U+20E0
19624 % \ccnd (ccllicenses)
19625 \DeclareTextCommand{\textccnd}{PU}{=\9040\335}%* U+003D U+20DD
19626 % \ccsa (ccllicenses)
19627 \DeclareTextCommand{\textccsa}{PU}{\9047\362\9040\335}%* U+27F2 U+20DD
19628 % \Info (marvosym, china2e)
19629 \DeclareTextCommand{\textInfo}{PU}{\9330\065\9334\042\9040\336}%* U+1D422 U+20DE
19630 % \CESign (marvosym)
19631 \DeclareTextCommand{\textCESign}{PU}{\80\103\80\105}%* U+0043 U+0045
19632 %* \textCESign -> \CESign (marvosym)

```

46.2.46 Aliases

Aliases (german.sty)

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19633 \DeclareTextCommand{\textglqq}{PU}{\quotedblbase}%
19634 \DeclareTextCommand{\textgrqq}{PU}{\textquotedblleft}%
19635 \DeclareTextCommand{\textglq}{PU}{\quotesinglbase}%
19636 \DeclareTextCommand{\textgrq}{PU}{\textquoteleft}%
19637 \DeclareTextCommand{\textflqq}{PU}{\guillemetleft}%
19638 \DeclareTextCommand{\textfrqq}{PU}{\guillemetright}%
19639 \DeclareTextCommand{\textflq}{PU}{\guilsinglleft}%
19640 \DeclareTextCommand{\textfrq}{PU}{\guilsinglright}%

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Aliases (math names)

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19641 \DeclareTextCommand{\textneg}{PU}{\textlogicalnot}%*
19642 \DeclareTextCommand{\texttimes}{PU}{\textmultiply}%*
19643 \DeclareTextCommand{\textdiv}{PU}{\textdivide}%*
19644 \DeclareTextCommand{\textpm}{PU}{\textplusminus}%*
19645 \DeclareTextCommand{\textcdot}{PU}{\textperiodcentered}%*
19646 </puenc>

```

46.3 PU encoding, additions for VnTeX

This file is provided by Han The Thanh.

```

19647 <*puvnenc>
19648 \DeclareTextCommand{\abreve}{PU}{\81\003}% U+0103
19649 \DeclareTextCommand{\acircumflex}{PU}{\80\342}% U+00E2
19650 \DeclareTextCommand{\ecircumflex}{PU}{\80\352}% U+00EA
19651 \DeclareTextCommand{\ocircumflex}{PU}{\80\364}% U+00F4
19652 \DeclareTextCommand{\ohorn}{PU}{\81\241}% U+01A1
19653 \DeclareTextCommand{\uhorn}{PU}{\81\260}% U+01B0
19654 \DeclareTextCommand{\ABREVE}{PU}{\81\002}% U+0102
19655 \DeclareTextCommand{\ACIRCUMFLEX}{PU}{\80\302}% U+00C2
19656 \DeclareTextCommand{\ECIRCUMFLEX}{PU}{\80\312}% U+00CA
19657 \DeclareTextCommand{\OCIRCUMFLEX}{PU}{\80\324}% U+00D4
19658 \DeclareTextCommand{\OHORN}{PU}{\81\240}% U+01A0
19659 \DeclareTextCommand{\UHORN}{PU}{\81\257}% U+01AF
19660 \DeclareTextCompositeCommand{\'}{PU}{a}{\80\341}% U+00E1
19661 \DeclareTextCompositeCommand{\d}{PU}{a}{\9036\241}% U+1EA1

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19662 \DeclareTextCompositeCommand{\`}{PU}{a}{\80\340}% U+00E0
 19663 \DeclareTextCompositeCommand{\h}{PU}{a}{\9036\243}% U+1EA3
 19664 \DeclareTextCompositeCommand{\~}{PU}{a}{\80\343}% U+00E3
 19665 \DeclareTextCompositeCommand{\'}{PU}{\abreve}{\9036\257}% U+1EAF
 19666 \DeclareTextCompositeCommand{\d}{PU}{\abreve}{\9036\267}% U+1EB7
 19667 \DeclareTextCompositeCommand{\`}{PU}{\abreve}{\9036\261}% U+1EB1
 19668 \DeclareTextCompositeCommand{\h}{PU}{\abreve}{\9036\263}% U+1EB3
 19669 \DeclareTextCompositeCommand{\~}{PU}{\abreve}{\9036\265}% U+1EB5
 19670 \DeclareTextCompositeCommand{\'}{PU}{\acircumflex}{\9036\245}% U+1EA5
 19671 \DeclareTextCompositeCommand{\d}{PU}{\acircumflex}{\9036\255}% U+1EAD
 19672 \DeclareTextCompositeCommand{\`}{PU}{\acircumflex}{\9036\247}% U+1EA7
 19673 \DeclareTextCompositeCommand{\h}{PU}{\acircumflex}{\9036\251}% U+1EA9
 19674 \DeclareTextCompositeCommand{\~}{PU}{\acircumflex}{\9036\253}% U+1EAB
 19675 \DeclareTextCompositeCommand{\'}{PU}{e}{\80\351}% U+00E9
 19676 \DeclareTextCompositeCommand{\d}{PU}{e}{\9036\271}% U+1EB9
 19677 \DeclareTextCompositeCommand{\`}{PU}{e}{\80\350}% U+00E8
 19678 \DeclareTextCompositeCommand{\h}{PU}{e}{\9036\273}% U+1EBB
 19679 \DeclareTextCompositeCommand{\~}{PU}{e}{\9036\275}% U+1EBD
 19680 \DeclareTextCompositeCommand{\'}{PU}{\ecircumflex}{\9036\277}% U+1EBF
 19681 \DeclareTextCompositeCommand{\d}{PU}{\ecircumflex}{\9036\307}% U+1EC7
 19682 \DeclareTextCompositeCommand{\`}{PU}{\ecircumflex}{\9036\301}% U+1EC1
 19683 \DeclareTextCompositeCommand{\h}{PU}{\ecircumflex}{\9036\303}% U+1EC3
 19684 \DeclareTextCompositeCommand{\~}{PU}{\ecircumflex}{\9036\305}% U+1EC5
 19685 \DeclareTextCompositeCommand{\'}{PU}{i}{\80\355}% U+00ED
 19686 \DeclareTextCompositeCommand{\d}{PU}{i}{\9036\313}% U+1ECB
 19687 \DeclareTextCompositeCommand{\`}{PU}{i}{\80\354}% U+00EC
 19688 \DeclareTextCompositeCommand{\h}{PU}{i}{\9036\311}% U+1EC9
 19689 \DeclareTextCompositeCommand{\~}{PU}{i}{\81\051}% U+0129
 19690 \DeclareTextCompositeCommand{\'}{PU}{o}{\80\363}% U+00F3
 19691 \DeclareTextCompositeCommand{\d}{PU}{o}{\9036\315}% U+1ECD
 19692 \DeclareTextCompositeCommand{\`}{PU}{o}{\80\362}% U+00F2
 19693 \DeclareTextCompositeCommand{\h}{PU}{o}{\9036\317}% U+1ECF
 19694 \DeclareTextCompositeCommand{\~}{PU}{o}{\80\365}% U+00F5
 19695 \DeclareTextCompositeCommand{\'}{PU}{\ocircumflex}{\9036\321}% U+1ED1
 19696 \DeclareTextCompositeCommand{\d}{PU}{\ocircumflex}{\9036\331}% U+1ED9
 19697 \DeclareTextCompositeCommand{\`}{PU}{\ocircumflex}{\9036\323}% U+1ED3
 19698 \DeclareTextCompositeCommand{\h}{PU}{\ocircumflex}{\9036\325}% U+1ED5
 19699 \DeclareTextCompositeCommand{\~}{PU}{\ocircumflex}{\9036\327}% U+1ED7
 19700 \DeclareTextCompositeCommand{\'}{PU}{\ohorn}{\9036\333}% U+1EDB
 19701 \DeclareTextCompositeCommand{\d}{PU}{\ohorn}{\9036\343}% U+1EE3
 19702 \DeclareTextCompositeCommand{\`}{PU}{\ohorn}{\9036\335}% U+1EDD
 19703 \DeclareTextCompositeCommand{\h}{PU}{\ohorn}{\9036\337}% U+1EDF
 19704 \DeclareTextCompositeCommand{\~}{PU}{\ohorn}{\9036\341}% U+1EE1
 19705 \DeclareTextCompositeCommand{\'}{PU}{u}{\80\372}% U+00FA
 19706 \DeclareTextCompositeCommand{\d}{PU}{u}{\9036\345}% U+1EE5
 19707 \DeclareTextCompositeCommand{\`}{PU}{u}{\80\371}% U+00F9
 19708 \DeclareTextCompositeCommand{\h}{PU}{u}{\9036\347}% U+1EE7
 19709 \DeclareTextCompositeCommand{\~}{PU}{u}{\81\151}% U+0169
 19710 \DeclareTextCompositeCommand{\'}{PU}{\uhorn}{\9036\351}% U+1EE9
 19711 \DeclareTextCompositeCommand{\d}{PU}{\uhorn}{\9036\361}% U+1EF1
 19712 \DeclareTextCompositeCommand{\`}{PU}{\uhorn}{\9036\353}% U+1EEB
 19713 \DeclareTextCompositeCommand{\h}{PU}{\uhorn}{\9036\355}% U+1EED
 19714 \DeclareTextCompositeCommand{\~}{PU}{\uhorn}{\9036\357}% U+1EEF
 19715 \DeclareTextCompositeCommand{\'}{PU}{y}{\80\375}% U+00FD

19716 \DeclareTextCompositeCommand{\d}{PU}{y}{\9036\365}% U+1EF5
19717 \DeclareTextCompositeCommand{\`}{PU}{y}{\9036\363}% U+1EF3
19718 \DeclareTextCompositeCommand{\h}{PU}{y}{\9036\367}% U+1EF7
19719 \DeclareTextCompositeCommand{\~}{PU}{y}{\9036\371}% U+1EF9
19720 \DeclareTextCompositeCommand{\'}{PU}{A}{\80\301}% U+00C1
19721 \DeclareTextCompositeCommand{\d}{PU}{A}{\9036\240}% U+1EA0
19722 \DeclareTextCompositeCommand{\`}{PU}{A}{\80\300}% U+00C0
19723 \DeclareTextCompositeCommand{\h}{PU}{A}{\9036\242}% U+1EA2
19724 \DeclareTextCompositeCommand{\~}{PU}{A}{\80\303}% U+00C3
19725 \DeclareTextCompositeCommand{\'}{PU}{\ABREVE}{\9036\256}% U+1EAE
19726 \DeclareTextCompositeCommand{\d}{PU}{\ABREVE}{\9036\266}% U+1EB6
19727 \DeclareTextCompositeCommand{\`}{PU}{\ABREVE}{\9036\260}% U+1EB0
19728 \DeclareTextCompositeCommand{\h}{PU}{\ABREVE}{\9036\262}% U+1EB2
19729 \DeclareTextCompositeCommand{\~}{PU}{\ABREVE}{\9036\264}% U+1EB4
19730 \DeclareTextCompositeCommand{\'}{PU}{\ACIRCUMFLEX}{\9036\244}% U+1EA4
19731 \DeclareTextCompositeCommand{\d}{PU}{\ACIRCUMFLEX}{\9036\254}% U+1EAC
19732 \DeclareTextCompositeCommand{\`}{PU}{\ACIRCUMFLEX}{\9036\246}% U+1EA6
19733 \DeclareTextCompositeCommand{\h}{PU}{\ACIRCUMFLEX}{\9036\250}% U+1EA8
19734 \DeclareTextCompositeCommand{\~}{PU}{\ACIRCUMFLEX}{\9036\252}% U+1EAA
19735 \DeclareTextCompositeCommand{\'}{PU}{E}{\80\311}% U+00C9
19736 \DeclareTextCompositeCommand{\d}{PU}{E}{\9036\270}% U+1EB8
19737 \DeclareTextCompositeCommand{\`}{PU}{E}{\80\310}% U+00C8
19738 \DeclareTextCompositeCommand{\h}{PU}{E}{\9036\272}% U+1EBA
19739 \DeclareTextCompositeCommand{\~}{PU}{E}{\9036\274}% U+1EBC
19740 \DeclareTextCompositeCommand{\'}{PU}{\ECIRCUMFLEX}{\9036\276}% U+1EBE
19741 \DeclareTextCompositeCommand{\d}{PU}{\ECIRCUMFLEX}{\9036\306}% U+1EC6
19742 \DeclareTextCompositeCommand{\`}{PU}{\ECIRCUMFLEX}{\9036\300}% U+1EC0
19743 \DeclareTextCompositeCommand{\h}{PU}{\ECIRCUMFLEX}{\9036\302}% U+1EC2
19744 \DeclareTextCompositeCommand{\~}{PU}{\ECIRCUMFLEX}{\9036\304}% U+1EC4
19745 \DeclareTextCompositeCommand{\'}{PU}{I}{\80\315}% U+00CD
19746 \DeclareTextCompositeCommand{\d}{PU}{I}{\9036\312}% U+1ECA
19747 \DeclareTextCompositeCommand{\`}{PU}{I}{\80\314}% U+00CC
19748 \DeclareTextCompositeCommand{\h}{PU}{I}{\9036\310}% U+1EC8
19749 \DeclareTextCompositeCommand{\~}{PU}{I}{\81\050}% U+0128
19750 \DeclareTextCompositeCommand{\'}{PU}{O}{\80\323}% U+00D3
19751 \DeclareTextCompositeCommand{\d}{PU}{O}{\9036\314}% U+1ECC
19752 \DeclareTextCompositeCommand{\`}{PU}{O}{\80\322}% U+00D2
19753 \DeclareTextCompositeCommand{\h}{PU}{O}{\9036\316}% U+1ECE
19754 \DeclareTextCompositeCommand{\~}{PU}{O}{\80\325}% U+00D5
19755 \DeclareTextCompositeCommand{\'}{PU}{\OCIRCUMFLEX}{\9036\320}% U+1ED0
19756 \DeclareTextCompositeCommand{\d}{PU}{\OCIRCUMFLEX}{\9036\330}% U+1ED8
19757 \DeclareTextCompositeCommand{\`}{PU}{\OCIRCUMFLEX}{\9036\322}% U+1ED2
19758 \DeclareTextCompositeCommand{\h}{PU}{\OCIRCUMFLEX}{\9036\324}% U+1ED4
19759 \DeclareTextCompositeCommand{\~}{PU}{\OCIRCUMFLEX}{\9036\326}% U+1ED6
19760 \DeclareTextCompositeCommand{\'}{PU}{\OHORN}{\9036\332}% U+1EDA
19761 \DeclareTextCompositeCommand{\d}{PU}{\OHORN}{\9036\342}% U+1EE2
19762 \DeclareTextCompositeCommand{\`}{PU}{\OHORN}{\9036\334}% U+1EDC
19763 \DeclareTextCompositeCommand{\h}{PU}{\OHORN}{\9036\336}% U+1EDE
19764 \DeclareTextCompositeCommand{\~}{PU}{\OHORN}{\9036\340}% U+1EE0
19765 \DeclareTextCompositeCommand{\'}{PU}{U}{\80\332}% U+00DA
19766 \DeclareTextCompositeCommand{\d}{PU}{U}{\9036\344}% U+1EE4
19767 \DeclareTextCompositeCommand{\`}{PU}{U}{\80\331}% U+00D9
19768 \DeclareTextCompositeCommand{\h}{PU}{U}{\9036\346}% U+1EE6
19769 \DeclareTextCompositeCommand{\~}{PU}{U}{\81\150}% U+0168

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19770 \DeclareTextCompositeCommand{\'}{PU}{\UHORN}{\9036\350}% U+1EE8
19771 \DeclareTextCompositeCommand{\d}{PU}{\UHORN}{\9036\360}% U+1EF0
19772 \DeclareTextCompositeCommand{\`}{PU}{\UHORN}{\9036\352}% U+1EEA
19773 \DeclareTextCompositeCommand{\h}{PU}{\UHORN}{\9036\354}% U+1EEC
19774 \DeclareTextCompositeCommand{\~}{PU}{\UHORN}{\9036\356}% U+1EEE
19775 \DeclareTextCompositeCommand{\'}{PU}{Y}{\80\335}% U+00DD
19776 \DeclareTextCompositeCommand{\d}{PU}{Y}{\9036\364}% U+1EF4
19777 \DeclareTextCompositeCommand{\`}{PU}{Y}{\9036\362}% U+1EF2
19778 \DeclareTextCompositeCommand{\h}{PU}{Y}{\9036\366}% U+1EF6
19779 \DeclareTextCompositeCommand{\~}{PU}{Y}{\9036\370}% U+1EF8
19780 </p>

```

46.4 PU encoding, additions for Arabi

This file is provided and maintained by Youssef Jabri.

```

19781 (*puarenc)
19782 % U+0621;afii57409;ARABIC LETTER HAMZA
19783 \DeclareTextCommand{\hamza}{PU}{\86\041}% U+0621
19784 % U+0622;afii57410;ARABIC LETTER ALEF WITH MADDA ABOVE
19785 \DeclareTextCommand{\alefmadda}{PU}{\86\042}% U+0622
19786 % U+0623;afii57411;ARABIC LETTER ALEF WITH HAMZA ABOVE
19787 \DeclareTextCommand{\alefhamza}{PU}{\86\043}% U+0623
19788 % U+0624;afii57412;ARABIC LETTER WAW WITH HAMZA ABOVE
19789 \DeclareTextCommand{\wawhamza}{PU}{\86\044}% U+0624
19790 % U+0625;afii57413;ARABIC LETTER ALEF WITH HAMZA BELOW
19791 \DeclareTextCommand{\aleflowerhamza}{PU}{\86\045}% U+0625
19792 % U+0626;afii57414;ARABIC LETTER YEH WITH HAMZA ABOVE
19793 \DeclareTextCommand{\yahamza}{PU}{\86\046}% U+0626
19794 % U+0627;afii57415;ARABIC LETTER ALEF
19795 \DeclareTextCommand{\alef}{PU}{\86\047}% U+0627
19796 % U+0628;afii57416;ARABIC LETTER BEH
19797 \DeclareTextCommand{\baa}{PU}{\86\050}% U+0628
19798 % U+0629;afii57417;ARABIC LETTER TEH MARBUTA
19799 \DeclareTextCommand{\T}{PU}{\86\051}% U+0629
19800 % U+062A;afii57418;ARABIC LETTER TEH
19801 \DeclareTextCommand{\taa}{PU}{\86\052}% U+062A
19802 % U+062B;afii57419;ARABIC LETTER THEH
19803 \DeclareTextCommand{\thaa}{PU}{\86\053}% U+062B
19804 % U+062C;afii57420;ARABIC LETTER JEEM
19805 \DeclareTextCommand{\jeem}{PU}{\86\054}% U+062C
19806 % U+062D;afii57421;ARABIC LETTER HAH
19807 \DeclareTextCommand{\Haa}{PU}{\86\055}% U+062D
19808 % U+062E;afii57422;ARABIC LETTER KHAH
19809 \DeclareTextCommand{\kha}{PU}{\86\056}% U+062E
19810 % U+062F;afii57423;ARABIC LETTER DAL
19811 \DeclareTextCommand{\dal}{PU}{\86\057}% U+062F
19812 % U+0630;afii57424;ARABIC LETTER THAL
19813 \DeclareTextCommand{\dhal}{PU}{\86\060}% U+0630
19814 % U+0631;afii57425;ARABIC LETTER REH
19815 \DeclareTextCommand{\ra}{PU}{\86\061}% U+0631
19816 % U+0632;afii57426;ARABIC LETTER ZAIN
19817 \DeclareTextCommand{\zay}{PU}{\86\062}% U+0632
19818 % U+0633;afii57427;ARABIC LETTER SEEN

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19819 \DeclareTextCommand{\seen}{PU}{\86\063}% U+0633
 19820 % U+0634;afii57428;ARABIC LETTER SHEEN
 19821 \DeclareTextCommand{\sheen}{PU}{\86\064}% U+0634
 19822 % U+0635;afii57429;ARABIC LETTER SAD
 19823 \DeclareTextCommand{\sad}{PU}{\86\065}% U+0635
 19824 % U+0636;afii57430;ARABIC LETTER DAD
 19825 \DeclareTextCommand{\dad}{PU}{\86\066}% U+0636
 19826 % U+0637;afii57431;ARABIC LETTER TAH
 19827 \DeclareTextCommand{\Ta}{PU}{\86\067}% U+0637
 19828 % U+0638;afii57432;ARABIC LETTER ZAH
 19829 \DeclareTextCommand{\za}{PU}{\86\070}% U+0638
 19830 % U+0639;afii57433;ARABIC LETTER AIN
 19831 \DeclareTextCommand{\ayn}{PU}{\86\071}% U+0639
 19832 % U+063A;afii57434;ARABIC LETTER GHAIN
 19833 \DeclareTextCommand{\ghayn}{PU}{\86\072}% U+063A
 19834 % U+0640;afii57440;ARABIC TATWEEL
 19835 \DeclareTextCommand{\tatweel}{PU}{\86\100}% U+0640
 19836 % U+0641;afii57441;ARABIC LETTER FEH
 19837 \DeclareTextCommand{\fa}{PU}{\86\101}% U+0641
 19838 % U+0642;afii57442;ARABIC LETTER QAF
 19839 \DeclareTextCommand{\qaf}{PU}{\86\102}% U+0642
 19840 % U+0643;afii57443;ARABIC LETTER KAF
 19841 \DeclareTextCommand{\kaf}{PU}{\86\103}% U+0643
 19842 % U+0644;afii57444;ARABIC LETTER LAM
 19843 \DeclareTextCommand{\lam}{PU}{\86\104}% U+0644
 19844 % U+0645;afii57445;ARABIC LETTER MEEM
 19845 \DeclareTextCommand{\meem}{PU}{\86\105}% U+0645
 19846 % U+0646;afii57446;ARABIC LETTER NOON
 19847 \DeclareTextCommand{\nun}{PU}{\86\106}% U+0646
 19848 % U+0647;afii57470;ARABIC LETTER HEH
 19849 \DeclareTextCommand{\ha}{PU}{\86\107}% U+0647
 19850 % U+0648;afii57448;ARABIC LETTER WAW
 19851 \DeclareTextCommand{\waw}{PU}{\86\110}% U+0648
 19852 % U+0649;afii57449;ARABIC LETTER ALEF MAKSURA
 19853 \DeclareTextCommand{\alefmaqsura}{PU}{\86\111}% U+0649
 19854 % U+064A;afii57450;ARABIC LETTER YEH
 19855 \DeclareTextCommand{\ya}{PU}{\86\112}% U+064A

 19856 % U+064B;afii57451;ARABIC FATHATAN
 19857 \DeclareTextCommand{\nasb}{PU}{\86\113}% U+064B
 19858 % U+064C;afii57452;ARABIC DAMMATAN
 19859 \DeclareTextCommand{\raff}{PU}{\86\114}% U+064C
 19860 % U+064D;afii57453;ARABIC KASRATAN
 19861 \DeclareTextCommand{\jarr}{PU}{\86\115}% U+064D
 19862 % U+064E;afii57454;ARABIC FATHA
 19863 \DeclareTextCommand{\fatha}{PU}{\86\116}% U+064E
 19864 % U+064F;afii57455;ARABIC DAMMA
 19865 \DeclareTextCommand{\damma}{PU}{\86\117}% U+064F
 19866 % U+0650;afii57456;ARABIC KASRA
 19867 \DeclareTextCommand{\kasra}{PU}{\86\120}% U+0650
 19868 % U+0651;afii57457;ARABIC SHADDA
 19869 \DeclareTextCommand{\shadda}{PU}{\86\121}% U+0651
 19870 % U+0652;afii57458;ARABIC SUKUN
 19871 \DeclareTextCommand{\sukun}{PU}{\86\122}% U+0652

Farsi

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19872 % U+067E ARABIC LETTER PEH; afi57506
19873 \DeclareTextCommand{\peh}{PU}{\86\176}% U+067E
19874 % U+0686 ARABIC LETTER TCHEH; afi57507
19875 \DeclareTextCommand{\tcheh}{PU}{\86\206}% U+0686
19876 % U+0698 ARABIC LETTER JEH; afi57508
19877 \DeclareTextCommand{\jeh}{PU}{\86\230}% U+0698
19878 % U+06A9 ARABIC LETTER KEHEH
19879 \DeclareTextCommand{\farsikaf}{PU}{\86\251}% U+06A9
19880 % U+06AF ARABIC LETTER GAF; afi57509
19881 \DeclareTextCommand{\gaf}{PU}{\86\257}% U+06AF
19882 % U+06CC ARABIC LETTER FAR.SI YEH
19883 \DeclareTextCommand{\farsiya}{PU}{\86\314}% U+06CC

19884 % U+200C ZERO WIDTH NON-JOINER; afi61664
19885 \DeclareTextCommand{\ZWNJ}{PU}{\9040\014}% U+200C
19886 % U+200D ZERO WIDTH JOINER; afi301
19887 \DeclareTextCommand{\textEncodingNoboundary}{PU}{\9040\015}% U+200D

19888 (/puarenc)

19889 (*psdextra)
19890 \Hy@VersionCheck{psdextra.def}
19891 \newcommand*{\psdmapshortnames}{%
19892   \let\MVPlus\textMVPlus
19893   \let\MVComma\textMVComma
19894   \let\MVMinus\textMVMinus
19895   \let\MVPeriod\textMVPeriod
19896   \let\MVDivision\textMVDivision
19897   \let\MVZero\textMVZero
19898   \let\MVOne\textMVOne
19899   \let\MVTwo\textMVTwo
19900   \let\MVThree\textMVThree
19901   \let\MVFour\textMVFour
19902   \let\MVFive\textMVFive
19903   \let\MVSix\textMVSix
19904   \let\MVSeven\textMVSeven
19905   \let\MVEight\textMVEight
19906   \let\MVNine\textMVNine
19907   \let\MVAt\textMVAt
19908   \let\copyright\textcopyright
19909   \let\twosuperior\texttwosuperior
19910   \let\threesuperior\textthreesuperior
19911   \let\onesuperior\textonesuperior
19912   \let\Thorn\textThorn
19913   \let\thorn\textthorn
19914   \let\hbar\texthbar
19915   \let\hausaB\texthausaB
19916   \let\hausaD\texthausaD
19917   \let\hausaK\texthausaK
19918   \let\barl\textbarl
19919   \let\inve\textinve
19920   \let\slashc\textslashc
19921   \let\scripta\textscripta
19922   \let\openo\textopeno
19923   \let\rtaild\textrtaild

```

19924 \let\reve\textreve
 19925 \let\schwa\textschwa
 19926 \let\niepsilon\textniepsilon
 19927 \let\repsilon\textrepsilon
 19928 \let\rhookrepsilon\texthookrepsilon
 19929 \let\scriptg\textscriptg
 19930 \let\scg\textscg
 19931 \let\ipagamma\textipagamma
 19932 \let\babygamma\textbabygamma
 19933 \let\bari\textbari
 19934 \let\niiota\textniiota
 19935 \let\sci\textsci
 19936 \let\scn\textscn
 19937 \let\niphi\textniphi
 19938 \let\longlegr\textlonglegr
 19939 \let\scr\textscr
 19940 \let\invscr\textinvscr
 19941 \let\esh\textesh
 19942 \let\baru\textbaru
 19943 \let\niupsilon\textniupsilon
 19944 \let\scriptv\textscriptv
 19945 \let\turnv\textturnv
 19946 \let\turnw\textturnw
 19947 \let\turny\textturny
 19948 \let\scy\textscy
 19949 \let\yogh\textyogh
 19950 \let\glotstop\textglotstop
 19951 \let\revglotstop\textrevglotstop
 19952 \let\invglotstop\textinvglotstop
 19953 \let\Gamma\textGamma
 19954 \let\Delta\textDelta
 19955 \let\Theta\textTheta
 19956 \let\Lambda\textLambda
 19957 \let\Xi\textXi
 19958 \let\Pi\textPi
 19959 \let\Sigma\textSigma
 19960 \let\Upsilon\textUpsilon
 19961 \let\Phi\textPhi
 19962 \let\Psi\textPsi
 19963 \let\Omega\textOmega
 19964 \let\alpha\textalpha
 19965 \let\beta\textbeta
 19966 \let\gamma\textgamma
 19967 \let\delta\textdelta
 19968 \let\epsilon\textepsilon
 19969 \let\zeta\textzeta
 19970 \let\eta\texteta
 19971 \let\theta\texttheta
 19972 \let\iota\textiota
 19973 \let\kappa\textkappa
 19974 \let\lambda\textlambda
 19975 \let\mu\textmu
 19976 \let\mugreek\textmugreek
 19977 \let\nu\textnu

19978 `\let\xi\textxi`
 19979 `\let\pi\textpi`
 19980 `\let\rho\textrho`
 19981 `\let\varsigma\textvarsigma`
 19982 `\let\sigma\textsigma`
 19983 `\let\tau\texttau`
 19984 `\let\upsilon\textupsilon`
 19985 `\let\phi\textphi`
 19986 `\let\chi\textchi`
 19987 `\let\psi\textpsi`
 19988 `\let\omega\textomega`
 19989 `\let\scd\textscd`
 19990 `\let\scu\textscu`
 19991 `\let\iinferior\textiinferior`
 19992 `\let\rinferior\textrinferior`
 19993 `\let\uinferior\textuinferior`
 19994 `\let\vinferior\textvinferior`
 19995 `\let\betainferior\textbetainferior`
 19996 `\let\gammainferior\textgammainferior`
 19997 `\let\rhoinferior\textrhoinferior`
 19998 `\let\phiinferior\textphiinferior`
 19999 `\let\chiinferior\textchiinferior`
 20000 `\let\barsci\textbarsci`
 20001 `\let\barp\textbarp`
 20002 `\let\barscu\textbarscu`
 20003 `\let\htrtaild\texthtrtaild`
 20004 `\let\dagger\textdagger`
 20005 `\let\bullet\textbullet`
 20006 `\let\hdotfor\texthdotfor`
 20007 `\let\prime\textprime`
 20008 `\let\second\textsecond`
 20009 `\let\third\textthird`
 20010 `\let\backprime\textbackprime`
 20011 `\let\lefttherefore\textlefttherefore`
 20012 `\let\fourth\textfourth`
 20013 `\let\diamonddots\textdiamonddots`
 20014 `\let\zerosuperior\textzerosuperior`
 20015 `\let\isuperior\textisuperior`
 20016 `\let\foursuperior\textfoursuperior`
 20017 `\let\fivesuperior\textfivesuperior`
 20018 `\let\sixsuperior\textsixsuperior`
 20019 `\let\sevensuperior\textsevensuperior`
 20020 `\let\eightsuperior\texteightsuperior`
 20021 `\let\ninesuperior\textninesuperior`
 20022 `\let\plussuperior\textplussuperior`
 20023 `\let\minussuperior\textminussuperior`
 20024 `\let>equalsuperior\textequalsuperior`
 20025 `\let\parenleftsuperior\textparenleftsuperior`
 20026 `\let\parenrightsuperior\textparenrightsuperior`
 20027 `\let\nsuperior\textnsuperior`
 20028 `\let\zeroinferior\textzeroinferior`
 20029 `\let\oneinferior\textoneinferior`
 20030 `\let\twoinferior\texttwoinferior`
 20031 `\let\threeinferior\textthreeinferior`

20032 \let\fourinferior\textfourinferior
 20033 \let\fiveinferior\textfiveinferior
 20034 \let\sixinferior\textsixinferior
 20035 \let\seveninferior\textseveninferior
 20036 \let\eightinferior\texteightinferior
 20037 \let\nineinferior\textnineinferior
 20038 \let\plusinferior\textplusinferior
 20039 \let\minusinferior\textminusinferior
 20040 \let\equalsinferior\textequalsinferior
 20041 \let\parenleftinferior\textparenleftinferior
 20042 \let\parenrightinferior\textparenrightinferior
 20043 \let\ainferior\textainferior
 20044 \let\einferior\texteinferior
 20045 \let\oinferior\textoinferior
 20046 \let\xinferior\textxinferior
 20047 \let\schwainferior\textschwainferior
 20048 \let\hinferior\texthinferior
 20049 \let\kinferior\textkinferior
 20050 \let\linferior\textlinferior
 20051 \let\minferior\textminferior
 20052 \let\ninferior\textninferior
 20053 \let\pinferior\textpinferior
 20054 \let\sinferior\textsinferior
 20055 \let\tinferior\texttinferior
 20056 \let\Deleatur\textDeleatur
 20057 \let\hslash\texthslash
 20058 \let\Im\textIm
 20059 \let\ell\textell
 20060 \let\wp\textwp
 20061 \let\Re\textRe
 20062 \let\mho\textmho
 20063 \let\riota\textriota
 20064 \let\Finv\textFinv
 20065 \let\aleph\textaleph
 20066 \let\beth\textbeth
 20067 \let\gimel\textgimel
 20068 \let\daleth\textdaleth
 20069 \let\xfax\textfax
 20070 \let\Game\textGame
 20071 \let\leftarrow\textleftarrow
 20072 \let\uparrow\textuparrow
 20073 \let\rightarrow\textrightarrow
 20074 \let\downarrow\textdownarrow
 20075 \let\leftrightarrow\textleftrightarrow
 20076 \let\updownarrow\textupdownarrow
 20077 \let\rightarrowtail\textrightarrowtail
 20078 \let\searrow\textsearrow
 20079 \let\swarrow\textswarrow
 20080 \let\rightarrowtail\textrightarrowtail
 20081 \let\rightarrowtail\textrightarrowtail
 20082 \let\rightarrowtail\textrightarrowtail
 20083 \let\rightarrowtail\textrightarrowtail
 20084 \let\rightarrowtail\textrightarrowtail
 20085 \let\rightarrowtail\textrightarrowtail

20086 `\let\twoheadrightarrow\texttwoheadrightarrow`
 20087 `\let\ntwoheadrightarrow\textntwoheadrightarrow`
 20088 `\let\twoheaddownarrow\texttwoheaddownarrow`
 20089 `\let\leftarrowtail\textleftarrowtail`
 20090 `\let\rightarrowtail\textrightarrowtail`
 20091 `\let\mapsto\textmapsto`
 20092 `\let\hookleftarrow\texthookleftarrow`
 20093 `\let\hookrightarrow\texthookrightarrow`
 20094 `\let\looparrowleft\textlooparrowleft`
 20095 `\let\looparrowright\textlooparrowright`
 20096 `\let\leftrightarrow\textleftrightarrow`
 20097 `\let\lightning\textlightning`
 20098 `\let\dlsh\textdlsh`
 20099 `\let\curvearrowleft\textcurvearrowleft`
 20100 `\let\curvearrowright\textcurvearrowright`
 20101 `\let\leftharpoonup\textleftharpoonup`
 20102 `\let\leftharpoondown\textleftharpoondown`
 20103 `\let\upharpoonright\textupharpoonright`
 20104 `\let\upharpoonleft\textupharpoonleft`
 20105 `\let\upharpoonup\textupharpoonup`
 20106 `\let\upharpoondown\textupharpoondown`
 20107 `\let\downharpoonright\textdownharpoonright`
 20108 `\let\downharpoonleft\textdownharpoonleft`
 20109 `\let\rightleftarrows\textrightleftarrows`
 20110 `\let\updownarrows\textupdownarrows`
 20111 `\let\leftrightarrows\textleftrightarrows`
 20112 `\let\leftleftarrows\textleftleftarrows`
 20113 `\let\upuparrows\textupuparrows`
 20114 `\let\righttrightarrows\textrighttrightarrows`
 20115 `\let\downdownarrows\textdowndownarrows`
 20116 `\let\leftrightharpoons\textleftrightharpoons`
 20117 `\let\rightleftharpoons\textrightleftharpoons`
 20118 `\let\leftarrow\textleftarrow`
 20119 `\let\rightarrow\textrightarrow`
 20120 `\let\Leftarrow\textLeftarrow`
 20121 `\let\Uparrow\textUparrow`
 20122 `\let\Downarrow\textDownarrow`
 20123 `\let\Leftarrow\textLeftarrow`
 20124 `\let\Uparrow\textUparrow`
 20125 `\let\Downarrow\textDownarrow`
 20126 `\let\Leftarrow\textLeftarrow`
 20127 `\let\Uparrow\textUparrow`
 20128 `\let\Downarrow\textDownarrow`
 20129 `\let\Leftarrow\textLeftarrow`
 20130 `\let\Uparrow\textUparrow`
 20131 `\let\Downarrow\textDownarrow`
 20132 `\let\Leftarrow\textLeftarrow`
 20133 `\let\Uparrow\textUparrow`
 20134 `\let\Downarrow\textDownarrow`
 20135 `\let\Leftarrow\textLeftarrow`
 20136 `\let\Uparrow\textUparrow`
 20137 `\let\Downarrow\textDownarrow`
 20138 `\let\Leftarrow\textLeftarrow`
 20139 `\let\Uparrow\textUparrow`

20140 $\backslash\text{let}\backslash\text{downuparrows}\backslash\text{textdownuparrows}$
 20141 $\backslash\text{let}\backslash\text{leftarrowtriangle}\backslash\text{textleftarrowtriangle}$
 20142 $\backslash\text{let}\backslash\text{rightarrowtriangle}\backslash\text{textrightarrowtriangle}$
 20143 $\backslash\text{let}\backslash\text{leftrightharrowtriangle}\backslash\text{textleftrightharrowtriangle}$
 20144 $\backslash\text{let}\backslash\text{forall}\backslash\text{textforall}$
 20145 $\backslash\text{let}\backslash\text{complement}\backslash\text{textcomplement}$
 20146 $\backslash\text{let}\backslash\text{partial}\backslash\text{textpartial}$
 20147 $\backslash\text{let}\backslash\text{exists}\backslash\text{textexists}$
 20148 $\backslash\text{let}\backslash\text{nexists}\backslash\text{textnexists}$
 20149 $\backslash\text{let}\backslash\text{emptyset}\backslash\text{textemptyset}$
 20150 $\backslash\text{let}\backslash\text{triangle}\backslash\text{texttriangle}$
 20151 $\backslash\text{let}\backslash\text{nabla}\backslash\text{textnabla}$
 20152 $\backslash\text{let}\backslash\text{in}\backslash\text{textin}$
 20153 $\backslash\text{let}\backslash\text{notin}\backslash\text{textnotin}$
 20154 $\backslash\text{let}\backslash\text{smallin}\backslash\text{textsmallin}$
 20155 $\backslash\text{let}\backslash\text{ni}\backslash\text{textni}$
 20156 $\backslash\text{let}\backslash\text{notowner}\backslash\text{textnotowner}$
 20157 $\backslash\text{let}\backslash\text{smallowns}\backslash\text{textsmallowns}$
 20158 $\backslash\text{let}\backslash\text{prod}\backslash\text{textprod}$
 20159 $\backslash\text{let}\backslash\text{amalg}\backslash\text{textamalg}$
 20160 $\backslash\text{let}\backslash\text{sum}\backslash\text{textsum}$
 20161 $\backslash\text{let}\backslash\text{mp}\backslash\text{textmp}$
 20162 $\backslash\text{let}\backslash\text{dotplus}\backslash\text{textdotplus}$
 20163 $\backslash\text{let}\backslash\text{Divides}\backslash\text{textDivides}$
 20164 $\backslash\text{let}\backslash\text{DividesNot}\backslash\text{textDividesNot}$
 20165 $\backslash\text{let}\backslash\text{setminus}\backslash\text{textsetminus}$
 20166 $\backslash\text{let}\backslash\text{ast}\backslash\text{textast}$
 20167 $\backslash\text{let}\backslash\text{circ}\backslash\text{textcirc}$
 20168 $\backslash\text{let}\backslash\text{surd}\backslash\text{textsurd}$
 20169 $\backslash\text{let}\backslash\text{propto}\backslash\text{textpropto}$
 20170 $\backslash\text{let}\backslash\text{infty}\backslash\text{textinfty}$
 20171 $\backslash\text{let}\backslash\text{angle}\backslash\text{textangle}$
 20172 $\backslash\text{let}\backslash\text{measuredangle}\backslash\text{textmeasuredangle}$
 20173 $\backslash\text{let}\backslash\text{sphericalangle}\backslash\text{textsphericalangle}$
 20174 $\backslash\text{let}\backslash\text{mid}\backslash\text{textmid}$
 20175 $\backslash\text{let}\backslash\text{nmid}\backslash\text{textnmid}$
 20176 $\backslash\text{let}\backslash\text{parallel}\backslash\text{textparallel}$
 20177 $\backslash\text{let}\backslash\text{nparallel}\backslash\text{textnparallel}$
 20178 $\backslash\text{let}\backslash\text{wedge}\backslash\text{textwedge}$
 20179 $\backslash\text{let}\backslash\text{owedge}\backslash\text{textowedge}$
 20180 $\backslash\text{let}\backslash\text{vee}\backslash\text{textvee}$
 20181 $\backslash\text{let}\backslash\text{ovee}\backslash\text{textovee}$
 20182 $\backslash\text{let}\backslash\text{cap}\backslash\text{textcap}$
 20183 $\backslash\text{let}\backslash\text{cup}\backslash\text{textcup}$
 20184 $\backslash\text{let}\backslash\text{int}\backslash\text{textint}$
 20185 $\backslash\text{let}\backslash\text{iint}\backslash\text{textiint}$
 20186 $\backslash\text{let}\backslash\text{iiint}\backslash\text{textiiint}$
 20187 $\backslash\text{let}\backslash\text{ooint}\backslash\text{textoint}$
 20188 $\backslash\text{let}\backslash\text{oiint}\backslash\text{textoiint}$
 20189 $\backslash\text{let}\backslash\text{oointclockwise}\backslash\text{textointclockwise}$
 20190 $\backslash\text{let}\backslash\text{oointctrlockwise}\backslash\text{textointctrlockwise}$
 20191 $\backslash\text{let}\backslash\text{therefore}\backslash\text{texttherefore}$
 20192 $\backslash\text{let}\backslash\text{because}\backslash\text{textbecause}$
 20193 $\backslash\text{let}\backslash\text{vdotdot}\backslash\text{textvdotdot}$

20194 $\backslash\text{let}\backslash\text{squaredots}\backslash\text{textsquaredots}$
 20195 $\backslash\text{let}\backslash\text{dotminus}\backslash\text{textdotminus}$
 20196 $\backslash\text{let}\backslash\text{eqcolon}\backslash\text{texteqcolon}$
 20197 $\backslash\text{let}\backslash\text{sim}\backslash\text{textsims}$
 20198 $\backslash\text{let}\backslash\text{backsim}\backslash\text{textbacksim}$
 20199 $\backslash\text{let}\backslash\text{nbacksim}\backslash\text{textnbacksim}$
 20200 $\backslash\text{let}\backslash\text{wr}\backslash\text{textwr}$
 20201 $\backslash\text{let}\backslash\text{nsim}\backslash\text{textnsim}$
 20202 $\backslash\text{let}\backslash\text{eqsim}\backslash\text{texteqsim}$
 20203 $\backslash\text{let}\backslash\text{neqsim}\backslash\text{textneqsim}$
 20204 $\backslash\text{let}\backslash\text{simeq}\backslash\text{textsimeq}$
 20205 $\backslash\text{let}\backslash\text{nsimeq}\backslash\text{textnsimeq}$
 20206 $\backslash\text{let}\backslash\text{cong}\backslash\text{textcong}$
 20207 $\backslash\text{let}\backslash\text{ncong}\backslash\text{textncong}$
 20208 $\backslash\text{let}\backslash\text{approx}\backslash\text{textapprox}$
 20209 $\backslash\text{let}\backslash\text{napprox}\backslash\text{textnapprox}$
 20210 $\backslash\text{let}\backslash\text{approxeq}\backslash\text{textapproxeq}$
 20211 $\backslash\text{let}\backslash\text{napproxeq}\backslash\text{textnapproxeq}$
 20212 $\backslash\text{let}\backslash\text{triplesim}\backslash\text{texttriplesim}$
 20213 $\backslash\text{let}\backslash\text{ntriplesim}\backslash\text{textntriplesim}$
 20214 $\backslash\text{let}\backslash\text{backcong}\backslash\text{textbackcong}$
 20215 $\backslash\text{let}\backslash\text{nbackcong}\backslash\text{textnbackcong}$
 20216 $\backslash\text{let}\backslash\text{asympt}\backslash\text{textasympt}$
 20217 $\backslash\text{let}\backslash\text{nasympt}\backslash\text{textnasympt}$
 20218 $\backslash\text{let}\backslash\text{Bumpeq}\backslash\text{textBumpeq}$
 20219 $\backslash\text{let}\backslash\text{nBumpeq}\backslash\text{textnBumpeq}$
 20220 $\backslash\text{let}\backslash\text{bumpeq}\backslash\text{textbumpeq}$
 20221 $\backslash\text{let}\backslash\text{nbumpeq}\backslash\text{textnbumpeq}$
 20222 $\backslash\text{let}\backslash\text{doteq}\backslash\text{textdoteq}$
 20223 $\backslash\text{let}\backslash\text{ndoteq}\backslash\text{textndoteq}$
 20224 $\backslash\text{let}\backslash\text{doteqdot}\backslash\text{textdoteqdot}$
 20225 $\backslash\text{let}\backslash\text{nDoteq}\backslash\text{textnDoteq}$
 20226 $\backslash\text{let}\backslash\text{fallingdoteq}\backslash\text{textfallingdoteq}$
 20227 $\backslash\text{let}\backslash\text{nfalingdoteq}\backslash\text{textnfalingdoteq}$
 20228 $\backslash\text{let}\backslash\text{risingdoteq}\backslash\text{textrisingdoteq}$
 20229 $\backslash\text{let}\backslash\text{nrisingdoteq}\backslash\text{textnrisingdoteq}$
 20230 $\backslash\text{let}\backslash\text{colonequals}\backslash\text{textcolonequals}$
 20231 $\backslash\text{let}\backslash\text{equalscolon}\backslash\text{textequalscolon}$
 20232 $\backslash\text{let}\backslash\text{eqcirc}\backslash\text{texteqcirc}$
 20233 $\backslash\text{let}\backslash\text{neqcirc}\backslash\text{textneqcirc}$
 20234 $\backslash\text{let}\backslash\text{circeq}\backslash\text{textcirceq}$
 20235 $\backslash\text{let}\backslash\text{ncirceq}\backslash\text{textncirceq}$
 20236 $\backslash\text{let}\backslash\text{hateq}\backslash\text{texthateq}$
 20237 $\backslash\text{let}\backslash\text{nhateq}\backslash\text{textnhateq}$
 20238 $\backslash\text{let}\backslash\text{triangleeq}\backslash\text{texttriangleeq}$
 20239 $\backslash\text{let}\backslash\text{neq}\backslash\text{textneq}$
 20240 $\backslash\text{let}\backslash\text{ne}\backslash\text{textne}$
 20241 $\backslash\text{let}\backslash\text{equiv}\backslash\text{textequiv}$
 20242 $\backslash\text{let}\backslash\text{nequiv}\backslash\text{textnequiv}$
 20243 $\backslash\text{let}\backslash\text{leq}\backslash\text{textleq}$
 20244 $\backslash\text{let}\backslash\text{le}\backslash\text{textle}$
 20245 $\backslash\text{let}\backslash\text{geq}\backslash\text{textgeq}$
 20246 $\backslash\text{let}\backslash\text{ge}\backslash\text{textge}$
 20247 $\backslash\text{let}\backslash\text{leqq}\backslash\text{textleqq}$

20248 \let\nleqq\textnleqq
 20249 \let\geqq\textgeqq
 20250 \let\ngeqq\textngeqq
 20251 \let\lneqq\textlneqq
 20252 \let\gneqq\textgneqq
 20253 \let\ll\textll
 20254 \let\nll\textnll
 20255 \let\gg\textgg
 20256 \let\ngg\textngg
 20257 \let\between\textbetween
 20258 \let\nless\textnless
 20259 \let\ngtr\textngtr
 20260 \let\nleq\textnleq
 20261 \let\ngel\textngel
 20262 \let\lesssim\textlessssim
 20263 \let\gtrsim\textgtrsim
 20264 \let\nlesssim\textnlesssim
 20265 \let\ngtrsim\textngtrsim
 20266 \let\lessgtr\textlessgtr
 20267 \let\gtrless\textgtrless
 20268 \let\ngtrless\textngtrless
 20269 \let\nlessgtr\textnlessgtr
 20270 \let\prec\textprec
 20271 \let\succ\textsucc
 20272 \let\preccurlyeq\textpreccurlyeq
 20273 \let\succcurlyeq\textsucccurlyeq
 20274 \let\precsim\textprecsim
 20275 \let\nprecsim\textnprecsim
 20276 \let\succsim\textsuccsim
 20277 \let\nsuccsim\textnsuccsim
 20278 \let\nprec\textnprec
 20279 \let\nsucc\textnsucc
 20280 \let\subset\textsubset
 20281 \let\supset\textsupset
 20282 \let\nsubset\textnsubset
 20283 \let\nsupset\textnsupset
 20284 \let\subseql\textsubseql
 20285 \let\supseteq\textsupseteq
 20286 \let\nsubseql\textnsubseql
 20287 \let\nsupseteq\textnsupseteq
 20288 \let\subsetneql\textsubsetneql
 20289 \let\supsetneql\textsupsetneql
 20290 \let\cupdot\textcupdot
 20291 \let\cupplus\textcupplus
 20292 \let\sqssubset\textsqsubset
 20293 \let\nsqsubset\textnsqsubset
 20294 \let\sqsupset\textsqsupset
 20295 \let\nsqsupset\textnsqsupset
 20296 \let\sqssubseteq\textsqsubseteq
 20297 \let\nsqsubseteq\textnsqsubseteq
 20298 \let\sqsupseteq\textsqsupseteq
 20299 \let\nsqsupseteq\textnsqsupseteq
 20300 \let\sqcap\textsqcap
 20301 \let\sqcup\textsqcup

20302 $\backslash\mathrm{let}\backslash\mathrm{oplus}\backslash\mathrm{textoplus}$
 20303 $\backslash\mathrm{let}\backslash\mathrm{ominus}\backslash\mathrm{textominus}$
 20304 $\backslash\mathrm{let}\backslash\mathrm{otimes}\backslash\mathrm{textotimes}$
 20305 $\backslash\mathrm{let}\backslash\mathrm{oslash}\backslash\mathrm{textoslash}$
 20306 $\backslash\mathrm{let}\backslash\mathrm{odot}\backslash\mathrm{textodot}$
 20307 $\backslash\mathrm{let}\backslash\mathrm{circledcirc}\backslash\mathrm{textcircledcirc}$
 20308 $\backslash\mathrm{let}\backslash\mathrm{circledast}\backslash\mathrm{textcircledast}$
 20309 $\backslash\mathrm{let}\backslash\mathrm{circledash}\backslash\mathrm{textcircledash}$
 20310 $\backslash\mathrm{let}\backslash\mathrm{boxplus}\backslash\mathrm{textboxplus}$
 20311 $\backslash\mathrm{let}\backslash\mathrm{boxminus}\backslash\mathrm{textboxminus}$
 20312 $\backslash\mathrm{let}\backslash\mathrm{boxtimes}\backslash\mathrm{textboxtimes}$
 20313 $\backslash\mathrm{let}\backslash\mathrm{boxdot}\backslash\mathrm{textboxdot}$
 20314 $\backslash\mathrm{let}\backslash\mathrm{vdash}\backslash\mathrm{textvdash}$
 20315 $\backslash\mathrm{let}\backslash\mathrm{dashv}\backslash\mathrm{texdashv}$
 20316 $\backslash\mathrm{let}\backslash\mathrm{ndashv}\backslash\mathrm{textndashv}$
 20317 $\backslash\mathrm{let}\backslash\mathrm{top}\backslash\mathrm{texttop}$
 20318 $\backslash\mathrm{let}\backslash\mathrm{ndownvdash}\backslash\mathrm{textndownvdash}$
 20319 $\backslash\mathrm{let}\backslash\mathrm{bot}\backslash\mathrm{textbot}$
 20320 $\backslash\mathrm{let}\backslash\mathrm{nupvdash}\backslash\mathrm{textnupvdash}$
 20321 $\backslash\mathrm{let}\backslash\mathrm{vDash}\backslash\mathrm{textvDash}$
 20322 $\backslash\mathrm{let}\backslash\mathrm{VDash}\backslash\mathrm{textVDash}$
 20323 $\backslash\mathrm{let}\backslash\mathrm{Vvdash}\backslash\mathrm{textVvdash}$
 20324 $\backslash\mathrm{let}\backslash\mathrm{nVdash}\backslash\mathrm{textnVdash}$
 20325 $\backslash\mathrm{let}\backslash\mathrm{VDash}\backslash\mathrm{textVDash}$
 20326 $\backslash\mathrm{let}\backslash\mathrm{nvDash}\backslash\mathrm{textnvDash}$
 20327 $\backslash\mathrm{let}\backslash\mathrm{nVdash}\backslash\mathrm{textnVdash}$
 20328 $\backslash\mathrm{let}\backslash\mathrm{nVDash}\backslash\mathrm{textnVDash}$
 20329 $\backslash\mathrm{let}\backslash\mathrm{lh}\backslash\mathrm{textlh}$
 20330 $\backslash\mathrm{let}\backslash\mathrm{rh}\backslash\mathrm{textrh}$
 20331 $\backslash\mathrm{let}\backslash\mathrm{unlh}\backslash\mathrm{textunlh}$
 20332 $\backslash\mathrm{let}\backslash\mathrm{unrh}\backslash\mathrm{textunrh}$
 20333 $\backslash\mathrm{let}\backslash\mathrm{multimap}\backslash\mathrm{textmultimap}$
 20334 $\backslash\mathrm{let}\backslash\mathrm{multimapdotbothA}\backslash\mathrm{textmultimapdotbothA}$
 20335 $\backslash\mathrm{let}\backslash\mathrm{multimapdotbothB}\backslash\mathrm{textmultimapdotbothB}$
 20336 $\backslash\mathrm{let}\backslash\mathrm{veebar}\backslash\mathrm{textveebar}$
 20337 $\backslash\mathrm{let}\backslash\mathrm{barwedge}\backslash\mathrm{textbarwedge}$
 20338 $\backslash\mathrm{let}\backslash\mathrm{star}\backslash\mathrm{textstar}$
 20339 $\backslash\mathrm{let}\backslash\mathrm{divideontimes}\backslash\mathrm{textdivideontimes}$
 20340 $\backslash\mathrm{let}\backslash\mathrm{bowtie}\backslash\mathrm{textbowtie}$
 20341 $\backslash\mathrm{let}\backslash\mathrm{ltimes}\backslash\mathrm{textltimes}$
 20342 $\backslash\mathrm{let}\backslash\mathrm{rtimes}\backslash\mathrm{textrtimes}$
 20343 $\backslash\mathrm{let}\backslash\mathrm{leftthreetimes}\backslash\mathrm{textleftthreetimes}$
 20344 $\backslash\mathrm{let}\backslash\mathrm{rightthreetimes}\backslash\mathrm{textrightthreetimes}$
 20345 $\backslash\mathrm{let}\backslash\mathrm{backsimeq}\backslash\mathrm{textbacksimeq}$
 20346 $\backslash\mathrm{let}\backslash\mathrm{nbacksimeq}\backslash\mathrm{textnbacksimeq}$
 20347 $\backslash\mathrm{let}\backslash\mathrm{curlyvee}\backslash\mathrm{textcurlyvee}$
 20348 $\backslash\mathrm{let}\backslash\mathrm{curlywedge}\backslash\mathrm{textcurlywedge}$
 20349 $\backslash\mathrm{let}\backslash\mathrm{Subset}\backslash\mathrm{textSubset}$
 20350 $\backslash\mathrm{let}\backslash\mathrm{nSubset}\backslash\mathrm{textnSubset}$
 20351 $\backslash\mathrm{let}\backslash\mathrm{Supset}\backslash\mathrm{textSupset}$
 20352 $\backslash\mathrm{let}\backslash\mathrm{nSupset}\backslash\mathrm{textnSupset}$
 20353 $\backslash\mathrm{let}\backslash\mathrm{Cap}\backslash\mathrm{textCap}$
 20354 $\backslash\mathrm{let}\backslash\mathrm{Cup}\backslash\mathrm{textCup}$

20356 \let\pitchfork\textpitchfork
 20357 \let\lessdot\textlessdot
 20358 \let\gtrdot\textgtrdot
 20359 \let\lll\textlll
 20360 \let\ggg\textggg
 20361 \let\lesseqgtr\textlesseqgtr
 20362 \let\gtreqless\textgtreqless
 20363 \let\curlyeqprec\textcurlyeqprec
 20364 \let\ncurlyeqprec\textncurlyeqprec
 20365 \let\curlyeqsucc\textcurlyeqsucc
 20366 \let\ncurlyeqsucc\textncurlyeqsucc
 20367 \let\preccurlyeq\textpreccurlyeq
 20368 \let\nsucccurlyeq\textnsucccurlyeq
 20369 \let\subsetseq\textsubsetseq
 20370 \let\supseteq\textsupseteq
 20371 \let\subsetneq\textsubsetneq
 20372 \let\supsetneq\textsupsetneq
 20373 \let\insim\textinsim
 20374 \let\gnsim\textgnsim
 20375 \let\precnsim\textprecnsim
 20376 \let\succnsim\textsuccnsim
 20377 \let\triangleleft\texttriangleleft
 20378 \let\triangleright\texttriangleright
 20379 \let\trianglelefteq\texttrianglelefteq
 20380 \let\trianglerighteq\texttrianglerighteq
 20381 \let\vdots\textvdots
 20382 \let\cdots\textcdots
 20383 \let\udots\textudots
 20384 \let\ddots\textddots
 20385 \let\barin\textbarin
 20386 \let\diameter\textdiameter
 20387 \let\backneg\textbackneg
 20388 \let\wasylounge\textwasylounge
 20389 \let\invbackneg\textinvbackneg
 20390 \let\clock\textclock
 20391 \let\ulcorner\textulcorner
 20392 \let\urcorner\texturcorner
 20393 \let\llcorner\textllcorner
 20394 \let\lrcorner\textlrcorner
 20395 \let\frown\textfrown
 20396 \let\smile\textsmile
 20397 \let\Keyboard\textKeyboard
 20398 \let\langle\textlangle
 20399 \let\rangle\textrangle
 20400 \let\APLinv\textAPLinv
 20401 \let\Tumbler\textTumbler
 20402 \let\notslash\textnotslash
 20403 \let\notbackslash\textnotbackslash
 20404 \let\boxbackslash\textboxbackslash
 20405 \let\APLleftarrowbox\textAPLleftarrowbox
 20406 \let\APLrightarrowbox\textAPLrightarrowbox
 20407 \let\APLuparrowbox\textAPLuparrowbox
 20408 \let\APLdownarrowbox\textAPLdownarrowbox
 20409 \let\APLinput\textAPLinput

20410 \let\Request\textRequest
 20411 \let\Beam\textBeam
 20412 \let\hexagon\texthexagon
 20413 \let\APLbox\textAPLbox
 20414 \let\ForwardToIndex\textForwardToIndex
 20415 \let\RewindToIndex\textRewindToIndex
 20416 \let\bbslash\textbbslash
 20417 \let\CircledA\textCircledA
 20418 \let\CleaningF\textCleaningF
 20419 \let\CleaningFF\textCleaningFF
 20420 \let\CleaningP\textCleaningP
 20421 \let\CleaningPP\textCleaningPP
 20422 \let\CuttingLine\textCuttingLine
 20423 \let\UParrow\textUParrow
 20424 \let\bigtriangleup\textbigtriangleup
 20425 \let\Forward\textForward
 20426 \let\triangleright\texttriangleright
 20427 \let\RHD\textRHD
 20428 \let\DOWNarrow\textDOWNarrow
 20429 \let\bigtriangledown\textbigtriangledown
 20430 \let\Rewind\textRewind
 20431 \let\triangleleft\texttriangleleft
 20432 \let\LHD\textLHD
 20433 \let\diamond\textdiamond
 20434 \let\lozenge\textlozenge
 20435 \let\LEFTCIRCLE\textLEFTCIRCLE
 20436 \let\RIGHTCIRCLE\textRIGHTCIRCLE
 20437 \let\openbullet\textopenbullet
 20438 \let\boxbar\textboxbar
 20439 \let\bigcircle\textbigcircle
 20440 \let\Cloud\textCloud
 20441 \let\FiveStar\textFiveStar
 20442 \let\FiveStarOpen\textFiveStarOpen
 20443 \let\Phone\textPhone
 20444 \let\boxempty\textboxempty
 20445 \let\Checkedbox\textCheckedbox
 20446 \let\Crossedbox\textCrossedbox
 20447 \let\Coffeecup\textCoffeecup
 20448 \let\HandCuffLeft\textHandCuffLeft
 20449 \let\HandCuffRight\textHandCuffRight
 20450 \let\HandLeft\textHandLeft
 20451 \let\HandRight\textHandRight
 20452 \let\Radioactivity\textRadioactivity
 20453 \let\Biohazard\textBiohazard
 20454 \let\Ankh\textAnkh
 20455 \let\YinYang\textYinYang
 20456 \let\frownie\textfrownie
 20457 \let\smiley\textsmiley
 20458 \let\blacksmiley\textblacksmiley
 20459 \let\sun\textsun
 20460 \let\leftmoon\textleftmoon
 20461 \let\rightmoon\textrightmoon
 20462 \let\mercury\textmercury
 20463 \let\earth\textearth

20464 \let\male\textmale
 20465 \let\jupiter\textjupiter
 20466 \let\saturn\textsaturn
 20467 \let\uranus\texturanus
 20468 \let\neptune\textneptune
 20469 \let\pluto\textpluto
 20470 \let\aries\textaries
 20471 \let\taurus\texttaurus
 20472 \let\gemini\textgemini
 20473 \let\cancer\textcancer
 20474 \let\leo\textleo
 20475 \let\virgo\textvirgo
 20476 \let\libra\textlibra
 20477 \let\scorpio\textscorpio
 20478 \let\sagittarius\textsagittarius
 20479 \let\capricornus\textcapricornus
 20480 \let\aquarius\textaquarius
 20481 \let\pisces\textpisces
 20482 \let\quarternote\textquarternote
 20483 \let\twonotes\texttwonotes
 20484 \let\sixteenthnote\textsixteenthnote
 20485 \let\flat\textflat
 20486 \let\natural\textnatural
 20487 \let\sharp\textsharp
 20488 \let\recycle\textrecycle
 20489 \let\Wheelchair\textWheelchair
 20490 \let\Flag\textFlag
 20491 \let\MineSign\textMineSign
 20492 \let\ds\textds
 20493 \let\dsmedical\textdsmedical
 20494 \let\dsjuridical\textdsjuridical
 20495 \let\dschemical\textdschemical
 20496 \let\dsbiological\textdsbiological
 20497 \let\dscommercial\textdscommercial
 20498 \let\manstar\textmanstar
 20499 \let\danger\textdanger
 20500 \let\FemaleFemale\textFemaleFemale
 20501 \let\MaleMale\textMaleMale
 20502 \let\FemaleMale\textFemaleMale
 20503 \let\Hermaphrodite\textHermaphrodite
 20504 \let\Neutral\textNeutral
 20505 \let\hexstar\texthexstar
 20506 \let\SunCloud\textSunCloud
 20507 \let\Rain\textRain
 20508 \let\noway\textnoway
 20509 \let\Mountain\textMountain
 20510 \let\Tent\textTent
 20511 \let\ScissorRight\textScissorRight
 20512 \let\ScissorRightBrokenTop\textScissorRightBrokenTop
 20513 \let\ScissorHollowRight\textScissorHollowRight
 20514 \let\PhoneHandset\textPhoneHandset
 20515 \let\Tape\textTape
 20516 \let\Plane\textPlane
 20517 \let\Envelope\textEnvelope

20518 \let\Peace\textPeace
 20519 \let\WritingHand\textWritingHand
 20520 \let\PencilRightDown\textPencilRightDown
 20521 \let\PencilRight\textPencilRight
 20522 \let\PencilRightUp\textPencilRightUp
 20523 \let\NibRight\textNibRight
 20524 \let\NibSolidRight\textNibSolidRight
 20525 \let\Checkmark\textCheckmark
 20526 \let\CheckmarkBold\textCheckmarkBold
 20527 \let\XSolid\textXSolid
 20528 \let\XSolidBold\textXSolidBold
 20529 \let\XSolidBrush\textXSolidBrush
 20530 \let\PlusOutline\textPlusOutline
 20531 \let\Plus\textPlus
 20532 \let\PlusThinCenterOpen\textPlusThinCenterOpen
 20533 \let\PlusCenterOpen\textPlusCenterOpen
 20534 \let\Cross\textCross
 20535 \let\CrossOpenShadow\textCrossOpenShadow
 20536 \let\CrossOutline\textCrossOutline
 20537 \let\CrossMaltese\textCrossMaltese
 20538 \let\DavidStar\textDavidStar
 20539 \let\FourAsterisk\textFourAsterisk
 20540 \let\JackStar\textJackStar
 20541 \let\JackStarBold\textJackStarBold
 20542 \let\ClowerTips\textClowerTips
 20543 \let\FourStar\textFourStar
 20544 \let\FourStarOpen\textFourStarOpen
 20545 \let\FiveStarOpenCircled\textFiveStarOpenCircled
 20546 \let\FiveStarCenterOpen\textFiveStarCenterOpen
 20547 \let\FiveStarOpenDotted\textFiveStarOpenDotted
 20548 \let\FiveStarOutline\textFiveStarOutline
 20549 \let\FiveStarOutlineHeavy\textFiveStarOutlineHeavy
 20550 \let\FiveStarConvex\textFiveStarConvex
 20551 \let\FiveStarShadow\textFiveStarShadow
 20552 \let\AsteriskBold\textAsteriskBold
 20553 \let\AsteriskCenterOpen\textAsteriskCenterOpen
 20554 \let\EightStarTaper\textEightStarTaper
 20555 \let\EightStarConvex\textEightStarConvex
 20556 \let\SixStar\textSixStar
 20557 \let\EightStar\textEightStar
 20558 \let\EightStarBold\textEightStarBold
 20559 \let\TwelveStar\textTwelveStar
 20560 \let\SixteenStarLight\textSixteenStarLight
 20561 \let\SixFlowerPetalRemoved\textSixFlowerPetalRemoved
 20562 \let\SixFlowerOpenCenter\textSixFlowerOpenCenter
 20563 \let\Asterisk\textAsterisk
 20564 \let\SixFlowerAlternate\textSixFlowerAlternate
 20565 \let\FiveFlowerPetal\textFiveFlowerPetal
 20566 \let\FiveFlowerOpen\textFiveFlowerOpen
 20567 \let\EightFlowerPetal\textEightFlowerPetal
 20568 \let\SunshineOpenCircled\textSunshineOpenCircled
 20569 \let\SixFlowerAltPetal\textSixFlowerAltPetal
 20570 \let\SnowflakeChevron\textSnowflakeChevron
 20571 \let\Snowflake\textSnowflake

20572 \let\SnowflakeChevronBold\textSnowflakeChevronBold
 20573 \let\Sparkle\textSparkle
 20574 \let\SparkleBold\textSparkleBold
 20575 \let\AsteriskRoundedEnds\textAsteriskRoundedEnds
 20576 \let\EightFlowerPetalRemoved\textEightFlowerPetalRemoved
 20577 \let\EightAsterisk\textEightAsterisk
 20578 \let\CircleShadow\textCircleShadow
 20579 \let\SquareShadowBottomRight\textSquareShadowBottomRight
 20580 \let\SquareTopRight\textSquareTopRight
 20581 \let\SquareCastShadowBottomRight\textSquareCastShadowBottomRight
 20582 \let\SquareCastShadowTopRight\textSquareCastShadowTopRight
 20583 \let\DiamandSolid\textDiamandSolid
 20584 \let\RectangleThin\textRectangleThin
 20585 \let\Rectangle\textRectangle
 20586 \let\RectangleBold\textRectangleBold
 20587 \let\perp\textperp
 20588 \let\notperp\textnotperp
 20589 \let\veedot\textveedot
 20590 \let\wedgedot\textwedgedot
 20591 \let\leftspoon\textleftspoon
 20592 \let\lbrackdbl\textlbrackdbl
 20593 \let\rbrackdbl\textrbrackdbl
 20594 \let\circlearrowleft\textcirclearrowleft
 20595 \let\circlearrowright\textcirclearrowright
 20596 \let\longleftarrow\textlongleftarrow
 20597 \let\longrightarrow\textlongrightarrow
 20598 \let\longleftarrow\textlongleftarrow
 20599 \let\Longleftarrow\textLongleftarrow
 20600 \let\Longrightarrow\textLongrightarrow
 20601 \let\Longleftrightarrow\textLongleftrightarrow
 20602 \let\longmapsto\textlongmapsto
 20603 \let\Longmapsfrom\textLongmapsfrom
 20604 \let\Longmapsto\textLongmapsto
 20605 \let\nwsearrow\textnwsearrow
 20606 \let\neswarrow\textneswarrow
 20607 \let\hookrightarrow\texthookrightarrow
 20608 \let\rhookrightarrow\text\rhookrightarrow
 20609 \let\hookrightarrow\texthookrightarrow
 20610 \let\rhookrightarrow\text\rhookrightarrow
 20611 \let\leadsto\textleadsto
 20612 \let\rcurvese\textrcurvese
 20613 \let\lcurvese\textlcurvese
 20614 \let\lcurvesw\textlcurvesw
 20615 \let\rcurvese\textrcurvese
 20616 \let\lcurvedown\textlcurvedown
 20617 \let\rcurvedown\textrcurvedown
 20618 \let\rcurvese\textrcurvese
 20619 \let\rcurvese\textrcurvese
 20620 \let\leftrightharpoon\textleftrightharpoon
 20621 \let\rightleftharpoon\textrightleftharpoon
 20622 \let\updownharpoonrightleft\textupdownharpoonrightleft
 20623 \let\updownharpoonleftright\textupdownharpoonleftright
 20624 \let\leftleftharpoons\textleftleftharpoons
 20625 \let\upupharpoons\textupupharpoons

20626 $\backslash\mathrm{rightrightarpoons}\backslash\mathrm{textrightrightarpoons}$
 20627 $\backslash\mathrm{downdownarpoons}\backslash\mathrm{textdowndownarpoons}$
 20628 $\backslash\mathrm{leftbarharpoon}\backslash\mathrm{textleftbarharpoon}$
 20629 $\backslash\mathrm{barleftharpoon}\backslash\mathrm{textbarleftharpoon}$
 20630 $\backslash\mathrm{rightbarharpoon}\backslash\mathrm{textrightbarharpoon}$
 20631 $\backslash\mathrm{barrightharpoon}\backslash\mathrm{textbarrightharpoon}$
 20632 $\backslash\mathrm{updownarpoons}\backslash\mathrm{textupdownarpoons}$
 20633 $\backslash\mathrm{downuparpoons}\backslash\mathrm{textdownuparpoons}$
 20634 $\backslash\mathrm{moo}\backslash\mathrm{textmoo}$
 20635 $\backslash\mathrm{llparenthesis}\backslash\mathrm{textllparenthesis}$
 20636 $\backslash\mathrm{rrparenthesis}\backslash\mathrm{textrrparenthesis}$
 20637 $\backslash\mathrm{invdiameter}\backslash\mathrm{textinvdiameter}$
 20638 $\backslash\mathrm{oobar}\backslash\mathrm{textobar}$
 20639 $\backslash\mathrm{obslash}\backslash\mathrm{textobslash}$
 20640 $\backslash\mathrm{obot}\backslash\mathrm{textobot}$
 20641 $\backslash\mathrm{NoChemicalCleaning}\backslash\mathrm{textNoChemicalCleaning}$
 20642 $\backslash\mathrm{olessthan}\backslash\mathrm{textolessthan}$
 20643 $\backslash\mathrm{ogreaterthan}\backslash\mathrm{textogreaterthan}$
 20644 $\backslash\mathrm{boxslash}\backslash\mathrm{textboxslash}$
 20645 $\backslash\mathrm{boxbslash}\backslash\mathrm{textboxbslash}$
 20646 $\backslash\mathrm{boxast}\backslash\mathrm{textboxast}$
 20647 $\backslash\mathrm{boxcircle}\backslash\mathrm{textboxcircle}$
 20648 $\backslash\mathrm{boxbox}\backslash\mathrm{textboxbox}$
 20649 $\backslash\mathrm{Valve}\backslash\mathrm{textValve}$
 20650 $\backslash\mathrm{multimapboth}\backslash\mathrm{textmultimapboth}$
 20651 $\backslash\mathrm{shuffle}\backslash\mathrm{textshuffle}$
 20652 $\backslash\mathrm{uplus}\backslash\mathrm{textuplus}$
 20653 $\backslash\mathrm{bigdoublewedge}\backslash\mathrm{textbigdoublewedge}$
 20654 $\backslash\mathrm{bigdoublevee}\backslash\mathrm{textbigdoublevee}$
 20655 $\backslash\mathrm{Join}\backslash\mathrm{textJoin}$
 20656 $\backslash\mathrm{fatsemi}\backslash\mathrm{textfatsemi}$
 20657 $\backslash\mathrm{circplus}\backslash\mathrm{textcircplus}$
 20658 $\backslash\mathrm{minusdot}\backslash\mathrm{textminusdot}$
 20659 $\backslash\mathrm{dotimes}\backslash\mathrm{textdotimes}$
 20660 $\backslash\mathrm{dtimes}\backslash\mathrm{textdtimes}$
 20661 $\backslash\mathrm{odiv}\backslash\mathrm{textodiv}$
 20662 $\backslash\mathrm{invneg}\backslash\mathrm{textinvneg}$
 20663 $\backslash\mathrm{sqdoublecap}\backslash\mathrm{textsquaddoublecap}$
 20664 $\backslash\mathrm{capdot}\backslash\mathrm{textcapdot}$
 20665 $\backslash\mathrm{sqdoublecup}\backslash\mathrm{textsquaddoublecup}$
 20666 $\backslash\mathrm{doublewedge}\backslash\mathrm{textdoublewedge}$
 20667 $\backslash\mathrm{doublevee}\backslash\mathrm{textdoublevee}$
 20668 $\backslash\mathrm{doublebarwedge}\backslash\mathrm{textdoublebarwedge}$
 20669 $\backslash\mathrm{veedoublebar}\backslash\mathrm{textveedoublebar}$
 20670 $\backslash\mathrm{eqdot}\backslash\mathrm{texteqdot}$
 20671 $\backslash\mathrm{neqdot}\backslash\mathrm{textneqdot}$
 20672 $\backslash\mathrm{coloncolonequals}\backslash\mathrm{textcoloncolonequals}$
 20673 $\backslash\mathrm{leqslant}\backslash\mathrm{textleqslant}$
 20674 $\backslash\mathrm{nleqslant}\backslash\mathrm{textnleqslant}$
 20675 $\backslash\mathrm{geqslant}\backslash\mathrm{textgeqslant}$
 20676 $\backslash\mathrm{ngeqslant}\backslash\mathrm{textngeqslant}$
 20677 $\backslash\mathrm{lessapprox}\backslash\mathrm{textlessapprox}$
 20678 $\backslash\mathrm{nlessapprox}\backslash\mathrm{textnlessapprox}$
 20679 $\backslash\mathrm{gtrapprox}\backslash\mathrm{textgtrapprox}$

20680 $\backslash\mathrm{ngtrapprox}\backslash\mathrm{textngtrapprox}$
 20681 $\backslash\mathrm{lneq}\backslash\mathrm{textlneq}$
 20682 $\backslash\mathrm{gneq}\backslash\mathrm{textgneq}$
 20683 $\backslash\mathrm{lnapprox}\backslash\mathrm{textlnapprox}$
 20684 $\backslash\mathrm{gnapprox}\backslash\mathrm{textgnapprox}$
 20685 $\backslash\mathrm{lesseqqgtr}\backslash\mathrm{textlesseqqgtr}$
 20686 $\backslash\mathrm{gtreqqless}\backslash\mathrm{textgtreqqless}$
 20687 $\backslash\mathrm{eqslantless}\backslash\mathrm{texteqslantless}$
 20688 $\backslash\mathrm{eqslantgtr}\backslash\mathrm{texteqslantgtr}$
 20689 $\backslash\mathrm{leftslice}\backslash\mathrm{textleftslice}$
 20690 $\backslash\mathrm{rightslice}\backslash\mathrm{textrightslice}$
 20691 $\backslash\mathrm{preceq}\backslash\mathrm{textpreceq}$
 20692 $\backslash\mathrm{npreceq}\backslash\mathrm{textnpreceq}$
 20693 $\backslash\mathrm{succeq}\backslash\mathrm{textsucceq}$
 20694 $\backslash\mathrm{nsucceq}\backslash\mathrm{textnsucceq}$
 20695 $\backslash\mathrm{precneq}\backslash\mathrm{textprecneq}$
 20696 $\backslash\mathrm{succneq}\backslash\mathrm{textsuccneq}$
 20697 $\backslash\mathrm{preceqq}\backslash\mathrm{textpreceqq}$
 20698 $\backslash\mathrm{npreceqq}\backslash\mathrm{textnpreceqq}$
 20699 $\backslash\mathrm{succeqq}\backslash\mathrm{textsucceqq}$
 20700 $\backslash\mathrm{nsucceqq}\backslash\mathrm{textnsucceqq}$
 20701 $\backslash\mathrm{precneqq}\backslash\mathrm{textprecneqq}$
 20702 $\backslash\mathrm{succneqq}\backslash\mathrm{textsuccneqq}$
 20703 $\backslash\mathrm{precapprox}\backslash\mathrm{textprecapprox}$
 20704 $\backslash\mathrm{nprecapprox}\backslash\mathrm{textnprecapprox}$
 20705 $\backslash\mathrm{succapprox}\backslash\mathrm{textsuccapprox}$
 20706 $\backslash\mathrm{nsuccapprox}\backslash\mathrm{textnsuccapprox}$
 20707 $\backslash\mathrm{precnapprox}\backslash\mathrm{textprecnapprox}$
 20708 $\backslash\mathrm{succnapprox}\backslash\mathrm{textsuccnapprox}$
 20709 $\backslash\mathrm{subseteqq}\backslash\mathrm{textsubseteqq}$
 20710 $\backslash\mathrm{nsubseteqq}\backslash\mathrm{textnsubseteqq}$
 20711 $\backslash\mathrm{supseteqq}\backslash\mathrm{textsupseteqq}$
 20712 $\backslash\mathrm{nsupseteqq}\backslash\mathrm{textnsupseteqq}$
 20713 $\backslash\mathrm{dashV}\backslash\mathrm{textdashV}$
 20714 $\backslash\mathrm{ndashV}\backslash\mathrm{textndashV}$
 20715 $\backslash\mathrm{Dashv}\backslash\mathrm{textDashv}$
 20716 $\backslash\mathrm{nDashv}\backslash\mathrm{textnDashv}$
 20717 $\backslash\mathrm{DashV}\backslash\mathrm{textDashV}$
 20718 $\backslash\mathrm{nDashV}\backslash\mathrm{textnDashV}$
 20719 $\backslash\mathrm{downmodels}\backslash\mathrm{textdownmodels}$
 20720 $\backslash\mathrm{ndownmodels}\backslash\mathrm{textndownmodels}$
 20721 $\backslash\mathrm{upmodels}\backslash\mathrm{textupmodels}$
 20722 $\backslash\mathrm{nupmodels}\backslash\mathrm{textnupmodels}$
 20723 $\backslash\mathrm{upspoon}\backslash\mathrm{textupspoon}$
 20724 $\backslash\mathrm{interleave}\backslash\mathrm{textinterleave}$
 20725 $\backslash\mathrm{slash}\backslash\mathrm{textslash}$
 20726 $\backslash\mathrm{pentagon}\backslash\mathrm{textpentagon}$
 20727 $\backslash\mathrm{varhexagon}\backslash\mathrm{textvarhexagon}$
 20728 $\backslash\mathrm{jinferior}\backslash\mathrm{textjinferior}$
 20729 $\backslash\mathrm{slashdiv}\backslash\mathrm{textslashdiv}$
 20730 $\backslash\mathrm{fivedots}\backslash\mathrm{textfivedots}$
 20731 $\backslash\mathrm{oo}\backslash\mathrm{textoo}$
 20732 $\backslash\mathrm{GaPa}\backslash\mathrm{textGaPa}$
 20733 $\backslash\mathrm{HaPa}\backslash\mathrm{textHaPa}$

20734 \let\ViPa\textViPa
 20735 \let\AcPa\textAcPa
 20736 \let\SePa\textSePa
 20737 \let\ZwPa\textZwPa
 20738 \let\fullnote\textfullnote
 20739 \let\halfnote\texthalfnote
 20740 \let\Vier\textVier
 20741 \let\Acht\textAcht
 20742 \let\Sech\textSech
 20743 \let\Zwdr\textZwdr
 20744 \let\Mundus\textMundus
 20745 \let\Moon\textMoon
 20746 \let\ManFace\textManFace
 20747 \let\WomanFace\textWomanFace
 20748 \let\Fax\textFax
 20749 \let\Fire\textFire
 20750 \let\Bicycle\textBicycle
 20751 \let\Gentsroom\textGentsroom
 20752 \let\Ladiesroom\textLadiesroom
 20753 \let\ccnc\textccnc
 20754 \let\ccsa\textccsa
 20755 \let\Info\textInfo
 20756 \let\CESign\textCESign
 20757 \let\neg\textneg
 20758 \let\times\texttimes
 20759 \let\div\textdiv
 20760 \let\pm\textpm
 20761 \let\cdot\textcdot
 20762 }% \psdmapshortnames
 20763 \newcommand*{\psdaliasnames}{%
 20764 \let\epsdice\HyPsd@DieFace
 20765 \let\fcdice\HyPsd@DieFace
 20766 \let\MoonPha\HyPsd@MoonPha
 20767 \let\mathdollar\textdollar
 20768 \let\EyesDollar\textdollar
 20769 \let\binampersand\textampersand
 20770 \let\with\textampersand
 20771 \let\mathunderscore\textunderscore
 20772 \let\textvertline\textbar
 20773 \let\mathsterling\textsterling
 20774 \let\pounds\textsterling
 20775 \let\brokenvert\textbrokenbar
 20776 \let\mathsection\textsection
 20777 \let\S\textsection
 20778 \let\mathparagraph\textparagraph
 20779 \let\MultiplicationDot\textperiodcentered
 20780 \let\Squaredot\textperiodcentered
 20781 \let\vartimes\textmultiply
 20782 \let\MVMultiplication\textmultiply
 20783 \let\eth\dh
 20784 \let\crossd\textcrd
 20785 \let\textbard\textcrd
 20786 \let\bard\textcrd
 20787 \let\textcrh\texthbar

20788 \let\crossh\texthbar
 20789 \let\planck\texthbar
 20790 \let\eng\ng
 20791 \let\engma\ng
 20792 \let\crossb\textcrb
 20793 \let\textbarb\textcrb
 20794 \let\barb\textcrb
 20795 \let\Florin\textflorin
 20796 \let\hv\texthvlig
 20797 \let\hausak\texthtk
 20798 \let\crossnilambda\textcrlambda
 20799 \let\barlambda\textcrlambda
 20800 \let\lambdabar\textcrlambda
 20801 \let\lambdaslash\textcrlambda
 20802 \let\textnrleg\textPUnrleg
 20803 \let\textpipevar\textpipe
 20804 \let\textdoublepipevar\textdoublepipe
 20805 \let\textdoublebarpipevar\textdoublebarpipe
 20806 \let\textcrg\textgslash
 20807 \let\textdblig\textPUdblig
 20808 \let\textqplig\textPUqplig
 20809 \let\textcentoldstyle\textslashc
 20810 \let\textbarc\textslashc
 20811 \let\inva\textturna
 20812 \let\vara\textscripta
 20813 \let\invscripta\textturnscripta
 20814 \let\rotvara\textturnscripta
 20815 \let\hookb\texthtb
 20816 \let\hausab\texthtb
 20817 \let\varopeno\textopeno
 20818 \let\curlyc\textctc
 20819 \let\taild\texttrtaild
 20820 \let\hookd\texthtd
 20821 \let\hausad\texthtd
 20822 \let\er\textrhookschwa
 20823 \let\epsi\textniepsilon
 20824 \let\hookrevepsilon\texthookrevepsilon
 20825 \let\closedrevepsilon\textcloserevepsilon
 20826 \let\barj\textbardotlessj
 20827 \let\hookg\texthtg
 20828 \let\varg\textscriptg
 20829 \let\vod\textipagamma
 20830 \let\invh\textturnh
 20831 \let\udesc\textturnh
 20832 \let\hookh\texthth
 20833 \let\voicedh\texthth
 20834 \let\hookheng\texththeng
 20835 \let\ibar\textbari
 20836 \let\vari\textniiota
 20837 \let\tildel\texttilde
 20838 \let\latfric\textbeltl
 20839 \let\taill\texttrtail
 20840 \let\lz\textlyoghlig
 20841 \let\invm\textturnm

20842 \let\rotrm\textturnm
 20843 \let\legm\textturnmrleg
 20844 \let\labdentainas\textltailm
 20845 \let\emgma\textltailm
 20846 \let\nj\textltailn
 20847 \let\enya\textltailn
 20848 \let\tailn\textrtailn
 20849 \let\closedniomega\textcloseomega
 20850 \let\varomega\textcloseomega
 20851 \let\invr\textturnr
 20852 \let\rotr\textturnr
 20853 \let\invlegr\textturnlonglegr
 20854 \let\tailinvr\textturnrrtail
 20855 \let\legr\textlonglegr
 20856 \let\tailr\textrtailr
 20857 \let\flapr\textfishhookr
 20858 \let\flap\textfishhookr
 20859 \let\tails\textrtails
 20860 \let\curlyesh\textctesh
 20861 \let\clickt\textturnt
 20862 \let\tailt\textrtailt
 20863 \let\ubar\textbaru
 20864 \let\rotOmega\textniupsilon
 20865 \let\invv\textturnv
 20866 \let\pwedge\textturnv
 20867 \let\invw\textturnw
 20868 \let\rotw\textturnw
 20869 \let\invy\textturny
 20870 \let\roty\textturny
 20871 \let\tailz\textrtailz
 20872 \let\curlyz\textctz
 20873 \let\curlyyogh\textctyogh
 20874 \let\ejective\textglotstop
 20875 \let\glottal\textglotstop
 20876 \let\reveject\textrevglotstop
 20877 \let\clickc\textstretchc
 20878 \let\textstretchcvar\textstretchc
 20879 \let\clickb\textbullseye
 20880 \let\textObullseye\textbullseye
 20881 \let\textctjvar\textctj
 20882 \let\textturnsck\textturnk
 20883 \let\dz\textdzlig
 20884 \let\tesh\textteshlig
 20885 \let\digamma\textdigammagreek
 20886 \let\hardsign\cyrhrdsn
 20887 \let\softsign\cyrsoftsn
 20888 \let\hebsin\hebshin
 20889 \let\textsck\textPUscck
 20890 \let\textscm\textPUscm
 20891 \let\textscp\textPUscp
 20892 \let\textrevscr\textPUrevscr
 20893 \let\textrhooca\textPURhooka
 20894 \let\textrhooke\textPURhooke
 20895 \let\textrhookepsilon\textPURhookepsilon

20896 \let\texthookopeno\textPurhookopeno
 20897 \let\textdoublevertline\textbardbl
 20898 \let\dag\textdagger
 20899 \let\ddagger\textdaggerdbl
 20900 \let\ddag\textdaggerdbl
 20901 \let\mathellipsis\textellipsis
 20902 \let\EurDig\texteuro
 20903 \let\EURdig\texteuro
 20904 \let\EurHv\texteuro
 20905 \let\EURhv\texteuro
 20906 \let\EurCr\texteuro
 20907 \let\EURcr\texteuro
 20908 \let\EurTm\texteuro
 20909 \let\EURtm\texteuro
 20910 \let\Eur\texteuro
 20911 \let\Denarius\textDeleatur
 20912 \let\agemO\textmho
 20913 \let\EstimatedSign\textestimated
 20914 \let\Ecommerce\textestimated
 20915 \let\bindnasrepma\textinvamp
 20916 \let\parr\textinvamp
 20917 \let\MVRightArrow\textrightarrow
 20918 \let\MVRightarrow\textrightarrow
 20919 \let\MVArrowDown\textdownarrow
 20920 \let\Force\textdownarrow
 20921 \let\textglobrise\textnearrow
 20922 \let\textglobfall\textsearrow
 20923 \let\Lightning\textlightning
 20924 \let\Conclusion\textrightarrow
 20925 \let\dashedleftarrow\textdashleftarrow
 20926 \let\dashedrightarrow\textdashrightarrow
 20927 \let\varnothing\textemptyset
 20928 \let\owns\textni
 20929 \let\notni\textnotowner
 20930 \let\varprop\textpropto
 20931 \let\varangle\textsphericalangle
 20932 \let\Anglesign\textsphericalangle
 20933 \let\AngleSign\textsphericalangle
 20934 \let\notdivides\textnmid
 20935 \let\varowedge\textowedge
 20936 \let\varovee\textovee
 20937 \let\varint\textint
 20938 \let\varoint\textoint
 20939 \let\downtherefore\textbecause
 20940 \let\textdotdiv\textdotminus
 20941 \let\AC\textsim
 20942 \let\wreath\textwr
 20943 \let\nthickapprox\textnapprox
 20944 \let\VHF\texttriplesim
 20945 \let\notasymp\textnasympt
 20946 \let\Doteq\textdoteqdot
 20947 \let\corresponds\texthateq
 20948 \let\Corresponds\texthateq
 20949 \let\nequal\textneq

20950 `\let\Congruent\textequiv`
 20951 `\let\NotCongruent\textnequiv`
 20952 `\let\notequiv\textnequiv`
 20953 `\let\LessOrEqual\textleq`
 20954 `\let\LargerOrEqual\textgeq`
 20955 `\let\apprle\textless sim`
 20956 `\let\apprge\textgt sim`
 20957 `\let\varoplus\textoplus`
 20958 `\let\varominus\textominus`
 20959 `\let\varotimes\textotimes`
 20960 `\let\varoslash\textoslash`
 20961 `\let\varodot\textodot`
 20962 `\let\ocirc\textcircledcirc`
 20963 `\let\varocircle\textcircledcirc`
 20964 `\let\varoast\textcircledast`
 20965 `\let\oasterisk\textcircledast`
 20966 `\let\rightvdash\textvdash`
 20967 `\let\leftvdash\textdashv`
 20968 `\let\leftvdash\textndashv`
 20969 `\let\downvdash\texttop`
 20970 `\let\upvdash\textbot`
 20971 `\let\perp\textnupvdash`
 20972 `\let\models\textvDash`
 20973 `\let\models\textvDash`
 20974 `\let\models\textVdash`
 20975 `\let\models\textVDash`
 20976 `\let\models\textnvdash`
 20977 `\let\models\textnvDash`
 20978 `\let\models\textnvDash`
 20979 `\let\models\textnVdash`
 20980 `\let\models\textnVDash`
 20981 `\let\lessclosed\textlhd`
 20982 `\let\gtrclosed\textrhd`
 20983 `\let\leqclosed\textunlhd`
 20984 `\let\trianglelefteq\textunlhd`
 20985 `\let\geqclosed\textunrhd`
 20986 `\let\trianglerighteq\textunrhd`
 20987 `\let\Bowtie\textbowtie`
 20988 `\let\varcurlyvee\textcurlyvee`
 20989 `\let\varcurlywedge\textcurlywedge`
 20990 `\let\doublecap\textCap`
 20991 `\let\doublecup\textCup`
 20992 `\let\varsubsetneq\textsqsubsetneq`
 20993 `\let\varsupsetneq\textsqsupsetneq`
 20994 `\let\lessclosed\textntriangleleft`
 20995 `\let\ngtrclosed\textntriangleright`
 20996 `\let\Clocklogo\textclock`
 20997 `\let\ClockLogo\textclock`
 20998 `\let\baro\textstmaryrdbaro`
 20999 `\let\varparallel\textbbslash`
 21000 `\let\CleaningA\textCircledA`
 21001 `\let\Kutline\textCuttingLine`
 21002 `\let\CutLine\textCuttingLine`
 21003 `\let\Cutline\textCuttingLine`

21004 \let\MoveUp\textUParrow
 21005 \let\APLup\textbigtriangleup
 21006 \let\Bleech\textbigtriangleup
 21007 \let\MoveDown\textDOWNarrow
 21008 \let\APLdown\textbigtriangledown
 21009 \let\Diamond\textdiamond
 21010 \let\varbigcirc\textbigcircle
 21011 \let\Telefon\textPhone
 21012 \let\Box\textboxempty
 21013 \let\CheckedBox\textCheckedbox
 21014 \let\XBox\textCrossedbox
 21015 \let\CrossedBox\textCrossedbox
 21016 \let\rightpointleft\textHandLeft
 21017 \let\leftpointright\textHandRight
 21018 \let\PointingHand\textHandRight
 21019 \let\Pointinghand\textHandRight
 21020 \let\Radiation\textRadioactivity
 21021 \let\Yinyang\textYinYang
 21022 \let\YingYang\textYinYang
 21023 \let\Yingyang\textYinYang
 21024 \let\Frowny\textfrownie
 21025 \let\Smiley\textsmiley
 21026 \let\Sun\textsun
 21027 \let\Mercury\textmercury
 21028 \let\textfemale\textPUfemale
 21029 \let\female\textPUfemale
 21030 \let\venus\textPUfemale
 21031 \let\Venus\textPUfemale
 21032 \let\Female\textPUfemale
 21033 \let\Earth\textearth
 21034 \let\mars\textmale
 21035 \let\Mars\textmale
 21036 \let\Male\textmale
 21037 \let\Jupiter\textjupiter
 21038 \let\Saturn\textsaturn
 21039 \let\Uranus\texturanus
 21040 \let\Neptune\textneptune
 21041 \let\Pluto\textpluto
 21042 \let\Aries\textaries
 21043 \let\Taurus\texttaurus
 21044 \let\Gemini\textgemini
 21045 \let\Cancer\textcancer
 21046 \let\Leo\textleo
 21047 \let\Virgo\textvirgo
 21048 \let\Libra\textlibra
 21049 \let\Scorpio\textscorpio
 21050 \let\Sagittarius\textsagittarius
 21051 \let\Capricorn\textcapricornus
 21052 \let\Aquarius\textaquarius
 21053 \let\Pisces\textpisces
 21054 \let\spadesuit\textspadesuitblack
 21055 \let\Heart\textheartsuitwhite
 21056 \let\heartsuit\textheartsuitwhite
 21057 \let\diamondsuit\textdiamondsuitwhite

```

21058 \let\clubsuit\textclubsuitblack
21059 \let\eighthnote\textmusicalnote
21060 \let\Recycling\textrecycle
21061 \let\VarFlag\textFlag
21062 \let\textxswup\textdsmlilitary
21063 \let\textuncrfemale\textPUuncrfemale
21064 \let\Football\textSoccerBall
21065 \let\CutLeft\textScissorRightBrokenBottom
21066 \let\Cutright\textScissorRightBrokenBottom
21067 \let\RightScissors\textScissorRight
21068 \let\Leftscissors\textScissorRight
21069 \let\Letter\textEnvelope
21070 \let\Writinghand\textWritingHand
21071 \let\checkmark\textCheckmark
21072 \let\DavidStar\textDavidStar
21073 \let\llbracket\textlbrackdbl
21074 \let\rrbracket\textrrbrackdbl
21075 \let\RightTorque\textlcurvearrowdown
21076 \let\Righttorque\textlcurvearrowdown
21077 \let\LeftTorque\textrcurvearrowdown
21078 \let\Lefttorque\textrcurvearrowdown
21079 \let\textvarobar\textobar
21080 \let\circledbslash\textobslash
21081 \let\obackslash\textobslash
21082 \let\varobslash\textobslash
21083 \let\odplus\textobot
21084 \let\varolessthan\textolessthan
21085 \let\varogreaterthan\textogreaterthan
21086 \let\divdot\textminusdot
21087 \let\doublesqcap\textsqdoublecap
21088 \let\doublesqcup\textsqdoublecup
21089 \let\merge\textdoublevee
21090 \let\leftVdash\textdashV
21091 \let\nleftVdash\textndashV
21092 \let\leftmodels\textDashv
21093 \let\nleftmodels\textnDashv
21094 \let\leftModels\textDashV
21095 \let\nleftModels\textnDashV
21096 \let\varparallel\textsslash
21097 \let\textheng\textPUheng
21098 \let\textlhookfour\textPUlhookfour
21099 \let\textscf\textPUscf
21100 \let\textaoilig\textPUaolig
21101 \let\Ganz\textfullnote
21102 \let\Halb\texthalfnote
21103 \let\Womanface\textWomanFace
21104 \let\Faxmachine\textFax
21105 \let\CEsign\textCESign
21106 }% \psdaliasnames
21107 </psdextra>

```

47 End of file hyccheck.tex

```
21108 <*check>
21109 \typeout{}
21110 \begin{document}
21111 \end{document}
21112 </check>
```

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